

**ATTACHMENT 3**

**LaSalle County Station Calculation L-002457, Revision 7, "LaSalle County Station  
Ultimate Heat Sink Analysis"**

**ATTACHMENT 1**  
**Design Analysis Cover Sheet**  
Page 1 of 5

<b>Design Analysis</b>		<b>Last Page No. <sup>6</sup> Attachment N, Page N18</b>	
<b>Analysis No.:</b> <sup>1</sup> L-002457	<b>Revision:</b> <sup>2</sup> 7 Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>		
<b>Title:</b> <sup>3</sup> LaSalle County Station Ultimate Heat Sink Analysis			
<b>EC/ECR No.:</b> <sup>4</sup> 389270	<b>Revision:</b> <sup>5</sup> 0		
<b>Station(s):</b> <sup>7</sup> LaSalle County Station	<b>Component(s):</b> <sup>14</sup>		
<b>Unit No.:</b> <sup>8</sup> 1,2			
<b>Discipline:</b> <sup>9</sup> MEDC			
<b>Descrip. Code/Keyword:</b> <sup>10</sup> M03			
<b>Safety/QA Class:</b> <sup>11</sup> Safety-Related			
<b>System Code:</b> <sup>12</sup> ZZ			
<b>Structure:</b> <sup>13</sup> N/A			
<b>CONTROLLED DOCUMENT REFERENCES</b> <sup>15</sup>			
<b>Document No.:</b>	<b>From/To</b>	<b>Document No.:</b>	<b>From/To</b>
L-001581	From	L-001355	To
L-001584	From		
L-002453	From		
L-002456	From		
<b>Is this Design Analysis Safeguards Information?</b> <sup>16</sup> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, see SY-AA-101-106			
<b>Does this Design Analysis contain Unverified Assumptions?</b> <sup>17</sup> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, ATI/AR#: _____			
<b>This Design Analysis SUPERCEDES:</b> <sup>18</sup> N/A in its entirety.			
<b>Description of Revision</b> (list changed pages when all pages of original analysis were not changed): <sup>19</sup> Revision 7 adds evaluation of the UHS transient analyses with an allowable plant intake temperature of 104°F and an increased allowable plant intake temperature of 107°F for MUR PU and EPU power levels. Additionally, new weather data from January 1995 to September 2010 is considered in prediction of the UHS temperature response. Pages Added: I-I22, J1-J32, K1-K6, L1-L58, M1-M17, N1-N18 Pages Revised: 1 - 29, D2-D12 Pages Removed: D13 Main Body (55 total pages) + Att. A (22) + Att. B (358) + Att. C (16) + Att. D (12) + Att. E (57) + Att. F (31) + Att. G (72) + Att. H (344) + Att. I (22) + Att. J (32) + Att. K (6) + Att. L (58) + Att. M (17) + Att. N (18) = 1,120 total pages			
<b>Preparer:</b> <sup>20</sup> Daniel W. Nevill (S&L)	<i>Daniel W. Nevill</i>	<i>6/27/2012</i>	
<small>Print Name</small>	<small>Sign Name</small>	<small>Date</small>	
<b>Method of Review:</b> <sup>21</sup> Detailed Review <input checked="" type="checkbox"/> Alternate Calculations (attached) <input type="checkbox"/> Testing <input type="checkbox"/>			
<b>Reviewer:</b> <sup>22</sup> Robert W. Young (S&L)	<i>Robert W. Young</i>	<i>27-Jun-2012</i>	
<small>Print Name</small>	<small>Sign Name</small>	<small>Date</small>	
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<small>Print Name</small>	<small>Sign Name</small>	<small>Date</small>	
<b>Exelon Reviewer:</b> <sup>25</sup> Michael Peters (S&L)	<i>Michael Peters</i>	<i>6/27/12</i>	
<small>Print Name</small>	<small>Sign Name</small>	<small>Date</small>	
<b>Independent 3<sup>rd</sup> Party Review Req'd?</b> <sup>26</sup> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
<b>Exelon Approver:</b> <sup>27</sup> DAN SCHMIT	<i>Dan Schmit</i>	<i>6/27/12</i>	
<small>Print Name</small>	<small>Sign Name</small>	<small>Date</small>	



**ATTACHMENT 2**

**Owner's Acceptance Review Checklist for External Design Analyses**

No	Question	Instructions and Guidance	Yes / No / N/A
1	Do assumptions have sufficient documented rationale?	<p>All Assumptions should be stated in clear terms with enough justification to confirm that the assumption is conservative.</p> <p>For example, 1) the exact value of a particular parameter may not be known or that parameter may be known to vary over the range of conditions covered by the Calculation. It is appropriate to represent or bound the parameter with an assumed value. 2) The predicted performance of a specific piece of equipment in lieu of actual test data. It is appropriate to use the documented opinion/position of a recognized expert on that equipment to represent predicted equipment performance.</p> <p>Consideration should also be given as to any qualification testing that may be needed to validate the Assumptions. Ask yourself, would you provide more justification if you were performing this analysis? If yes, the rationale is likely incomplete.</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2	Are assumptions compatible with the way the plant is operated and with the licensing basis?	<p>Ensure the documentation for source and rationale for the assumption supports the way the plant is currently or will be operated post change and they are not in conflict with any design parameters. If the Analysis purpose is to establish a new licensing basis, this question can be answered yes, if the assumption supports that new basis.</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	Do all unverified assumptions have a tracking and closure mechanism in place?	<p>If there are unverified assumptions without a tracking mechanism indicated, then create the tracking item either through an ATI or a work order attached to the implementing WO. Due dates for these actions need to support verification prior to the analysis becoming operational or the resultant plant change being op authorized.</p>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
4	Do the design inputs have sufficient rationale?	<p>The origin of the input, or the source should be identified and be readily retrievable within Exelon's documentation system. If not, then the source should be attached to the analysis. Ask yourself, would you provide more justification if you were performing this analysis? If yes, the rationale is likely incomplete.</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5	Are design inputs correct and reasonable with critical parameters identified, if appropriate?	<p>The expectation is that an Exelon Engineer should be able to clearly understand which input parameters are critical to the outcome of the analysis. That is, what is the impact of a change in the parameter to the results of the analysis? If the impact is large, then that parameter is critical.</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6	Are design inputs compatible with the way the plant is operated and with the licensing basis?	<p>Ensure the documentation for source and rationale for the inputs supports the way the plant is currently or will be operated post change and they are not in conflict with any design parameters.</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
7	Are Engineering Judgments clearly documented and justified?	<p>See Section 2.13 in CC-AA-309 for the attributes that are sufficient to justify Engineering Judgment. Ask yourself, would you provide more justification if you were performing this analysis? If yes, the rationale is likely incomplete.</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**ATTACHMENT 2**  
**Owner's Acceptance Review Checklist for External Design Analyses**  
Page 2 of 2

DESIGN ANALYSIS NO. L-002457REV. 7PAGE: 1B

No	Question	Instructions and Guidance	Yes / No / N/A
8	Are Engineering Judgments compatible with the way the plant is operated and with the licensing basis?	Ensure the justification for the engineering judgment supports the way the plant is currently or will be operated post change and is not in conflict with any design parameters. If the Analysis purpose is to establish a new licensing basis, then this question can be answered yes, if the judgment supports that new basis.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9	Do the results and conclusions satisfy the purpose and objective of the Design Analysis?	Why was the analysis being performed? Does the stated purpose match the expectation from Exelon on the proposed application of the results? If yes, then the analysis meets the needs of the contract.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10	Are the results and conclusions compatible with the way the plant is operated and with the licensing basis?	Make sure that the results support the UFSAR defined system design and operating conditions, or they support a proposed change to those conditions. If the analysis supports a change, are all of the other changing documents included on the cover sheet as impacted documents?	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11	Have any limitations on the use of the results been identified and transmitted to the appropriate organizations?	Does the analysis support a temporary condition or procedure change? Make sure that any other documents needing to be updated are included and clearly delineated in the design analysis. Make sure that the cover sheet includes the other documents where the results of this analysis provide the input.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
12	Have margin impacts been identified and documented appropriately for any negative impacts (Reference ER-AA-2007)?	Make sure that the impacts to margin are clearly shown within the body of the analysis. If the analysis results in reduced margins ensure that this has been appropriately dispositioned in the EC being used to issue the analysis.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
13	Does the Design Analysis include the applicable design basis documentation?	Are there sufficient documents included to support the sources of input, and other reference material that is not readily retrievable in Exelon controlled Documents?	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
14	Have all affected design analyses been documented on the Affected Documents List (ADL) for the associated Configuration Change?	Determine if sufficient searches have been performed to identify any related analyses that need to be revised along with the base analysis. It may be necessary to perform some basic searches to validate this.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
15	Do the sources of inputs and analysis methodology used meet committed technical and regulatory requirements?	Compare any referenced codes and standards to the current design basis and ensure that any differences are reconciled. If the input sources or analysis methodology are based on an out-of-date methodology or code, additional reconciliation may be required if the site has since committed to a more recent code	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
16	Have vendor supporting technical documents and references (including GE DRFs) been reviewed when necessary?	Based on the risk assessment performed during the pre-job brief for the analysis (per HU-AA-1212), ensure that sufficient reviews of any supporting documents not provided with the final analysis are performed.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

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## 1.0 PURPOSE/OBJECTIVE

The purpose of this calculation is to determine the impact of 120% plus 2% measurement uncertainty power uprate on the maximum plant inlet temperature and evaporative drawdown of the LaSalle County Station Ultimate Heat Sink (UHS). The calculation determines the design basis UHS performance for 30 days following an accident. The lake dike is assumed to have failed, Unit 1 is postulated to undergo a loss of coolant accident (LOCA) with loss of off-site power (LOOP), while Unit 2 undergoes normal shutdown. Worst-case weather conditions apply and no makeup water is credited.

The S&L LAKET-PC computer program was utilized to determine the combined impact of power uprate and allowable sediment accumulation in the UHS. It was also used to perform analysis of maximum allowable initial UHS temperature to meet required UHS outlet temperatures.

## 1.1 Historical Analyses

This calculation has undergone a number of revisions to address various issues as they have arisen. Certain information from previous revisions has been retained for information or convenience. Some of this information is historical but no longer represents design information.

The assembly of the calculation writeup is as follows:

- Main Body – The main body of the calculation was essentially re-written and formatted in Rev. 5 issue. The main body of Rev. 5 is revised in Rev. 6 to add new cases for 12" sediment level. For Rev. 7, the main body is revised to include new cases for extended power uprate (EPU) at a maximum plant intake temperature of 104°F and 107°F and the latest weather data.
- Attachment A – This attachment provides results of computer analysis of the approximately 50 years of weather data used in the analysis. The computer program UHS-AVG is used to select limiting weather periods for peak lake temperature and maximum evaporation. The method of selecting the limiting data and actual data is common to all revisions of the calculation up to Rev. 6. Selection of weather data for Rev. 7 is documented in Attachment M.
- Attachment B – This attachment provides LAKET analysis results for the Rev. 3 issue of the calculation. This analysis supports limiting UHS temperatures of 100°F.
- Attachment C – This attachment provides Excel spreadsheets and formulas used in computing (a) UHS area and volumes, and (b) CSCS temperature rise across the plant for the Rev. 3 calculation. The CSCS temperature rise across the plant is revised in Rev. 7 and documented in Attachment L.
- Attachment D – This attachment provides attached references.
- Attachment E – This attachment provides an operability evaluation performed as a part of the Rev. 2 calculation.
- Attachment F – This attachment provides LAKET plot data used in Rev. 3.
- Attachment G – This attachment provides LAKET analysis of Rev. 4. This analysis supports limiting UHS temperature of 102 °F.
- Attachment H – This attachment provides the LAKET analysis of Rev. 5. This analysis supports limiting UHS temperatures of 104 °F. Attachment H is revised in Rev. 6 to support 3 additional cases for 12" sediment level.

- Attachment I – This attachment provides the LAKET analysis of Rev. 7. This analysis supports limiting UHS temperatures of 107°F at Measurement Uncertainty Recapture Power Uprate (MUR PU) (3546 MW<sub>i</sub>) and EPU (3988 MW<sub>i</sub>).
- Attachment J – This attachment is added in Rev. 7 to document the determination of the effective area and effective volume of the UHS.
- Attachment K – This attachment is added in Rev. 7 to document the preparation of a new set of weather data using data from LaSalle Station and Peoria, IL from 1/1/1995 to 9/30/2010.
- Attachment L – This attachment is added in Rev. 7 to document calculation of the plant temperature rise at MUR PU and EPU power levels.
- Attachment M – This attachment is added in Rev. 7 to document creation of the worst weather and worst net evaporation LAKET weather files.
- Attachment N – This attachment is added in Rev. 7 to document validation of the LAKET computer program through comparison to NUREG-0693.

Most of the information in these appendices represents historical analysis and no longer serves as the design basis. However, some information, such as the geometry for the UHS (area and volume versus siltation) is still retained as design input for the current analysis.

## 1.2 Design Analysis for 102°F Inlet Temperature Limit

In the Rev. 4 calculation, two issues were addressed:

- The allowable maximum plant inlet temperature was raised to 102°F and maximum initial UHS temperatures were determined based on the new limit.
- Core decay heat was increased to include contributions for additional actinides and activation products as documented in a separate calculation [Ref. 5.8].

The supporting analysis for these changes is documented in Appendix G.

## 1.3 Design Analysis for 104°F Inlet Temperature Limit

The Rev. 5 calculation addresses:

- An increase in the allowable maximum plant inlet temperature to 104°F
- Attachment H documents this analysis and determines the maximum initial UHS temperature for a plant inlet temperature limit of 104°F. Several different test case scenarios were evaluated and the maximum initial UHS temperature allowed was determined for each. In addition, Appendix H also documents the following:
  - ♦ The Attachment H analyses use a new version of the LAKET software, although the underlying algorithms are unchanged. Test cases were run with the new code to confirm matching results from the previous version.
  - ♦ In addition, a new evaporation case was run with the new limiting initial temperature to confirm there is adequate inventory.
  - ♦ Finally, it was confirmed and documented that the previous design basis for CSCS heat load includes a conservative modeling of pump heat and single failure assumptions.

The Rev. 6 calculation addresses:

- Incorporation of minor Rev. 5A into the main body of the report. In Rev 5A, the UHS requirement for use of fire water during accident and transient conditions was revised from 132,000 gals to 440,400 gals. This was incorporated into Assumption 3.7, UHS Inventory for Fire-Fighting.
- The addition of three (3) new cases to evaluate the maximum initial lake temperature and evaporation based on 12 inches of sedimentation to the cases presented in Rev. 5 based on existing maximum plant inlet temperature of 104°F. The main body and Attachment H are revised to support the analyses of these new cases.

**1.4 Design Analysis for 104°F and 107°F Inlet Temperature Limit Using Latest Weather Data up to September 2010**

The Rev. 7 calculation addresses:

- An allowable maximum plant inlet temperature of 104°F and an increase in the allowable maximum plant inlet temperature to 107°F for both MUR PU and EPU.
- Addition of new weather data from LaSalle Station from January 1, 1995 to September 30, 2010.
- New determination of effective area and effective volume as a percentage of the total UHS area and total UHS volume.
- Incorporation of the UHS requirement for use of fire water during accident and transient conditions of 440,400 gallons. In previous revisions, this had been deemed insignificant in an assumption. For this revision the assumption has been removed, and the 440,400 gallons is removed immediately following the postulated accident.
- Increased core decay heat as a result of EPU.
- Incorporation of spent fuel pool makeup flow from the UHS (600 gpm).

**1.5 Classification, etc.**

This calculation is safety related.

This mechanical calculation provides an unsteady thermal model that is used to determine the capacity of the LaSalle Station ultimate heat sink (UHS), a safety related structure.

Description Code: M03 (mechanical system capacity calculation)

System Code: ZZ

This calculation supports the 120% power uprate project and 2% for measurement uncertainty.

## 2.0 METHODOLOGY AND ACCEPTANCE CRITERIA

This calculation determines the maximum allowable initial lake temperature that would support the 104°F and 107°F CSCS maximum intake temperature limit for response to a postulated LOCA concurrent with the failure of the lake dike. The maximum allowable lake temperature is determined for average sediment accumulations of 0, 6, 12, and 18 inches.

(Other analyses supporting lower CSCS maximum intake temperatures are also documented as described in Section 1).

### 2.1 Methodology

The method of analysis used in this calculation conforms to the position described in U.S. Atomic Energy Commission Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plants", Revision 1 [Ref. 5.2]. The LaSalle Station is licensed to this version of the Reg. Guide. The USNRC has also issued a draft revision to this Reg. Guide (Rev. 2) to address Ultimate Heat Sinks with different configurations than the base configuration inherently assumed in the approach to modeling weather data per the Rev. 1 guide. In particular, the Rev. 2 guide addresses UHS designs with larger inventories with a transit time on the order of five days. The LaSalle UHS has a transit time of approximately one to two days. Analysis to Rev. 2 of the Reg. Guide [Ref. 5.2] was added in Rev. 5 and Rev. 6 of this calculation to conservatively supplement the design analysis per Rev. 1. Rev. 7 analysis only considers the methodology given in Rev. 1 of the Reg. Guide [Ref. 5.2].

Using this guidance, the worst synthetic weather period is assembled and used to analyze the transient temperature performance of the UHS using the LAKET computer program. For the selected time periods, the weather data is comprised of dry bulb temperature, humidity, wind speed, cloud cover, rainfall, and solar radiation variables that give rise to maximum water temperatures. Similarly, the consecutive 30-day maximum evaporation weather period is also evaluated to determine the impact of water inventory loss on UHS performance.

#### 2.1.1 Selection of Weather Data following R.G. 1.27, Rev. 1 (Peak Temperature)

Up to Revision 6 - R.G. 1.27, Rev. 1 guidance requires synthesis of the worst 31 day (worst 1-day + worst 30 consecutive days) weather period. The UHSAVG program [Ref. 5.7] is used to determine the worst 1 day and 30 day temperature periods. The weather data file contains weather station data from Peoria, IL and Springfield, IL for the dates between July 4, 1948 through June 30, 1996. The binary weather data file (pslsw-2.bin) for this historical worst weather period is documented in Appendix A of calculation L-001581, Rev. 0 [Ref. 5.4]. From the new, expanded weather data set, the worst single day is now July 15 to 16, 1995 while the worst thirty day period is from July 10, 1983 to August 9, 1983.

Revision 7 - The methodology used to determine the worst 1 day and 30 day temperature periods is documented in Attachment M. The worst weather is determined from two different weather files. The first weather data file considered is the one used in previous revisions of this calculation including weather station data from Peoria, IL and Springfield, IL for the dates between July 4, 1948 through June 30, 1996. The second weather data file contains weather station data from LaSalle Station and Peoria, IL from January 1, 1995 to September 30, 2010. The worst single day is determined to be July 24, 2001 7:00AM to July 25, 2001 6:00AM while the worst thirty day period is from July 21, 1995 4:00PM to August 20, 1995 3:00PM.



### 2.1.2 Selection of Weather Data following R.G. 1.27, Rev. 2 (Peak Temperature)

Selection of weather data following Reg. Guide (R.G.) 1.27, Rev. 2 is used for Rev. 5 and Rev. 6 of this calc. New selection of weather data for this Reg. Guide was not done for Rev. 7, but this section is retained for historical purposes. R.G. 1.27, Rev. 2 requires synthesis of the worst 36 day (worst 5 days + worst 1 day + worst 30 days) weather period. The UHSAVG program [Ref. 5.7] is used to determine the worst 5 consecutive days, worst 1 day, and worst 30 consecutive days temperature period. The weather data file contains weather station data from Peoria, IL and Springfield, IL for the dates between July 4, 1948 through June 30, 1996. The worst 36-day period is documented in Attachment A of this calculation. The worst five day period is from July 12, 1995 to July 17, 1995. The worst one day and thirty day periods are the same as identified in Section 2.1.1.

### 2.1.3 Selection of Weather Data following R.G. 1.27, Rev. 1 (Peak Evaporation)

Guidance for selecting weather data for use in computing peak UHS evaporation over a thirty day period is based on R.G. 1.27, Rev. 1, although requirements from Rev. 2 are virtually the same. The limiting evaporation period is from June 18, 1954 to July 18, 1954. Additional information is provided in Attachment A of this calculation.

Following the addition of the new weather data (LaSalle Station and Peoria, IL weather data from 1/1/1995 to 9/30/2010) it was confirmed that the limiting evaporation period from June 18, 1954 to July 18, 1954 remains the limiting evaporation period. See Attachment M for documentation of this analysis.

### 2.1.4 Plant Heat Load to the UHS

The heat load to the UHS is documented in a separate calculation [Ref. 5.8]. This data is interpolated to fit the one-hour (three-hour up to Rev. 6) time increments required by LAKET. The CSCS temperature rise data for each one-hour (three-hour up to Rev. 6) increment is based on this heat load and computed and listed in Attachment L of this calculation.

### 2.1.5 UHS Surface and Volume Data

The approximate surface area and volume of the UHS for different postulated sediment accumulations is determined using the methodology documented in Appendix B of calculation L-001581, Rev. 0 [Ref. 5.4]. The UHS surface area and volume are provided in Table 7.1. The effective area and effective volume of the UHS are determined in Attachment J.

### 2.1.6 CSCS Temperature Rise

The temperature rise through the plant is used in LAKET-PC to compute the rise in water temperature caused by the heat rejected to the UHS during the postulated accident. It is determined by the following:

$$\Delta T = Q / (c_p \times m)$$

where:

$$\begin{aligned}\Delta T &= \text{plant temperature rise, } [^{\circ}\text{F}] \\ Q &= \text{heat rejection to the UHS, [Btu/hr]} \\ c_p &= \text{specific heat of water, [Btu/(lb-}^{\circ}\text{F)]} \\ m &= \text{mass flow rate of water, [lb/hr]}\end{aligned}$$

The mass flow rate is determined from the CSCS volumetric flow rate in cfs:

$$m = 86.0 \text{ ft}^3/\text{sec} \times 3600 \text{ sec/hr} \times 62.02 \text{ lb/ft}^3 = 19,201,392 \text{ lb}_m/\text{hr} \text{ (Up to Rev. 6)}$$

$$m = 86.0 \text{ ft}^3/\text{sec} \times 3600 \text{ sec/hr} \times 62.00 \text{ lb/ft}^3 = 19,195,200 \text{ lb}_m/\text{hr} \text{ (Rev. 7)}$$

The time increment for much of the weather data is three hours (one hour for Rev. 7). Since the temperature of the UHS does not change significantly over a three hour (or one hour) time period, it is sufficiently accurate to apply this time increment to calculate the average temperature rise for each time step.

#### 2.1.7 UHS Analysis for a 102°F Plant Inlet Temperature Limit

Attachment G evaluates the ability of the UHS to maintain the plant inlet temperature below 102°F for the worst 31-day transient and worst 36-day transient analyses. The following cases are run as part of Attachment G:

##### Revision 4 (see Attachment G)

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Design Criteria
1	09:00	1/30	0	Reg. Guide 1.27, Rev. 1	Assume Initial UHS Temp = 100°F; Verify Plant Inlet Temp ≤ 102.0°F
2	09:00	5/1/30	6	Reg. Guide 1.27, Rev. 2	Assume Initial UHS Temp = 100°F; Verify Plant Inlet Temp ≤ 102.0°F
3	09:00	1/30	18	Reg. Guide 1.27, Rev. 1	Assume Initial UHS Temp = 100°F; Verify Plant Inlet Temp ≤ 102.0°F
4	06:00	1/30	18	Reg. Guide 1.27, Rev. 1	Assume Initial UHS Temp = 100°F; Verify Plant Inlet Temp ≤ 102.0°F

#### 2.1.8 UHS Analysis for a 104°F Plant Inlet Temperature Limit

Attachment H evaluates the ability of the UHS to maintain the plant inlet temperature below 104°F for the worst 31-day transient, worst 36-day transient, and also documents the worst 30-day evaporation period analyses. There are total 9 cases in Rev. 5 and 3 cases in Rev. 6. All 12 cases are included as part of Attachment H and summarized below:

**Revision 5 (see Attachment H)**

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Design Criteria
1a	09:00	1/30	0	Reg. Guide 1.27, Rev. 1	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
2a	09:00	1/30	6	Reg. Guide 1.27, Rev. 1	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
3a	09:00	1/30	18	Reg. Guide 1.27, Rev. 1	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
1b	09:00	5/1/30	0	Reg. Guide 1.27, Rev. 2	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
2b	09:00	5/1/30	6	Reg. Guide 1.27, Rev. 2	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
3b	09:00	5/1/30	18	Reg. Guide 1.27, Rev. 2	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
1c	09:00	Worst 30-day Evaporation	0	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 1a or 1b
2c	09:00	Worst 30-day Evaporation	6	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 2a or 2b
3c	09:00	Worst 30-day Evaporation	18	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 3a or 3b

LAKET-PC [Ref. 5.1d] and UHSAVG [Ref. 5.7] are filed and documented in the Sargent & Lundy Computer Software Library. UHS model runs were performed on PC Nos. 5121 and 5407 via network server SNL1 for Rev. 5.

Revision 6 – Revision 6 of this calculation utilizes the same methodology Rev. 5 and is presented in Attachment H. Additional cases 4a, 4b and 4c were run to find the maximum initial UHS temperature for a sediment level of 12 inches.

**Revision 6 (see Attachment H)**

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Design Criteria
4a	09:00	1/30	12	Reg. Guide 1.27, Rev. 1	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
4b	09:00	5/1/30	12	Reg. Guide 1.27, Rev. 2	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
4c	09:00	Worst 30-day Evaporation	12	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 4a or 4b.

LAKET-PC [Ref. 5.1d] is filed and documented in the Sargent & Lundy Computer Software Library. UHS model runs were performed on PC No. ZL4578 for Rev. 6.

2.1.9 UHS Analysis for a 104°F and 107°F Plant Inlet Temperature Limit at MUR PU and EPU

Attachment I evaluates the ability of the UHS to maintain the plant inlet temperature below 104°F or 107°F for the worst 31-day transient and also documents the worst 30-day evaporation period analyses. The cases are run for both MUR PU and EPU power levels, and all cases use the Reg. Guide 1.27, Rev. 1 methodology. All cases are included as part of Attachment I and summarized below:

**Revision 7 (see Attachment I)**

Case	Start Time	Weather Data	Power Level (MW <sub>t</sub> )	Sediment Level (in.)	Design Criteria
1a	6:00	1/30	4067 (EPU)	0	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
1a_104F	6:00	1/30	4067 (EPU)	0	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 104.0°F
1a_MUR	6:00	1/30	3559 (MUR PU)	0	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
1a_MUR_104F	6:00	1/30	3559 (MUR PU)	0	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 104.0°F
2a	6:00	1/30	4067 (EPU)	6	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
2a_104F	6:00	1/30	4067 (EPU)	6	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 104.0°F
2a_MUR	6:00	1/30	3559 (MUR PU)	6	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
2a_MUR_104F	6:00	1/30	3559 (MUR PU)	6	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 104.0°F
3a_12am	0:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_3am	3:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_6am	6:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_9am	9:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_12pm	12:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_3pm	15:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_6pm	18:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_9pm	21:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 107.0°F
3a_104F	6:00	1/30	4067 (EPU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp ≤ 104.0°F

Case	Start Time	Weather Data	Power Level (MW)	Sediment Level (in.)	Design Criteria
3a_MUR	6:00	1/30	3559 (MUR PU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 107.0°F
3a_MUR_104F	6:00	1/30	3559 (MUR PU)	18	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
4a	6:00	1/30	4067 (EPU)	12	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 107.0°F
4a_104F	6:00	1/30	4067 (EPU)	12	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
4a_MUR	6:00	1/30	3559 (MUR PU)	12	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 107.0°F
4a_MUR_104F	6:00	1/30	3559 (MUR PU)	12	Maximize Initial UHS Temp; Requires Plant Inlet Temp $\leq$ 104.0°F
1c	0:00	Worst 30-day Evaporation	4067 (EPU)	0	Use limiting LAKET input initial temperature from Case 1a
2c	0:00	Worst 30-day Evaporation	4067 (EPU)	6	Use limiting LAKET input initial temperature from Case 2a
3c	0:00	Worst 30-day Evaporation	4067 (EPU)	18	Use limiting LAKET input initial temperature from Case 3a
4c	0:00	Worst 30-day Evaporation	4067 (EPU)	12	Use limiting LAKET input initial temperature from Case 4a
1c_104F	0:00	Worst 30-day Evaporation	4067 (EPU)	0	Use limiting LAKET input initial temperature from Case 1a_104F
1c_MUR	0:00	Worst 30-day Evaporation	3559 (MUR PU)	0	Use limiting LAKET input initial temperature from Case 1a_MUR
1c_MUR_104F	0:00	Worst 30-day Evaporation	3559 (MUR PU)	0	Use limiting LAKET input initial temperature from Case 1a_MUR_104F

## 2.2 Acceptance Criteria

This calculation assumes an initial UHS temperature and demonstrates that peak temperature acceptance criteria 2.2.1 and 2.2.2 are met. The maximum initial UHS temperature is the maximum allowable lake temperature during normal operation.

- 2.2.1 Acceptance Criterion #1 - Peak Temperature - For the worst Reg. Guide 1.27, Rev. 1 composite 31-day and Rev. 2 composite 36-day weather periods (up to Rev. 6), the maximum allowable plant water intake temperature from the UHS is variously 100°F (Rev. 3), 102°F (Rev. 4), 104°F (Rev. 5 through Rev. 7), or 107°F (Rev. 7, 31-day weather period only).
- 2.2.2 Acceptance Criterion #2 - UHS Inventory - There are no specific acceptance criteria for maximum UHS lake drawdown. However, for the worst 30-day evaporation period, the maximum lake drawdown is determined for input to calculation L-001355 [Ref. 5.13].

### 2.3 Limitations

The results of this calculation are limited by the accuracy of the LAKET-PC program and models inherent in the code (see Ref. 5.14, for a comparison of the predictions of the LAKET program against lake intake temperatures observed in August 1989 at the LaSalle Station). In addition, see Attachment N for additional validation of LAKET.

### 2.4 Identification of Computer Programs

An updated version of LAKET-PC [Ref. 5.1c] was used when performing calculations for Revision 4 (see Attachment G). Unlike its previous version, the weather files are in text format instead of binary. It was therefore necessary to use the Bin to Txt application included in LAKET-PC program number 03.7.292-2.0 [Ref. 5.1] to convert previously used binary weather files into text files.

After the Rev. 4 issue of this calculation, LAKET-PC [Ref. 5.1d] was updated further to improve flexibility in modeling. This update did not change the basic modeling algorithms as demonstrated by re-running the Attachment G analyses. This latest version was used in the Rev. 5, Rev. 6, and Rev. 7 of this calculation.

With each update that was made, verification calculations with previous calculations were made to ensure the newer, updated version of the software obtained results that matched its predecessor. For verification purposes, Case 0009 from the main body was recalculated prior to beginning Revision 4 calculations. Results were within 0.03°F of each other. Several previous cases were recalculated prior to conducting tests for Revision 5 for verification of results for the additional update. Since Revisions 6 and 7 utilize the same version of LAKET as Revision 5, no formal verification was necessary.

### 3.0 ASSUMPTIONS / ENGINEERING JUDGEMENTS

3.1 Makeup, Blowdown, Runoff, etc. - Consistent with previous calculations [Ref. 5.4], it is assumed that there is no makeup, blowdown, runoff, or dam spill in the UHS.

3.2 Initial Natural Lake Temperature - Up to Revision 6, the initial natural UHS temperature is assumed to be 4.5°F lower than the initial forced UHS temperature. Higher initial natural temperatures produce higher peak UHS temperatures, if the peak temperature occurs in the first few days of the UHS transient. A previous calculation, L-002456 [Ref. 5.6a], analyzed the cooling lake for two units in full power operation (post-power uprate configuration) during the worst day and the worst five days in the weather history (July 15, 1995 and July 12 - 17, 1995). It found that the minimum difference between forced and natural lake temperatures during this peak lake temperature period is 4.5°F. The LOCA transient begins with a cooling lake dike failure and both units operating at full power. Although L-002456 [Ref. 5.6b] was revised for MUR PU and found an increase in maximum lake temperature by approximately 0.1°F, the minimum difference between forced and natural lake temperatures during the peak lake period of 4.5°F remains bounding. Therefore, this assumption remains conservative.

Revision 7 - The initial natural UHS temperature is conservatively assumed to be equal to the initial forced UHS temperature.

3.3 Sensible Heat Load from RCS - Up to Revision 6, it is conservatively assumed that all of the sensible heat from the reactor and the primary system is dissipated to the UHS within six hours. One-half of the heat is assumed to be rejected in the first 3-hour time step and the other half is rejected in the second 3-hour time step. This is based on the assumption that the temperature within the reactor will be at 100°F within 6 hours. Peak calculated temperatures are not sensitive to the timing of the introduction of sensible heat within the first two time steps of the analysis. Note that the minimum time step for LAKET is three hours which is short relative to the transit time of the lake given by the UHS volume divided by the volumetric flow rate of CSCS flows or:

$$t_{\text{transit}} = V / Q = (341.4 \text{ acre-ft})(43,560 \text{ ft}^2/\text{acre}) / (86.0 \text{ cfs})$$

$$t_{\text{transit}} = 172,923 \text{ sec} = \sim 48 \text{ hours}$$

Where the UHS volume is taken from Table 7.3 and Q is taken from Assumption 3.5. Thus the time step (3 hours) is small relative to the transit time (48 hours).

Revision 7 - It is still assumed that all of the sensible heat from the reactor and the primary system is dissipated to the UHS within six hours. However, since LAKET is run using one hour time steps, one-sixth of the heat is assumed to be rejected in each of the first six hours. Also, with the new effective volume factor calculated in Attachment J and lake volume following removal of water for fire-fighting in Attachment I, the transit time of the UHS is changed. The new UHS transit time is:

$$t_{\text{transit}} = V_{\text{total}} * (\text{Effective Vol. Factor}) / Q = (340.0 \text{ acre-ft}) * (0.634) * (43,560 \text{ ft}^2/\text{acre}) / (86.0 \text{ cfs})$$

$$t_{\text{transit}} = 109,184 \text{ sec} = \sim 30.3 \text{ hours (for 18-in of sedimentation)}$$

The time step (one hour) is small relative to the transit time (30.3 hours).

- 3.4 UHS Surface and Volume - The effective surface area and volume are assumed to be 90% of the total surface area and volume. This is in accordance with Reference 5.14, which compares the predictions of the LAKET program against lake intake temperatures observed in August 1989 at the LaSalle Station.

Revision 7 - An effective area percentage of 57.9% of the total UHS area and an effective volume percentage of 63.4% of the total UHS volume are determined in Attachment J. This was determined for the 18-in of sedimentation case. The use of maximum silting reduces the UHS volume, and therefore the residence time. This reduces the effectiveness of the UHS and is thus conservative.

- 3.5 CSCS Flow - The total plant flow during the UHS analysis is assumed to be 38,600 gpm (86.0 cfs). The total flow is based upon the cumulative flow contribution from thirteen CSCS pumps operating at design flow conditions (eight RHR-SW pumps, 4,000 gpm each; three DG pumps, two at 1300 gpm and one at 2,000 gpm; and two HPCS DG pumps, 1000 gpm each) [Ref.'s 5.11, 5.12].

Revision 7 - It is noted that the fuel pool emergency makeup flow rate is not included, as this flow does not return to the UHS (See Assumption I3.1).

- 3.6 Water Properties - Up to Revision 6, the density and specific heat of water in the UHS is assumed to be 62.02 lb/ft<sup>3</sup> and 1 Btu/lb-°F, respectively [Ref. 5.10]. This corresponds to an assumed average temperature of 98.5°F.

Revision 7 - The density and specific heat of water in the UHS is assumed to be 62.00 lb/ft<sup>3</sup> and 0.998 Btu/lb-°F, respectively [Ref. 5.10]. This corresponds to an assumed average temperature of 100°F.

- 3.7 UHS Inventory used for Fire Fighting - As stated in minor Revision 5A, the UHS requirement for use of fire water during accident and transient conditions was revised from 132,000 gals to 440,400 gals (See UFSAR Change Package LUCR #96. UFSAR section 9.2.6.3.a was updated by UFSAR Change Package LUCR #96). Assumption 3.7 is adjusted to account for the new UHS requirement for fire fighting in 3.7B.

A. Up to Revision 5 - The use of UHS inventory for fire fighting is insignificant. UFSAR Section 9.2.6.3 [Ref. 5.3] states that 132,000 gallons of water from the UHS must be available for fire fighting following an accident. Fire fighting could consume up to 0.41 acre-ft (132,000 gal x 0.1337 ft<sup>3</sup>/gal / 43,560 ft<sup>2</sup>/acre). The volume and surface area of the UHS at its maximum drawdown of 1.5 ft (El. 688.5 ft) are 341 acre-ft and 81.3 acres, respectively. Thus, fire water consumption would decrease the UHS heat capacitance by only 0.1% (0.41 acre-ft/341 acre-ft) and increase the maximum UHS drawdown by only 0.005 ft (0.41 acre-ft/81.3 acres).

B. Revisions 5 and 6 - The use of UHS inventory for fire fighting is insignificant. UFSAR Section 9.2.6.3 [Ref. 5.3] states that 440,400 gallons of water from the UHS must be available for fire fighting following an accident. Fire fighting could consume up to 1.352 acre-ft (440,400 gal x 0.1337 ft<sup>3</sup>/gal / 43,560 ft<sup>2</sup>/acre). The volume and surface area of the UHS at its maximum drawdown of 1.5 ft (El. 688.5 ft) are 341 acre-ft and 81.3 acres, respectively. Thus, fire water consumption would decrease the UHS heat capacitance by only 0.396% (1.352 acre-ft/341 acre-ft) and increase the maximum UHS drawdown by only 0.0166 ft (1.352 acre-ft/81.3 acres). This is less than 0.2 inches of drawdown.

C. Revision 7 - The use of UHS inventory for fire fighting is accounted for in the LAKET evaluations. It is assumed that all UHS inventory for fire fighting (440,400 gallons [Ref. 5.3]) is used immediately following an accident (See Assumption I3.2 in Attachment I). This is conservative as it decreases the



volume of water in the UHS.

- 3.8 Modeling of Precipitation - Up to Revision 6, in the UHS analysis for power uprate no credit is taken for precipitation. The worst UHS temperature and evaporation periods for the updated weather history were selected assuming there is no precipitation. The UHS maximum temperature and maximum evaporation cases were analyzed assuming there is no precipitation.

Revision 7 - The worst UHS temperature and evaporation periods for the updated weather history were selected with precipitation included. Following selection of the worst periods, precipitation is conservatively removed, and analysis of the UHS maximum temperature and maximum evaporation cases were analyzed assuming there is no precipitation.

#### 4.0 DESIGN INPUTS

4.1 UHS Geometry - According to calculation L-001584 [Ref. 5.5], the surface area and volume profile for the UHS with no sediment accumulation can be represented as a series of fifteen, one-foot thick frustums, as follows (volume adjustments account for segments that are not frustums):

Segment No	Elevation	Bottom Surface Area		Top Surface Area		Volume Adjustment
		(ft <sup>3</sup> )	(acres)	(ft <sup>3</sup> )	(acres)	
15	675-676	332	0.0076	2786	0.064	-
14	676-677	2786	0.064	8091	0.186	-
13	677-678	8091	0.186	14,215	0.326	-
12	678-679	14,215	0.326	224,302	5.15	+2.27+1.66*
11	679-680	224,302	5.15	275,605	6.33	-
10	680-681	275,605	6.33	353,588	8.12	-
9	681-682	353,588	8.12	423,844	9.73	-
8	682-683	423,844	9.73	526,454	12.09	-
7	683-684	526,454	12.09	642,512	14.75	-
6	684-685	642,512	14.75	1,293,664	29.70	-0.84*
5	685-686	1,293,664	29.70	1,293,664**	29.70**	+21.67+19.54*
4	686-687	3,368,632	77.33	3,439,517	78.96	-
3	687-688	3,439,517	78.96	3,508,668	80.55	-
2	688-689	3,508,668	80.55	3,578,525	82.15	-
1	689-690	3,578,525	82.15	3,651,620	83.83	-

\* Adjustments to the frustum volumes account for the UHS bottom contour, localized hills and pockets

\*\*Segment 5 is modeled as a cylinder with major adjustments to account for the UHS bottom contour

According to Reference 5.5, the UHS volume for zero sediment deposition is 465 acre-ft. The surface area and volume profile data from Reference 5.5 are based on the latest lake survey performed in 1997. According to UFSAR Section 9.2.6 [Ref. 5.3], the UHS volume for zero sediment deposition is 460 acre-ft. The volume from 1997 lake survey data is only 1% greater than the volume cited in the UFSAR. Because of this and because the lake survey provides the best available volume and lake contour data, the lake survey data will be used in the UHS analysis.

#### 4.2 Weather Periods

31 Day Synthetic Weather Period (R.G. 1.27, Rev. 1) - The worst combined 31-day historical weather period is based on weather data from July 4, 1948 through June 30, 1996 and is synthetically assembled in a data file (File Name: worstday-9am.txt) and is documented in Attachment H [see Attachment A and Ref. 5.4].

Revision 7 - The worst combined 31-day historical weather periods is based on weather data from July 4, 1948 through June 30, 1996 used in the previous revisions and weather data from January 1, 1995 through September 30, 2010 from LaSalle Station (with unavailable data from Peoria, IL). Selection of the worst weather day and worst weather 30 days and a synthetically assembled data file of these days are documented in Attachment M.

36 Day Synthetic Weather Period (R.G. 1.27, Rev. 2 – Draft) - The worst combined 36-day historical weather period is based on weather data from July 4, 1948 through June 30, 1996 and is synthetically assembled in a data file (File Name: 5-1-30days9am.txt) and is documented in Attachment H [see Attachment A and Ref. 5.4].

Revision 7 - The worst combined 36-day historical weather period is not used in this revision.

30 Day Weather Period (R.G. 1.27, Rev. 1) - The worst 30-day historical weather period for evaporative losses is based on weather data from the summer of 1954 as contained in a data file (File Name: 30dayevap.txt) and documented in Attachment H.

Revision 7 - The worst 30-day historical weather period for evaporative losses based on weather data from the summer of 1954 was determined to remain limiting when compared to worst 30-day weather period for evaporative losses from the LaSalle Station weather data from January 1, 1995 to September 30, 2010. This is documented in Attachment M.

4.3	<u>Seepage Rate</u>	0.2 cfs	[Ref. 5.4]
4.4	<u>CSCS Pond Length</u>	5500 ft	[Ref. 5.4]
4.5	<u>UHS Heat Load</u>	Appendices L9.1 and L9.3 in Attachment L	[Ref. 5.8]
4.6	<u>Current T.S. Allowable Sediment Accumulation in the UHS</u>	1.5 feet (average)	[Ref. 5.9]
4.7	<u>Maximum Allowable CSCS Intake Temperature</u>	Case Specific	
4.8	<u>Other</u> - See Attachment G for additional Revision 4 Design Inputs, Attachment H for additional Revision 5 and 6 Design Inputs, and Attachment I for additional Revision 7 Design Inputs.		

**5.0 REFERENCES**

- 5.1 a) LAKET-PC Computer Prog., Version 1.0, S&L Program No. 03.7.292-1.0, October 1997.  
b) LAKET-PC Plot Prog., Version 1.2, S&L Program No. 03.7.292-1.2, Nov. 1999  
c) LAKET-PC Computer Prog., Version 2.0, S&L Program No. 03.7.292-2.0, Aug. 2004 (Rev. 4).  
d) LAKET-PC Computer Prog., Version 2.2, S&L Program No.03.7.292-2.2, Dec. 2004 (Rev. 5, 6 and 7).
- 5.2 "Ultimate Heat Sink for Nuclear Power Plants," U.S. Atomic Energy Commission, Regulatory Guide 1.27, Rev. 1, March 1974 and Rev. 2 (Draft), January 1976.
- 5.3 "Ultimate Heat Sink," LSCS-UFSAR, 9.2.6, Rev. 19.
- 5.4 "Sensitivity Study for Ultimate Heat Sink Sizing," Calculation L-001581, Rev. 0, December 23, 1997.
- 5.5 "Volume of the Ultimate Heat Sink (UHS)," Calculation L-001584, Rev. 1, March 25, 1998.
- 5.6 a) "LaSalle County Station Cooling Lake Performance," Calculation L-002456, Rev. 1.  
b) "LaSalle County Station Cooling Lake Performance," Calculation L-002456, Rev. 1a.
- 5.7 UHSAVG Computer Program, S&L Program No. 03.7.642-1.0, August 1997.
- 5.8 a) "UHS Heat Load," Calculation L-002453, Rev. 1, December, 1999.  
b) "UHS Heat Load," Calculation L-002453, Rev. 2, April, 2002.  
c) "UHS Heat Load," Calculation L-002453, Rev. 3, June, 2012.
- 5.9 LaSalle Technical Specifications, SR 3.7.3.2, Surveillance Requirements, Amendment 205/191.
- 5.10 STMFUNC Computer Program, S&L Program Number STM 03.7.598-2.0, May 2003.
- 5.11 LaSalle CSCS Pump Curves, Crane-Deming, (Attachment D):  
a) T-5669, "Pump Performance Curve for 2E12-C300A," Rev. 1.  
b) T-5670, "Pump Performance Curve for 2E12-C300B," Rev. 1.  
c) T-5671, "Pump Performance Curve for 2E12-C300C," Rev. 1.  
d) T-5672, "Pump Performance Curve for 2E12-C300D," Rev. 1.  
e) T-5695, "Pump Performance Curve for 1E12-C300A," Rev. 1.  
f) T-5706, "Pump Performance Curve for 1E12-C300B," Rev. 1.  
g) T-5707, "Pump Performance Curve for 1E12-C300C," Rev. 1.  
h) 1821-2, "Pump Performance Curve for 1E12-C300D," Rev. 1.  
i) 1940-2, "Pump Performance Curve for 0DG01P," Rev. A.  
j) 19516, "Pump Performance Curve for 1DG01P & 2DG01P," Rev. 1.
- 5.12 VPF 3275-048, "Pump Performance Curve," Union Pump Co. HPCS DG Pump 1E22-C002 and HPCS DG Pump 2E22-C002, Rev. 2 (Attachment D).

- 5.13 L-001355, "LaSalle County Station CSCS Hydraulic Model," Rev. 004P.
- 5.14 S&L's January 5, 1990 Study, "Comparison of Cooling Lake Temperature Predictions from the LAKET Computer Model with Observed Lake Temperatures for the Summer of 1989," in file WIN 0858 (provided as an Attachment to Reference 5.6, "LaSalle County Station Cooling Lake Performance," Calculation L-002456, Rev. 1, December 13, 1999).
- 5.15 *Marks' Standard Handbook for Mechanical Engineers*, 9<sup>th</sup> Edition, Edited by Avallone and Baumeister, McGraw-Hill, 1987
- 5.16 Letter from Mike Peters, Lasalle Station to Manuel Vega, S&L. Subject: Requested Input for L-002457 Revision 5. (See pp. H23)
- 5.17 Email from Paul Derezotes, S&L to Michael Duffy, S&L, "Uhsavg Program Capabilities Summary for Lasalle." (See pp. H24)
- 5.18 GE Letter SC06-01, dated 1/19/2006, "Plants with GE Containment Design or Analysis (Attachment 1)"

## 6.0 NUMERIC ANALYSIS

### 6.1 Calculation of Plant Temperature Rise, $\Delta T$

The CSCS temperature rise across the plant is computed per the method described in Section 2.1.6. Table G7.1 contains the average temperature rise for each time step for the Rev. 4, 5, and 6 analyses. The average temperature rise for MUR PU and EPU is calculated in Attachment L for the Rev. 7 analysis.

(Note that the heat load data for the Rev. 3 analyses for each three-hour increment is listed in Table 7.2 and Figure 7.14 of this calculation).

The EXCEL formulas and interpolation macro for the temperature rise up to Rev. 6 are printed in Attachments C and G. The interpolation is verified by inspection. The tables are produced using EXCEL Version 97SR-1. Formulas for determining the CSCS temperature rise across the plant in Rev. 7 are shown in Attachment L.

### 6.2 UHS Area and Capacity

The area-capacity profile of the UHS is determined for three sediment accumulation levels: 0, 0.5, and 1.5 feet for Rev. 5 and 1 foot for Rev. 6. The existing technical specification limit on minimum UHS volume is an average sediment accumulation of 1.5 feet. The 0.5-foot and 1-foot sediment accumulation cases were selected as an intermediate level of volume degradation that could potentially serve as a new technical specification limit. (As can be seen in the Table 6.1 computation of UHS volume, an average sediment accumulation of 0.5 ft corresponds to a UHS volume of 423.5 acre-ft.)

The area-capacity profile of the UHS is computed using the inputs of calculation L-001584 [Ref. 5.5] and the methodology of calculation L-001581 [Ref. 5.4]. The UHS is modeled as a series of one-foot thick horizontal slices, each in the shape of a frustum. The survey data summarized in Design Input 4.1 provides the surface areas of the top,  $A_t$ , and the bottom,  $A_b$ , of each of these segments (of depth,  $d$ ). The volume of each of these frustums is  $(A_t + A_b + [(A_t)(A_b)]^{1/2})(d/3)$  [Ref. 5.15]. Deviations from the frustum shape within each of the segments are accounted for by the volume adjustments identified in Design Input 4.1. Because a somewhat simpler methodology was used, the results of the area-volume profile calculation are slightly different than those of calculation L-001584 [Ref. 5.5].

The area-capacity profiles are computed in the Excel spreadsheet shown in Table 6.1 and Appendix C (EXCEL Version 97SR-1). Sediment is assumed to deposit in a layer of uniform vertical thickness along the bottom and sloped sides of the UHS. A one-foot sediment accumulation results in a one-foot translation upward of the UHS geometry, which is modeled as a reassignment of the dimensions of each segment to the next highest neighboring segment. Fractional-foot sediment accumulation is modeled as the fractional reassignment of the dimensions of each segment to higher segments. Each one-foot thick segment is then composed of fractional-foot thicknesses of two neighboring frustums.

For the 0, 0.5, 1, and 1.5-foot sediment cases, area and capacity were computed at elevation 690 ft and at one-foot intervals down to elevation 685 ft. The areas, incremental volume and total volume for these elevations are shown in bold type in Table 6.1. The LAKET-PC runs use the area and volume for only these first six elevations. For the 0, 0.5, 1, and 1.5-foot cases below elevation 685 ft, area and volume are computed only at intermediate elevations such as 683.5 and 684.5 ft.

Data from the Table 6.1 spreadsheet that is used as LAKET-PC input is listed in Table 7.1.

For Revision 7, the UHS volume and area input to LAKET are revised to incorporate the effects of removing water for fire-fighting. See Attachment I for further documentation of the changes to UHS volume and area. In addition, the effective area and effective volume of the UHS are changed as a result of the analysis in Attachment J. See Attachment I for further documentation of the changes to UHS volume and area.

### 6.3 Maximum Allowable Lake Temperature

#### 6.3.1 UHS Temperature Limit of 100°F – Rev. 3 Analysis

The UHS analysis is performed using the LAKET-PC computer program. For postulated safe shutdown and design basis accident events, the peak UHS temperature must be kept within the CSCS intake temperature limit of 100°F. The analysis determines the maximum lake intake temperature that can be allowed during normal operation, consistent with the 100°F temperature limit. Three sediment depths are modeled for the worst 36-day composite temperature period. A no sediment case, a 0.5-foot sediment case, and a 1.5-foot sediment case are run for the updated weather data conditions. The 0.5-foot sediment case corresponds to a potentially new technical specification limit of 423.5 acre-ft on UHS volume. The 1.5-foot case corresponds to the current technical specification limit on average UHS sediment deposition.

In assuming the initial UHS temperature is equal to the maximum allowable temperature of the cooling water supply to the plant from the lake, one is assuming conditions more severe than occur in the weather history. Because of this, the peak temperature occurs in the first day of these UHS transients and the time of day at which the transient is assumed to begin becomes critical. To account for the time of day at which the UHS transient may start, eight start times (00:00, 03:00, 06:00, 09:00, 12:00, 15:00, 18:00 and 21:00) are used for each of the three sediment depths being analyzed.

Limiting initial UHS temperatures are found for the 24 combinations of start time and sediment depth for:

1. the first day of the UHS transient is worst day in the weather history (July 15, 1995), and
2. the first day in the UHS transient is the first of the worst five days in the weather history (July 12 – 17, 1995).

The limiting initial UHS temperatures found by these two tests are listed in Table 7.3, plotted in Figure 7.1 and documented in Attachment B. Table 7.3 indicates which of the two tests, the one-day or the five-day test, produced the most restrictive temperature limit for each case. Three of the post-LOCA temperature transients are shown in Figures 7.2, 7.6, and 7.10. The corresponding post-LOCA drawdowns are shown in Figures 7.3, 7.7 and 7.11. (The LAKET-PC data used to generate these plots is provided in Attachment F.) The three cases selected for these plots are the sediment depths of 0, 0.5 and 1.5 ft, the start time of 09:00, and the worst 36-day composite weather history (consistent with R.G. 1.27, Rev. 2). The limiting initial UHS temperatures are consistent with a peak CSCS intake temperature of 100°F.

In addition to determining the post-LOCA temperature response of the UHS to the worst 36-day temperature period, the maximum UHS drawdown was determined for the worst 30-day evaporation period (in accordance with R.G. 1.97, Rev. 2). A 0-foot, a 0.5-foot and a 1.5-foot sediment case are run with the updated weather data. The 0.5-foot sediment case corresponds to a potentially new technical specification limit on UHS volume of 423.5 acre-ft and the 1.5-foot sediment case is the existing technical specification limit. UHSAVG selected the time of day at which the drawdown transient begins. LAKET-PC output for the 30-day evaporation cases is documented in Attachment B. The post-LOCA temperature transients are shown in Figures 7.4, 7.8 and 7.12 and the post-LOCA drawdowns are shown in Figures 7.5, 7.9 and 7.13. (The LAKET-PC data used to generate these plots is provided in Attachment F.) Initial UHS temperatures

were selected to produce a peak CSCS intake temperature of 100°F.

#### 6.3.2 UHS Temperature Limit of 102°F – Rev. 4 Analysis

For this analysis, the limiting plant intake temperature is increased to 102°F. Limiting weather data is unchanged from the Rev. 3 analysis. Further, the limiting start time for the transient is based on the parametric analysis per Rev. 3. Thus 09:00 hrs (9 AM) is taken as the most limiting start time. The limiting initial UHS temperature obtained for this start time can be conservatively applied as a maximum operating lake temperature for any time during the day. Analysis and results are documented in Attachment G.

#### 6.3.3 UHS Temperature Limit of 104°F – Rev. 5 and 6 Analyses

For this analysis, the limiting plant intake temperature is increased to 104°F. Limiting weather data is unchanged from the Rev. 3 analysis. Further, the limiting start time for the transient is based on the parametric analysis per Rev. 3. Thus 09:00 hrs (9 AM) is taken as the most limiting start time. The limiting initial UHS temperature obtained for this start time can be conservatively applied as a maximum operating lake temperature for any time during the day. Rev. 6 utilizes the same methodology as Rev. 5 for additional cases to analyze the maximum initial UHS temperatures for 1 ft of sediment. Analysis and results are documented in Attachment H.

#### 6.3.4 UHS Temperature Limit of 104°F and 107°F for EPU and MUR PU - Rev. 7 Analysis

For this analysis, the limiting intake temperature is 104°F and 107°F. The limiting weather data is updated from the previous revisions, as documented in Attachment M. The limiting time of day at which the UHS starts is determined by running Case 3a (107°F intake temperature, 18-in sediment level, EPU power level) at eight different start times (00:00, 03:00, 06:00, 09:00, 12:00, 15:00, 18:00 and 21:00) and determined to be 6:00AM. The limiting initial UHS temperature obtained for this start time can be conservatively applied as a maximum operating lake temperature for any time during the day. Analysis and results are documented in Attachment I.

### 6.4 **30-Day Evaporation**

Up to Revision 6 - The limiting initial temperature for the various amounts of siltation (see Section 7.1.3) is used as the starting point for the 30-day evaporation case to demonstrate negligible impact on previous results. Results documented in Attachment H demonstrate that the UHS evaporative losses are less than 1.5-ft for the worst 30-day evaporative period.

Revision 7 - The limiting initial temperature for the various amounts of siltation (see Section 7.1.3) is used as the starting point for the 30-day evaporation case to determine the maximum amount of UHS drawdown. For the 107°F limiting intake temperature and EPU power level, the limiting sediment level is determined to be 0-in. For other cases (i.e. 104°F or MUR PU) only the limiting sediment level case (0-in) is run. Results are documented in Attachment I.



## 7.0 RESULTS AND CONCLUSIONS

### 7.1 Summary

#### 7.1.1 Historical Results – Rev. 3 and Earlier

The inclusion of weather conditions from 1982 to 1996 significantly increases the severity of the UHS design basis temperature transient. The worst 36-day composite weather period was developed from July 1948 through June 1996 weather history for the area. The UHSAVG program determined the worst 36-day (worst 5-day + worst 1-day + worst 30 consecutive day) period to be: 09:00, July 12, 1995 through 06:00, July 17, 1995; 12:00, July 15, 1995 through 09:00, July 16, 1995; and 15:00, July 10, 1983 through 12:00, August 9, 1983 (see Appendix A for details).

In analyzing the effect of beginning the UHS temperature transient at the maximum allowable cooling lake temperature, one is assuming conditions more severe than those that have occurred in the weather history. Because of this the peak UHS temperature occurs in the first day of the LOCA transient. The results of the LAKET-PC analysis for the each of the UHS transient start times are summarized in Table 7.3 and Fig. 7.1.

The maximum design intake temperature for the CSCS system is 100°F [Rev. 3 analysis]. To meet this requirement, the daily high temperature of the cooling water supply to the plant from the lake would have to be limited to 97.5°F. This limit is consistent with the 96.5°F limit at 9:00 am for 1.5-foot silt depth (341.4 acre-ft volume) in the UHS (see Sec. 7.5 for justification). According to Calculation L-002456, Rev. 1 [Ref. 5.6], the 09:00 temperature of the cooling water supply to the plant from the lake on the worst day of the weather history is 95.4°F. As can be seen in Figure 7.1, the 1.1°F margin between the historically hottest day and the initial UHS temperature limit is the smallest margin that exists for any starting time of the UHS design temperature transient. This margin provides an assurance that there is little risk that the most restrictive temperature limits on cooling lake temperature will be exceeded in the future. If the minimum allowable UHS volume were changed to 423.5 acre-ft (0.5 ft average sediment depth), temperature of the cooling water supply to the plant from the lake would have to be limited to 97.5°F at 9:00.

The maximum drawdown for power uprate under the maximum evaporation conditions is approximately 1.5 feet (El. 688.5 feet). The UHSAVG program determined the worst 30-day evaporation period to be 12:00, June 18, 1954 through 09:00, July 18, 1954. The worst 30-day evaporation period shifted 3½ days from the period identified in the UFSAR Sec. 9.2.6.3.1 prior to power uprate. This shift was caused by four minor changes in the modeling of the worst evaporating period that were made when UHSAVG was converted from a mainframe to a PC-based program:

1. The solar radiation model was improved.
2. The method for synthesizing missing weather data was improved.
3. The UHS surface area and volume were updated to reflect lake survey data.
4. The average daily heat load was updated for power uprate.

7.1.2 UHS Temperature Limit of 102°F – Rev. 4 Analyses**Maximum Initial UHS Temperatures - Revision 4 (see Attachment G)**

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Limiting Initial UHS Temperature
1	09:00	1/30	0	Reg. Guide 1.27, Rev. 1	>100°F
2	09:00	5/1/30	6	Reg. Guide 1.27, Rev. 2	>100°F
3	09:00	1/30	18	Reg. Guide 1.27, Rev. 1	99.35°F
4	06:00	1/30	18	Reg. Guide 1.27, Rev. 1	>100°F

7.1.3 UHS Temperature Limit of 104°F – Rev. 5 and Rev. 6 Analyses**Maximum Initial UHS Temperatures - Revision 5 (see Attachment H)**

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Limiting Initial UHS Temperature
1a	09:00	1/30	0	Reg. Guide 1.27, Rev. 1	103.0°F
2a	09:00	1/30	6	Reg. Guide 1.27, Rev. 1	102.9°F
3a	09:00	1/30	18	Reg. Guide 1.27, Rev. 1	102.3°F
1b	09:00	5/1/30	0	Reg. Guide 1.27, Rev. 2	103.6°F
2b	09:00	5/1/30	6	Reg. Guide 1.27, Rev. 2	103.5°F
3b	09:00	5/1/30	18	Reg. Guide 1.27, Rev. 2	102.9°F

**Maximum Initial UHS Temperatures – Revision 6 (see Attachment H)**

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Limiting Initial UHS Temperature
4a	09:00	1/30	12	Reg. Guide 1.27, Rev. 1	102.7
4b	09:00	5/1/30	12	Reg. Guide 1.27, Rev. 2	103.0

The values above are rounded to the nearest 0.1°F and do not include margin.

7.1.4 UHS Temperature Limit of 104°F and 107°F at MUR PU and EPU - Rev. 7 Analyses

The inclusion of weather conditions from January 1995 to September 2010 from LaSalle Station (with unavailable weather parameters from LaSalle Station taken from Peoria, IL, see Attachment K) further increases the severity of the UHS design basis temperature transient. The limiting initial UHS temperatures at the sediment levels analyzed for a plant intake limit of 104°F or 107°F at MUR PU and EPU power levels are shown in the table below (See Attachment I for further documentation).

**MUR PU Maximum Initial UHS Temperatures - Revision 7 (see Attachment I)**

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Limiting Initial UHS Temperature
1a_MUR	06:00	1/30	0	Reg. Guide 1.27, Rev. 1	103.63
2a_MUR	06:00	1/30	6	Reg. Guide 1.27, Rev. 1	103.32
3a_MUR	06:00	1/30	18	Reg. Guide 1.27, Rev. 1	102.46
4a_MUR	06:00	1/30	12	Reg. Guide 1.27, Rev. 1	102.93
1a_MUR_104F	06:00	1/30	0	Reg. Guide 1.27, Rev. 1	100.30
2a_MUR_104F	06:00	1/30	6	Reg. Guide 1.27, Rev. 1	99.95
3a_MUR_104F	06:00	1/30	18	Reg. Guide 1.27, Rev. 1	91.68
4a_MUR_104F	06:00	1/30	12	Reg. Guide 1.27, Rev. 1	89.54

**EPU Maximum Initial UHS Temperatures - Revision 7 (see Attachment I)**

Case	Start Time	Weather Data	Sediment Level (in.)	Methodology	Limiting Initial UHS Temperature
1a	06:00	1/30	0	Reg. Guide 1.27, Rev. 1	103.63
2a	06:00	1/30	6	Reg. Guide 1.27, Rev. 1	103.32
3a_12am	00:00	1/30	18	Reg. Guide 1.27, Rev. 1	104.95
3a_3am	03:00	1/30	18	Reg. Guide 1.27, Rev. 1	103.14
3a_6am	06:00	1/30	18	Reg. Guide 1.27, Rev. 1	102.42
3a_9am	09:00	1/30	18	Reg. Guide 1.27, Rev. 1	103.61
3a_12pm	12:00	1/30	18	Reg. Guide 1.27, Rev. 1	105.80
3a_3pm	15:00	1/30	18	Reg. Guide 1.27, Rev. 1	106.97
3a_6pm	18:00	1/30	18	Reg. Guide 1.27, Rev. 1	107.00
3a_9pm	21:00	1/30	18	Reg. Guide 1.27, Rev. 1	107.00
4a	06:00	1/30	12	Reg. Guide 1.27, Rev. 1	102.93
1a_104F	06:00	1/30	0	Reg. Guide 1.27, Rev. 1	100.30
2a_104F	06:00	1/30	6	Reg. Guide 1.27, Rev. 1	96.80
3a_104F	06:00	1/30	18	Reg. Guide 1.27, Rev. 1	87.01
4a_104F	06:00	1/30	12	Reg. Guide 1.27, Rev. 1	85.47

**7.1.5 UHS Drawdown for Temperature Limit of 104°F – Rev. 5 and 6 Analyses**

Computed drawdown for the UHS is <1.5-ft for the limiting case analysis.

**7.1.6 UHS Drawdown for Temperature Limit of 104°F/107°F at MUR PU and EPU - Rev. 7 Analysis**

The computed drawdown for the UHS for a temperature limit of 104°F or 107°F at MUR PU and EPU power levels are shown below (See Attachment I for further documentation).

**MUR PU Maximum Lake Drawdown - Revision 7 (see Attachment I)**

Case	Weather Data	Sediment Level (in.)	Maximum Lake Drawdown (ft) <sup>1</sup>
1c_MUR	Worst Net Evap.	0	2.24
1c_MUR_104F	Worst Net Evap.	0	2.22

1) Determined from initial lake elevation of 689.98-ft.

**EPU Maximum Lake Drawdown - Revision 7 (see Attachment I)**

Case	Weather Data	Sediment Level (in.)	Maximum Lake Drawdown (ft) <sup>1</sup>
1c	Worst Net Evap.	0	2.27
2c	Worst Net Evap.	6	2.25
3c	Worst Net Evap.	18	2.20
4c	Worst Net Evap.	0	2.23
1c_104F	Worst Net Evap.	0	2.26

1) Determined from initial lake elevation of 689.98-ft.

**7.2 Compliance with Acceptance Criteria**

- 7.2.1 Acceptance Criterion #1 - Peak Temperature – Acceptance Criterion #1 is met provided the plant is operated and monitored and maintain UHS temperatures below the applicable limits per the results listed in Section 7.1.2 (Rev. 4), Section 7.1.3 (Rev. 5 and 6), or Section 7.1.4 (Rev. 7).
- 7.2.2 Acceptance Criterion #2 - UHS Inventory – The maximum expected lake drawdown is given in Section 7.1.6. This will be used in calculation L-001355 [Ref. 5.13].
- 7.2.3 Other

The following table lists the cases that were run with the updated software prior to performing calculations for Revision 5. This was done to verify the results that were obtained in the original calculations were obtained again with the updated software. LAKET output for the verification cases is provided in Attachment H.

**Verification**

Case	Revision	Original Calculation Results (Plant Inlet Temp, °F)	Results with Most Current Software (Plant Inlet Temp, °F)
C00e	Revision 3	99.95	99.95
C06e	Revision 3	99.97	99.96
C18e	Revision 3	99.97	99.96
C0609	Revision 4	99.94	99.98

Note: Revisions 6 and 7 utilized the same version of LAKET [Ref. 5.1d] as Revision 5.

### 7.3 Tables

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- ◆ Figure I7.10: Case 1c: UHS LOCA Drawdown, Worst 30-Day Evaporation Weather Period

## 7.5 Recommendations

A single limit for maximum allowable cooling lake temperature is desirable for making operational decisions. To avoid a restrictive operating requirement that poses an unnecessary risk to plant availability, this limit needs to account for diurnal temperature changes in the lake.

Analyses presented here for a plant intake limit of 107°F (i.e., post-LOCA) support operating lake temperatures of 102.42°F to 103.63°F, depending on the level of siltation found in the UHS. These values do not include applied margin or allowance for instrument uncertainty (i.e., that associated with the measurement of the LaSalle lake temperature during normal operation).

Table 6.1: Determination of UHS Area- Capacity Profiles (1 of 2)

with No Sediment					with 0.5 feet of Sediment				
Elevation (feet)	Slice Number	Surface Area (acres)	Incremental Volume (acre-feet)	Total Volume (acre-feet)	Elevation (feet)	Slice Number	Surface Area (acres)	Incremental Volume (acre-feet)	Total Volume (acre-feet)
					0.5000	0.5000			
675		0.0078		-	675.500		0.0078		-
	15		0.03			15		0.03	
676		0.0640		0.03	676.500		0.0640		0.03
	14		0.12			14		0.12	
677		0.1857		0.15	677.500		0.1857		0.15
	13		0.25			13		0.25	
678		0.3263		0.40	678.500		0.326		0.40
	12		0.33			12		0.33	
	12 (Adj)	3.4397	2.27			12 (Adj)	3.44	2.27	
	12 (Adj)		1.66			12 (Adj)		1.66	
679		5.1493		4.66	679.500		5.15		4.66
	11		5.73			11		5.73	
680		6.3270		10.39	680.500		6.33		10.39
	10		7.20			10		7.20	
681		8.1173		17.59	681.500		8.12		17.59
	9		8.91			9		8.91	
682		9.7301		26.50	682.500		9.73		26.50
	8		10.89			8		10.89	
683		12.0857		37.39	683.500		12.09		37.39
	7		13.40			7		13.40	
684		14.7500		50.79	684.500		14.75		50.79
	6		21.79			6		21.79	
	6 (Adj)		-0.84			6 (Adj)		-0.84	
685		29.6984		71.74		(0.5)(6)		9.18	
	5		29.70		685.000		22.22		59.97
	5 (Adj)	32.3376	21.67			5&6		27.78	
	5 (Adj)		19.54		685.500		29.70		71.74
686		77.3331		142.64		5		29.70	
	4		78.15			5 (Adj)	32.34	21.67	
687		78.9604		220.79		5 (Adj)		19.54	
	3		79.75		686.000		29.70		102.16
688		80.5479		300.54		4&5		53.72	
	2		81.35		686.500		77.33		142.64
689		82.1516		381.89		4		78.15	
	1		82.99		687.000		78.15		181.84
690		83.8297		464.88		3&4		78.96	
					687.500		78.96		220.79
						3		79.75	
					688.000		79.75		260.79
						2&3		80.55	
					688.500		80.55		300.54
						2		81.35	
					689.000		81.35		341.34
						1&2		82.16	
					689.500		82.15		381.89
						1		82.99	
					690.000		82.99		423.50
					690.500		83.83		464.88

Table 6.1: Determination of UHS Area- Capacity Profiles (2 of 2)

with 1 feet of Sediment					with 1.5 feet of Sediment				
Elevation (feet)	Slice Number	Surface Area (acres)	Incremental Volume (acre-feet)	Total Volume (acre-feet)	Elevation (feet)	Slice Number	Surface Area (acres)	Incremental Volume (acre-feet)	Total Volume (acre-feet)
					0.5000	0.5000			
676		0.0076		-	676.500		0.0076		-
	15		0.03			15		0.03	
677		0.0640		0.03	677.500		0.0640		0.03
	14		0.12			14		0.12	
678		0.1857		0.15	678.500		0.1857		0.15
	13		0.25			13		0.25	
679		0.3263		0.40	679.500		0.3263		0.40
	12		0.33			12		0.33	
	12 (Adj)	3.4397	2.27			12 (Adj)	3.4397	2.27	
	12 (Adj)		1.66			12 (Adj)		1.66	
680		5.1493		4.66	680.500		5.1493		4.66
	11		5.73			11		5.73	
681		6.3270		10.39	681.500		6.3270		10.39
	10		7.20			10		7.20	
682		8.1173		17.60	682.500		8.1173		17.59
	9		8.91			9		8.91	
683		9.7301		26.51	683.500		9.7301		26.50
	8		10.89			8		10.89	
684		12.0857		37.39	684.500		12.0857		37.39
	7		13.40			7		13.40	
685		14.7500		50.79		(0.5)(7)		6.37	
	6		21.79		685.000		13.42		43.76
	6 (Adj)		-0.84			6&7		16.22	
686		29.6984		71.74	685.500		14.7500		50.79
	5		29.70			6		21.79	
	5 (Adj)	32.3376	21.67			6 (Adj)		-0.84	
	5 (Adj)		19.54		686.000		22.22		59.98
687		77.3331		142.65		5&6		27.78	
	4		78.15		686.500		29.6984		71.74
688		78.9604		220.79		5		29.70	
	3		79.75			5 (Adj)	32.34	21.67	
689		80.5479		300.55		5 (Adj)		19.54	
	2		81.35		687.000		29.70		102.19
690		82.1516		381.89		4&5		53.72	
					687.500		77.3331		142.64
						4		78.15	
					688.000		78.15		181.85
						3&4		78.96	
					688.500		78.9604		220.79
						3		79.75	
					689.000		79.75		260.81
						2&3		80.55	
					689.500		80.5479		300.54
						2		81.35	
					690.000		81.35		341.36
					690.500		82.1516		381.89



Table 7.1 - UHS Area-Capacity Inputs for LAKET-PC

Elevation (feet)	With No Sediment		With 0.5 feet of Sediment		With 1.0 feet of Sediment		With 1.5 feet of Sediment	
	Surface Area (acres)	Volume (acre-feet)	Surface Area (acres)	Volume (acre-feet)	Surface Area (acres)	Volume (acre-feet)	Surface Area (acres)	Volume (acre-feet)
685	29.70	71.7	22.22	60.0	14.75	50.8	13.42	43.8
686	77.33	142.6	29.70	102.2	29.70	71.7	22.22	60.0
687	78.96	220.8	78.15	181.8	77.33	142.6	29.70	102.2
688	80.55	300.5	79.75	260.8	78.96	220.8	78.15	181.9
689	82.15	381.9	81.35	341.4	80.55	300.5	79.75	260.8
690	83.83	464.9	82.99	423.5	82.15	381.9	81.35	341.4

Table 7.2 - Plant Temperature Rise (1 of 6)

CSCS Flowrate		86		cfs	Mass Flow	19,201,392	lbm/hr
Density		62.02		lbm/ft3	cp	1	Btu/lbm/F
Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
0	3	35.26	6.77E+08	2.03E+09	2.03E+09	1.42E+09	6.09E+08
3	6	28.79	5.53E+08	1.66E+09	3.69E+09	2.47E+09	1.22E+09
6	9	16.68	3.20E+08	9.61E+08	4.65E+09	3.43E+09	1.22E+09
9	12	16.28	3.13E+08	9.38E+08	5.59E+09	4.37E+09	1.22E+09
12	15	15.32	2.94E+08	8.83E+08	6.47E+09	5.25E+09	1.22E+09
15	18	14.97	2.87E+08	8.62E+08	7.33E+09	6.11E+09	1.22E+09
18	21	14.53	2.79E+08	8.37E+08	8.17E+09	6.95E+09	1.22E+09
21	24	14.29	2.74E+08	8.23E+08	8.99E+09	7.77E+09	1.22E+09
24	27	13.88	2.67E+08	8.00E+08	9.79E+09	8.57E+09	1.22E+09
27	30	13.45	2.58E+08	7.75E+08	1.06E+10	9.35E+09	1.22E+09
30	33	13.30	2.55E+08	7.66E+08	1.13E+10	1.01E+10	1.22E+09
33	36	13.30	2.55E+08	7.66E+08	1.21E+10	1.09E+10	1.22E+09
36	39	13.30	2.55E+08	7.66E+08	1.29E+10	1.16E+10	1.22E+09
39	42	13.24	2.54E+08	7.62E+08	1.36E+10	1.24E+10	1.22E+09
42	45	12.73	2.44E+08	7.33E+08	1.44E+10	1.31E+10	1.22E+09
45	48	12.73	2.44E+08	7.33E+08	1.51E+10	1.39E+10	1.22E+09
48	51	12.57	2.41E+08	7.24E+08	1.58E+10	1.46E+10	1.22E+09
51	54	12.43	2.39E+08	7.16E+08	1.65E+10	1.53E+10	1.22E+09
54	57	12.24	2.35E+08	7.05E+08	1.72E+10	1.60E+10	1.22E+09
57	60	12.02	2.31E+08	6.93E+08	1.79E+10	1.67E+10	1.22E+09
60	63	12.02	2.31E+08	6.93E+08	1.86E+10	1.74E+10	1.22E+09
63	66	12.02	2.31E+08	6.93E+08	1.93E+10	1.81E+10	1.22E+09
66	69	12.02	2.31E+08	6.93E+08	2.00E+10	1.88E+10	1.22E+09
69	72	12.01	2.31E+08	6.92E+08	2.07E+10	1.95E+10	1.22E+09
72	75	11.49	2.21E+08	6.62E+08	2.14E+10	2.01E+10	1.22E+09
75	78	11.49	2.21E+08	6.62E+08	2.20E+10	2.08E+10	1.22E+09
78	81	11.49	2.21E+08	6.62E+08	2.27E+10	2.15E+10	1.22E+09
81	84	11.49	2.21E+08	6.62E+08	2.33E+10	2.21E+10	1.22E+09
84	87	11.49	2.21E+08	6.62E+08	2.40E+10	2.28E+10	1.22E+09
87	90	11.49	2.21E+08	6.62E+08	2.47E+10	2.35E+10	1.22E+09
90	93	11.49	2.21E+08	6.62E+08	2.53E+10	2.41E+10	1.22E+09
93	96	11.49	2.21E+08	6.62E+08	2.60E+10	2.48E+10	1.22E+09
96	99	11.09	2.13E+08	6.39E+08	2.66E+10	2.54E+10	1.22E+09
99	102	11.07	2.13E+08	6.38E+08	2.73E+10	2.61E+10	1.22E+09
102	105	11.07	2.13E+08	6.38E+08	2.79E+10	2.67E+10	1.22E+09
105	108	11.07	2.13E+08	6.38E+08	2.85E+10	2.73E+10	1.22E+09
108	111	11.07	2.13E+08	6.38E+08	2.92E+10	2.80E+10	1.22E+09
111	114	10.87	2.09E+08	6.26E+08	2.98E+10	2.86E+10	1.22E+09
114	117	10.86	2.09E+08	6.26E+08	3.04E+10	2.92E+10	1.22E+09
117	120	10.86	2.09E+08	6.26E+08	3.11E+10	2.98E+10	1.22E+09
120	123	10.50	2.02E+08	6.05E+08	3.17E+10	3.04E+10	1.22E+09
123	126	10.50	2.02E+08	6.05E+08	3.23E+10	3.11E+10	1.22E+09
126	129	10.50	2.02E+08	6.05E+08	3.29E+10	3.17E+10	1.22E+09
129	132	10.50	2.02E+08	6.05E+08	3.35E+10	3.23E+10	1.22E+09
132	135	10.50	2.02E+08	6.05E+08	3.41E+10	3.29E+10	1.22E+09
135	138	10.50	2.02E+08	6.05E+08	3.47E+10	3.35E+10	1.22E+09
138	141	10.50	2.02E+08	6.05E+08	3.53E+10	3.41E+10	1.22E+09

Note: This table represents historical input for the Rev. 3 analysis and earlier. Rev. 4 and Rev. 5 analyses are based on plant temperature rise data presented in Attachment G.

Table 7.2 - Plant Temperature Rise (2 of 6)

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
141	144	10.50	2.02E+08	6.05E+08	3.59E+10	3.47E+10	1.22E+09
144	147	10.50	2.02E+08	6.05E+08	3.65E+10	3.53E+10	1.22E+09
147	150	10.50	2.02E+08	6.05E+08	3.71E+10	3.59E+10	1.22E+09
150	153	10.50	2.02E+08	6.05E+08	3.77E+10	3.65E+10	1.22E+09
153	156	10.50	2.02E+08	6.05E+08	3.83E+10	3.71E+10	1.22E+09
156	159	10.50	2.02E+08	6.05E+08	3.89E+10	3.77E+10	1.22E+09
159	162	10.50	2.02E+08	6.05E+08	3.95E+10	3.83E+10	1.22E+09
162	165	10.50	2.02E+08	6.05E+08	4.01E+10	3.89E+10	1.22E+09
165	168	10.27	1.97E+08	5.92E+08	4.07E+10	3.95E+10	1.22E+09
168	171	9.99	1.92E+08	5.75E+08	4.13E+10	4.01E+10	1.22E+09
171	174	9.99	1.92E+08	5.75E+08	4.19E+10	4.07E+10	1.22E+09
174	177	9.99	1.92E+08	5.75E+08	4.25E+10	4.12E+10	1.22E+09
177	180	9.99	1.92E+08	5.75E+08	4.30E+10	4.18E+10	1.22E+09
180	183	9.99	1.92E+08	5.75E+08	4.36E+10	4.24E+10	1.22E+09
183	186	9.99	1.92E+08	5.75E+08	4.42E+10	4.30E+10	1.22E+09
186	189	9.99	1.92E+08	5.75E+08	4.48E+10	4.35E+10	1.22E+09
189	192	9.99	1.92E+08	5.75E+08	4.53E+10	4.41E+10	1.22E+09
192	195	9.99	1.92E+08	5.75E+08	4.59E+10	4.47E+10	1.22E+09
195	198	9.99	1.92E+08	5.75E+08	4.65E+10	4.53E+10	1.22E+09
198	201	9.99	1.92E+08	5.75E+08	4.71E+10	4.58E+10	1.22E+09
201	204	9.99	1.92E+08	5.75E+08	4.76E+10	4.64E+10	1.22E+09
204	207	9.99	1.92E+08	5.75E+08	4.82E+10	4.70E+10	1.22E+09
207	210	9.99	1.92E+08	5.75E+08	4.88E+10	4.76E+10	1.22E+09
210	213	9.99	1.92E+08	5.75E+08	4.94E+10	4.81E+10	1.22E+09
213	216	9.99	1.92E+08	5.75E+08	4.99E+10	4.87E+10	1.22E+09
216	219	9.99	1.92E+08	5.75E+08	5.05E+10	4.93E+10	1.22E+09
219	222	9.99	1.92E+08	5.75E+08	5.11E+10	4.99E+10	1.22E+09
222	225	9.72	1.87E+08	5.60E+08	5.16E+10	5.04E+10	1.22E+09
225	228	9.70	1.86E+08	5.59E+08	5.22E+10	5.10E+10	1.22E+09
228	231	9.70	1.86E+08	5.59E+08	5.28E+10	5.15E+10	1.22E+09
231	234	9.70	1.86E+08	5.59E+08	5.33E+10	5.21E+10	1.22E+09
234	237	9.70	1.86E+08	5.59E+08	5.39E+10	5.27E+10	1.22E+09
237	240	9.70	1.86E+08	5.59E+08	5.44E+10	5.32E+10	1.22E+09
240	243	9.54	1.83E+08	5.50E+08	5.50E+10	5.38E+10	1.22E+09
243	246	9.54	1.83E+08	5.50E+08	5.55E+10	5.43E+10	1.22E+09
246	249	9.54	1.83E+08	5.50E+08	5.61E+10	5.49E+10	1.22E+09
249	252	9.54	1.83E+08	5.50E+08	5.66E+10	5.54E+10	1.22E+09
252	255	9.54	1.83E+08	5.50E+08	5.72E+10	5.60E+10	1.22E+09
255	258	9.54	1.83E+08	5.50E+08	5.77E+10	5.65E+10	1.22E+09
258	261	9.54	1.83E+08	5.50E+08	5.83E+10	5.71E+10	1.22E+09
261	264	9.54	1.83E+08	5.50E+08	5.88E+10	5.76E+10	1.22E+09
264	267	9.54	1.83E+08	5.50E+08	5.94E+10	5.82E+10	1.22E+09
267	270	9.54	1.83E+08	5.50E+08	5.99E+10	5.87E+10	1.22E+09
270	273	9.54	1.83E+08	5.50E+08	6.05E+10	5.93E+10	1.22E+09
273	276	9.54	1.83E+08	5.50E+08	6.10E+10	5.98E+10	1.22E+09
276	279	9.40	1.80E+08	5.41E+08	6.16E+10	6.04E+10	1.22E+09
279	282	9.19	1.76E+08	5.29E+08	6.21E+10	6.09E+10	1.22E+09
282	285	9.19	1.76E+08	5.29E+08	6.26E+10	6.14E+10	1.22E+09
285	288	9.19	1.76E+08	5.29E+08	6.32E+10	6.19E+10	1.22E+09

Note: This table represents historical input for the Rev. 3 analysis and earlier. Rev. 4 and Rev. 5 analyses are based on plant temperature rise data presented in Attachment G.

Table 7.2 - Plant Temperature Rise (3 of 6)

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
288	291	9.19	1.76E+08	5.29E+08	6.37E+10	6.25E+10	1.22E+09
291	294	9.19	1.76E+08	5.29E+08	6.42E+10	6.30E+10	1.22E+09
294	297	9.19	1.76E+08	5.29E+08	6.48E+10	6.35E+10	1.22E+09
297	300	9.19	1.76E+08	5.29E+08	6.53E+10	6.41E+10	1.22E+09
300	303	9.19	1.76E+08	5.29E+08	6.58E+10	6.46E+10	1.22E+09
303	306	9.19	1.76E+08	5.29E+08	6.63E+10	6.51E+10	1.22E+09
306	309	9.19	1.76E+08	5.29E+08	6.69E+10	6.57E+10	1.22E+09
309	312	9.19	1.76E+08	5.29E+08	6.74E+10	6.62E+10	1.22E+09
312	315	9.19	1.76E+08	5.29E+08	6.79E+10	6.67E+10	1.22E+09
315	318	9.19	1.76E+08	5.29E+08	6.85E+10	6.72E+10	1.22E+09
318	321	9.19	1.76E+08	5.29E+08	6.90E+10	6.78E+10	1.22E+09
321	324	9.19	1.76E+08	5.29E+08	6.95E+10	6.83E+10	1.22E+09
324	327	9.19	1.76E+08	5.29E+08	7.00E+10	6.88E+10	1.22E+09
327	330	9.19	1.76E+08	5.29E+08	7.06E+10	6.94E+10	1.22E+09
330	333	9.19	1.76E+08	5.29E+08	7.11E+10	6.99E+10	1.22E+09
333	336	9.19	1.76E+08	5.29E+08	7.16E+10	7.04E+10	1.22E+09
336	339	9.19	1.76E+08	5.29E+08	7.22E+10	7.09E+10	1.22E+09
339	342	9.19	1.76E+08	5.29E+08	7.27E+10	7.15E+10	1.22E+09
342	345	9.19	1.76E+08	5.29E+08	7.32E+10	7.20E+10	1.22E+09
345	348	9.19	1.76E+08	5.29E+08	7.37E+10	7.25E+10	1.22E+09
348	351	9.19	1.76E+08	5.29E+08	7.43E+10	7.31E+10	1.22E+09
351	354	9.19	1.76E+08	5.29E+08	7.48E+10	7.36E+10	1.22E+09
354	357	9.19	1.76E+08	5.29E+08	7.53E+10	7.41E+10	1.22E+09
357	360	9.19	1.76E+08	5.29E+08	7.59E+10	7.46E+10	1.22E+09
360	363	9.19	1.76E+08	5.29E+08	7.64E+10	7.52E+10	1.22E+09
363	366	9.19	1.76E+08	5.29E+08	7.69E+10	7.57E+10	1.22E+09
366	369	9.19	1.76E+08	5.29E+08	7.75E+10	7.62E+10	1.22E+09
369	372	9.19	1.76E+08	5.29E+08	7.80E+10	7.68E+10	1.22E+09
372	375	9.19	1.76E+08	5.29E+08	7.85E+10	7.73E+10	1.22E+09
375	378	9.19	1.76E+08	5.29E+08	7.90E+10	7.78E+10	1.22E+09
378	381	9.19	1.76E+08	5.29E+08	7.96E+10	7.84E+10	1.22E+09
381	384	9.19	1.76E+08	5.29E+08	8.01E+10	7.89E+10	1.22E+09
384	387	9.19	1.76E+08	5.29E+08	8.06E+10	7.94E+10	1.22E+09
387	390	9.19	1.76E+08	5.29E+08	8.12E+10	7.99E+10	1.22E+09
390	393	9.19	1.76E+08	5.29E+08	8.17E+10	8.05E+10	1.22E+09
393	396	9.19	1.76E+08	5.29E+08	8.22E+10	8.10E+10	1.22E+09
396	399	9.19	1.76E+08	5.29E+08	8.27E+10	8.15E+10	1.22E+09
399	402	9.19	1.76E+08	5.29E+08	8.33E+10	8.21E+10	1.22E+09
402	405	9.19	1.76E+08	5.29E+08	8.38E+10	8.26E+10	1.22E+09
405	408	9.19	1.76E+08	5.29E+08	8.43E+10	8.31E+10	1.22E+09
408	411	9.19	1.76E+08	5.29E+08	8.49E+10	8.36E+10	1.22E+09
411	414	9.19	1.76E+08	5.29E+08	8.54E+10	8.42E+10	1.22E+09
414	417	9.15	1.76E+08	5.27E+08	8.59E+10	8.47E+10	1.22E+09
417	420	8.85	1.70E+08	5.10E+08	8.64E+10	8.52E+10	1.22E+09
420	423	8.85	1.70E+08	5.10E+08	8.69E+10	8.57E+10	1.22E+09
423	426	8.85	1.70E+08	5.10E+08	8.74E+10	8.62E+10	1.22E+09
426	429	8.85	1.70E+08	5.10E+08	8.80E+10	8.67E+10	1.22E+09
429	432	8.85	1.70E+08	5.10E+08	8.85E+10	8.72E+10	1.22E+09
432	435	8.85	1.70E+08	5.10E+08	8.90E+10	8.78E+10	1.22E+09

Note: This table represents historical input for the Rev. 3 analysis and earlier. Rev. 4 and Rev. 5 analyses are based on plant temperature rise data presented in Attachment G.

Table 7.2 - Plant Temperature Rise (4 of 6)

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
435	438	8.85	1.70E+08	5.10E+08	8.95E+10	8.83E+10	1.22E+09
438	441	8.85	1.70E+08	5.10E+08	9.00E+10	8.88E+10	1.22E+09
441	444	8.85	1.70E+08	5.10E+08	9.05E+10	8.93E+10	1.22E+09
444	447	8.85	1.70E+08	5.10E+08	9.10E+10	8.98E+10	1.22E+09
447	450	8.85	1.70E+08	5.10E+08	9.15E+10	9.03E+10	1.22E+09
450	453	8.85	1.70E+08	5.10E+08	9.20E+10	9.08E+10	1.22E+09
453	456	8.85	1.70E+08	5.10E+08	9.25E+10	9.13E+10	1.22E+09
456	459	8.85	1.70E+08	5.10E+08	9.31E+10	9.18E+10	1.22E+09
459	462	8.85	1.70E+08	5.10E+08	9.36E+10	9.23E+10	1.22E+09
462	465	8.85	1.70E+08	5.10E+08	9.41E+10	9.29E+10	1.22E+09
465	468	8.85	1.70E+08	5.10E+08	9.46E+10	9.34E+10	1.22E+09
468	471	8.85	1.70E+08	5.10E+08	9.51E+10	9.39E+10	1.22E+09
471	474	8.85	1.70E+08	5.10E+08	9.56E+10	9.44E+10	1.22E+09
474	477	8.85	1.70E+08	5.10E+08	9.61E+10	9.49E+10	1.22E+09
477	480	8.85	1.70E+08	5.10E+08	9.66E+10	9.54E+10	1.22E+09
480	483	8.72	1.68E+08	5.03E+08	9.71E+10	9.59E+10	1.22E+09
483	486	8.70	1.67E+08	5.01E+08	9.76E+10	9.64E+10	1.22E+09
486	489	8.70	1.67E+08	5.01E+08	9.81E+10	9.69E+10	1.22E+09
489	492	8.70	1.67E+08	5.01E+08	9.86E+10	9.74E+10	1.22E+09
492	495	8.70	1.67E+08	5.01E+08	9.91E+10	9.79E+10	1.22E+09
495	498	8.70	1.67E+08	5.01E+08	9.96E+10	9.84E+10	1.22E+09
498	501	8.70	1.67E+08	5.01E+08	1.00E+11	9.89E+10	1.22E+09
501	504	8.70	1.67E+08	5.01E+08	1.01E+11	9.94E+10	1.22E+09
504	507	8.70	1.67E+08	5.01E+08	1.01E+11	9.99E+10	1.22E+09
507	510	8.70	1.67E+08	5.01E+08	1.02E+11	1.00E+11	1.22E+09
510	513	8.70	1.67E+08	5.01E+08	1.02E+11	1.01E+11	1.22E+09
513	516	8.70	1.67E+08	5.01E+08	1.03E+11	1.01E+11	1.22E+09
516	519	8.70	1.67E+08	5.01E+08	1.03E+11	1.02E+11	1.22E+09
519	522	8.70	1.67E+08	5.01E+08	1.04E+11	1.02E+11	1.22E+09
522	525	8.70	1.67E+08	5.01E+08	1.04E+11	1.03E+11	1.22E+09
525	528	8.70	1.67E+08	5.01E+08	1.05E+11	1.03E+11	1.22E+09
528	531	8.70	1.67E+08	5.01E+08	1.05E+11	1.04E+11	1.22E+09
531	534	8.70	1.67E+08	5.01E+08	1.06E+11	1.04E+11	1.22E+09
534	537	8.70	1.67E+08	5.01E+08	1.06E+11	1.05E+11	1.22E+09
537	540	8.70	1.67E+08	5.01E+08	1.07E+11	1.05E+11	1.22E+09
540	543	8.70	1.67E+08	5.01E+08	1.07E+11	1.06E+11	1.22E+09
543	546	8.70	1.67E+08	5.01E+08	1.08E+11	1.06E+11	1.22E+09
546	549	8.70	1.67E+08	5.01E+08	1.08E+11	1.07E+11	1.22E+09
549	552	8.70	1.67E+08	5.01E+08	1.09E+11	1.07E+11	1.22E+09
552	555	8.70	1.67E+08	5.01E+08	1.09E+11	1.08E+11	1.22E+09
555	558	8.52	1.64E+08	4.91E+08	1.10E+11	1.08E+11	1.22E+09
558	561	8.49	1.63E+08	4.89E+08	1.10E+11	1.09E+11	1.22E+09
561	564	8.49	1.63E+08	4.89E+08	1.11E+11	1.09E+11	1.22E+09
564	567	8.49	1.63E+08	4.89E+08	1.11E+11	1.10E+11	1.22E+09
567	570	8.49	1.63E+08	4.89E+08	1.12E+11	1.10E+11	1.22E+09
570	573	8.49	1.63E+08	4.89E+08	1.12E+11	1.11E+11	1.22E+09
573	576	8.49	1.63E+08	4.89E+08	1.13E+11	1.11E+11	1.22E+09
576	579	8.49	1.63E+08	4.89E+08	1.13E+11	1.12E+11	1.22E+09
579	582	8.49	1.63E+08	4.89E+08	1.14E+11	1.12E+11	1.22E+09

Note: This table represents historical input for the Rev. 3 analysis and earlier. Rev. 4 and Rev. 5 analyses are based on plant temperature rise data presented in Attachment G.

Table 7.2 - Plant Temperature Rise (5 of 6)

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
582	585	8.49	1.63E+08	4.89E+08	1.14E+11	1.13E+11	1.22E+09
585	588	8.49	1.63E+08	4.89E+08	1.15E+11	1.13E+11	1.22E+09
588	591	8.49	1.63E+08	4.89E+08	1.15E+11	1.14E+11	1.22E+09
591	594	8.49	1.63E+08	4.89E+08	1.16E+11	1.14E+11	1.22E+09
594	597	8.49	1.63E+08	4.89E+08	1.16E+11	1.15E+11	1.22E+09
597	600	8.49	1.63E+08	4.89E+08	1.16E+11	1.15E+11	1.22E+09
600	603	8.49	1.63E+08	4.89E+08	1.17E+11	1.16E+11	1.22E+09
603	606	8.49	1.63E+08	4.89E+08	1.17E+11	1.16E+11	1.22E+09
606	609	8.49	1.63E+08	4.89E+08	1.18E+11	1.17E+11	1.22E+09
609	612	8.49	1.63E+08	4.89E+08	1.18E+11	1.17E+11	1.22E+09
612	615	8.49	1.63E+08	4.89E+08	1.19E+11	1.18E+11	1.22E+09
615	618	8.49	1.63E+08	4.89E+08	1.19E+11	1.18E+11	1.22E+09
618	621	8.49	1.63E+08	4.89E+08	1.20E+11	1.19E+11	1.22E+09
621	624	8.49	1.63E+08	4.89E+08	1.20E+11	1.19E+11	1.22E+09
624	627	8.49	1.63E+08	4.89E+08	1.21E+11	1.20E+11	1.22E+09
627	630	8.49	1.63E+08	4.89E+08	1.21E+11	1.20E+11	1.22E+09
630	633	8.49	1.63E+08	4.89E+08	1.22E+11	1.21E+11	1.22E+09
633	636	8.49	1.63E+08	4.89E+08	1.22E+11	1.21E+11	1.22E+09
636	639	8.49	1.63E+08	4.89E+08	1.23E+11	1.22E+11	1.22E+09
639	642	8.49	1.63E+08	4.89E+08	1.23E+11	1.22E+11	1.22E+09
642	645	8.49	1.63E+08	4.89E+08	1.24E+11	1.23E+11	1.22E+09
645	648	8.49	1.63E+08	4.89E+08	1.24E+11	1.23E+11	1.22E+09
648	651	8.49	1.63E+08	4.89E+08	1.25E+11	1.24E+11	1.22E+09
651	654	8.49	1.63E+08	4.89E+08	1.25E+11	1.24E+11	1.22E+09
654	657	8.49	1.63E+08	4.89E+08	1.26E+11	1.25E+11	1.22E+09
657	660	8.49	1.63E+08	4.89E+08	1.26E+11	1.25E+11	1.22E+09
660	663	8.49	1.63E+08	4.89E+08	1.27E+11	1.26E+11	1.22E+09
663	666	8.49	1.63E+08	4.89E+08	1.27E+11	1.26E+11	1.22E+09
666	669	8.49	1.63E+08	4.89E+08	1.28E+11	1.27E+11	1.22E+09
669	672	8.49	1.63E+08	4.89E+08	1.28E+11	1.27E+11	1.22E+09
672	675	8.49	1.63E+08	4.89E+08	1.29E+11	1.27E+11	1.22E+09
675	678	8.49	1.63E+08	4.89E+08	1.29E+11	1.28E+11	1.22E+09
678	681	8.49	1.63E+08	4.89E+08	1.30E+11	1.28E+11	1.22E+09
681	684	8.49	1.63E+08	4.89E+08	1.30E+11	1.29E+11	1.22E+09
684	687	8.49	1.63E+08	4.89E+08	1.31E+11	1.29E+11	1.22E+09
687	690	8.49	1.63E+08	4.89E+08	1.31E+11	1.30E+11	1.22E+09
690	693	8.49	1.63E+08	4.89E+08	1.32E+11	1.30E+11	1.22E+09
693	696	8.49	1.63E+08	4.89E+08	1.32E+11	1.31E+11	1.22E+09
696	699	8.49	1.63E+08	4.89E+08	1.33E+11	1.31E+11	1.22E+09
699	702	8.49	1.63E+08	4.89E+08	1.33E+11	1.32E+11	1.22E+09
702	705	8.49	1.63E+08	4.89E+08	1.34E+11	1.32E+11	1.22E+09
705	708	8.49	1.63E+08	4.89E+08	1.34E+11	1.33E+11	1.22E+09
708	711	8.49	1.63E+08	4.89E+08	1.35E+11	1.33E+11	1.22E+09
711	714	8.49	1.63E+08	4.89E+08	1.35E+11	1.34E+11	1.22E+09
714	717	8.49	1.63E+08	4.89E+08	1.36E+11	1.34E+11	1.22E+09
717	720	8.44	1.62E+08	4.86E+08	1.36E+11	1.35E+11	1.22E+09
720	723	8.22	1.58E+08	4.73E+08	1.37E+11	1.35E+11	1.22E+09
723	726	8.22	1.58E+08	4.73E+08	1.37E+11	1.36E+11	1.22E+09
726	729	8.22	1.58E+08	4.73E+08	1.37E+11	1.36E+11	1.22E+09

Note: This table represents historical input for the Rev. 3 analysis and earlier. Rev. 4 and Rev. 5 analyses are based on plant temperature rise data presented in Attachment G.

Table 7.2 - Plant Temperature Rise (6 of 6)

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
729	732	8.22	1.58E+08	4.73E+08	1.38E+11	1.37E+11	1.22E+09
732	735	8.22	1.58E+08	4.73E+08	1.38E+11	1.37E+11	1.22E+09
735	738	8.22	1.58E+08	4.73E+08	1.39E+11	1.38E+11	1.22E+09
738	741	8.22	1.58E+08	4.73E+08	1.39E+11	1.38E+11	1.22E+09
741	744	8.22	1.58E+08	4.73E+08	1.40E+11	1.39E+11	1.22E+09
744	747	8.22	1.58E+08	4.73E+08	1.40E+11	1.39E+11	1.22E+09
747	750	8.22	1.58E+08	4.73E+08	1.41E+11	1.40E+11	1.22E+09
750	753	8.22	1.58E+08	4.73E+08	1.41E+11	1.40E+11	1.22E+09
753	756	8.22	1.58E+08	4.73E+08	1.42E+11	1.40E+11	1.22E+09
756	759	8.22	1.58E+08	4.73E+08	1.42E+11	1.41E+11	1.22E+09
759	762	8.22	1.58E+08	4.73E+08	1.43E+11	1.41E+11	1.22E+09
762	765	8.22	1.58E+08	4.73E+08	1.43E+11	1.42E+11	1.22E+09
765	768	8.22	1.58E+08	4.73E+08	1.44E+11	1.42E+11	1.22E+09
768	771	8.22	1.58E+08	4.73E+08	1.44E+11	1.43E+11	1.22E+09
771	774	8.22	1.58E+08	4.73E+08	1.45E+11	1.43E+11	1.22E+09
774	777	8.22	1.58E+08	4.73E+08	1.45E+11	1.44E+11	1.22E+09
777	780	8.22	1.58E+08	4.73E+08	1.46E+11	1.44E+11	1.22E+09
780	783	8.22	1.58E+08	4.73E+08	1.46E+11	1.45E+11	1.22E+09
783	786	8.22	1.58E+08	4.73E+08	1.46E+11	1.45E+11	1.22E+09
786	789	8.22	1.58E+08	4.73E+08	1.47E+11	1.46E+11	1.22E+09
789	792	8.22	1.58E+08	4.73E+08	1.47E+11	1.46E+11	1.22E+09
792	795	8.22	1.58E+08	4.73E+08	1.48E+11	1.47E+11	1.22E+09
795	798	8.22	1.58E+08	4.73E+08	1.48E+11	1.47E+11	1.22E+09
798	801	8.22	1.58E+08	4.73E+08	1.49E+11	1.48E+11	1.22E+09
801	804	8.22	1.58E+08	4.73E+08	1.49E+11	1.48E+11	1.22E+09
804	807	8.22	1.58E+08	4.73E+08	1.50E+11	1.49E+11	1.22E+09
807	810	8.22	1.58E+08	4.73E+08	1.50E+11	1.49E+11	1.22E+09
810	813	8.22	1.58E+08	4.73E+08	1.51E+11	1.49E+11	1.22E+09
813	816	8.22	1.58E+08	4.73E+08	1.51E+11	1.50E+11	1.22E+09
816	819	8.22	1.58E+08	4.73E+08	1.52E+11	1.50E+11	1.22E+09
819	822	8.22	1.58E+08	4.73E+08	1.52E+11	1.51E+11	1.22E+09
822	825	8.22	1.58E+08	4.73E+08	1.53E+11	1.51E+11	1.22E+09
825	828	8.22	1.58E+08	4.73E+08	1.53E+11	1.52E+11	1.22E+09
828	831	8.22	1.58E+08	4.73E+08	1.54E+11	1.52E+11	1.22E+09
831	834	8.22	1.58E+08	4.73E+08	1.54E+11	1.53E+11	1.22E+09
834	837	8.22	1.58E+08	4.73E+08	1.54E+11	1.53E+11	1.22E+09
837	840	8.22	1.58E+08	4.73E+08	1.55E+11	1.54E+11	1.22E+09
840	843	8.22	1.58E+08	4.73E+08	1.55E+11	1.54E+11	1.22E+09
843	846	8.22	1.58E+08	4.73E+08	1.56E+11	1.55E+11	1.22E+09
846	849	8.22	1.58E+08	4.73E+08	1.56E+11	1.55E+11	1.22E+09
849	852	8.22	1.58E+08	4.73E+08	1.57E+11	1.56E+11	1.22E+09
852	855	8.22	1.58E+08	4.73E+08	1.57E+11	1.56E+11	1.22E+09
855	858	8.22	1.58E+08	4.73E+08	1.58E+11	1.57E+11	1.22E+09
858	861	8.22	1.58E+08	4.73E+08	1.58E+11	1.57E+11	1.22E+09
861	864	8.22	1.58E+08	4.73E+08	1.59E+11	1.58E+11	1.22E+09
36 Day Average Heat Load			1.84E+08				

Note: This table represents historical input for the Rev. 3 analysis and earlier. Rev. 4 and Rev. 5 analyses are based on plant temperature rise data presented in Attachment G.

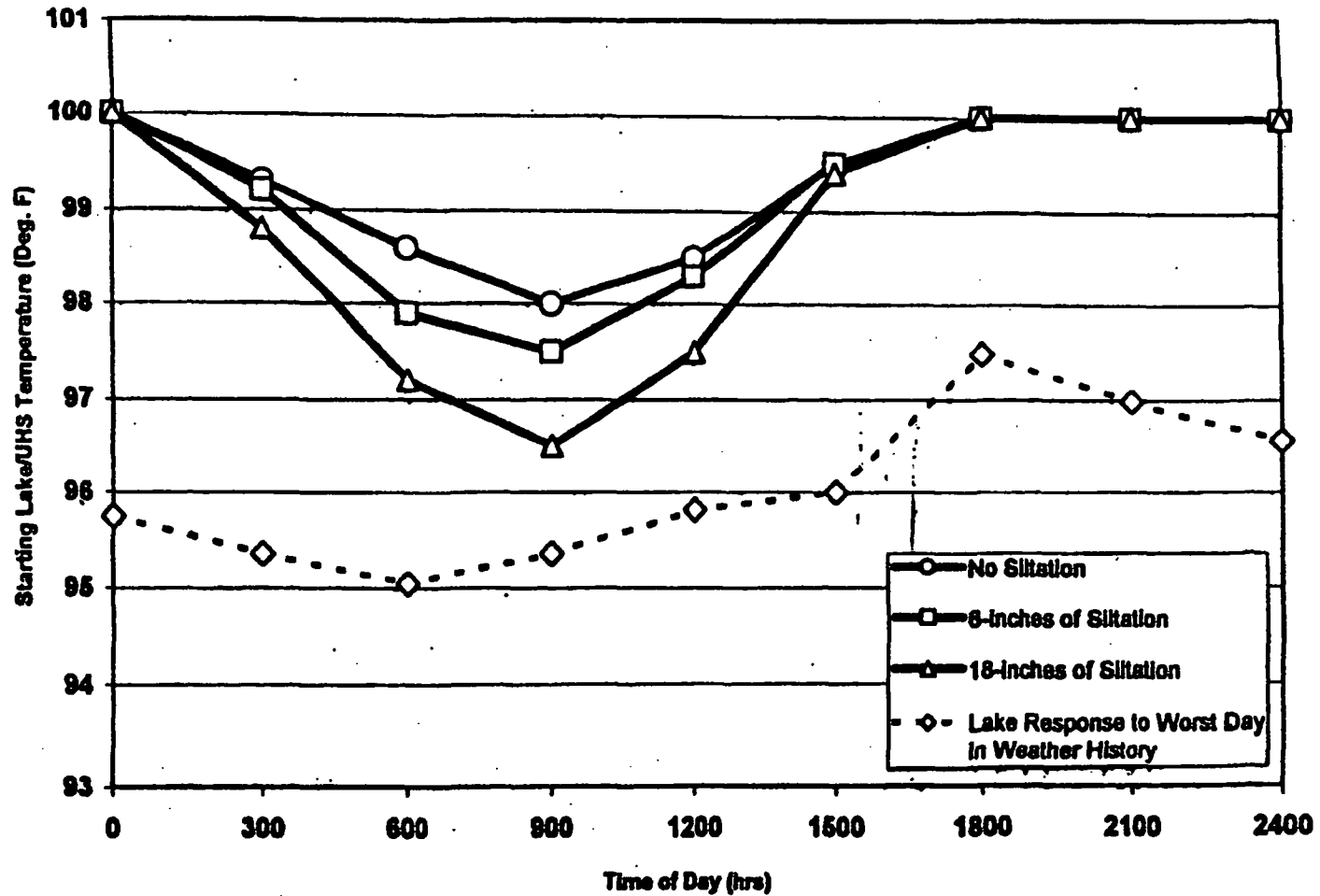
**Table 7.3: Maximum Allowable Initial Lake Temperatures**

Case	Limiting Weather Condition	Sediment Accumulation	Time of Day Start Time	Maximum Allowable Initial Temperature	Peak Temperature	Maximum 30-Day Drawdown
0000	-	0.0 ft	0:00	100.0 °F	100.00 °F	-
0003	worst day temperature	0.0 ft	3:00	99.3 °F	99.94 °F	-
0006	worst day temperature	0.0 ft	6:00	98.6 °F	99.98 °F	-
0009	worst day temperature	0.0 ft	9:00	98.0 °F	100.00 °F	-
0009	worst 5/1/30 day temperatures	0.0 ft	9:00	98.0 °F	99.94 °F	1.35 ft
0012	worst 5/1/30 day temperatures	0.0 ft	12:00	98.5 °F	99.99 °F	1.35 ft
0015	worst 5/1/30 day temperatures	0.0 ft	15:00	99.5 °F	99.94 °F	1.35 ft
0018	-	0.0 ft	18:00	100.0 °F	100.00 °F	-
0021	-	0.0 ft	21:00	100.0 °F	100.00 °F	-
0600	-	0.5 ft	0:00	100.0 °F	100.00 °F	-
0603	worst day temperature	0.5 ft	3:00	99.2 °F	99.96 °F	-
0606	worst day temperature	0.5 ft	6:00	97.9 °F	99.98 °F	-
0609	worst 5/1/30 day temperatures	0.5 ft	9:00	97.5 °F	99.98 °F	1.35 ft
0612	worst 5/1/30 day temperatures	0.5 ft	12:00	98.3 °F	99.96 °F	1.35 ft
0615	worst 5/1/30 day temperatures	0.5 ft	15:00	99.5 °F	99.97 °F	1.36 ft
0618	-	0.5 ft	18:00	100.0 °F	100.00 °F	-
0621	-	0.5 ft	21:00	100.0 °F	100.00 °F	-
1800	-	1.5 ft	0:00	100.0 °F	100.00 °F	-
1803	worst day temperature	1.5 ft	3:00	98.8 °F	99.96 °F	-
1806	worst day temperature	1.5 ft	6:00	97.2 °F	99.98 °F	-
1809	worst day temperature	1.5 ft	9:00	96.5 °F	99.98 °F	-
1809	worst 5/1/30 day temperatures	1.5 ft	9:00	96.5 °F	99.80 °F	1.35 ft
1812	worst 5/1/30 day temperatures	1.5 ft	12:00	97.5 °F	99.96 °F	1.35 ft
1815	worst 5/1/30 day temperatures	1.5 ft	15:00	99.4 °F	99.97 °F	1.36 ft
1818	-	1.5 ft	18:00	100.0 °F	100.00 °F	-
1821	-	1.5 ft	21:00	100.0 °F	100.00 °F	-
00e	worst 30 day evaporation	0.0 ft	12:00	97.6 °F	99.95 °F	1.46 ft
06e	worst 30 day evaporation	0.5 ft	12:00	97.4 °F	99.97 °F	1.46 ft
18e	worst 30 day evaporation	1.5 ft	12:00	96.8 °F	99.97 °F	1.46 ft

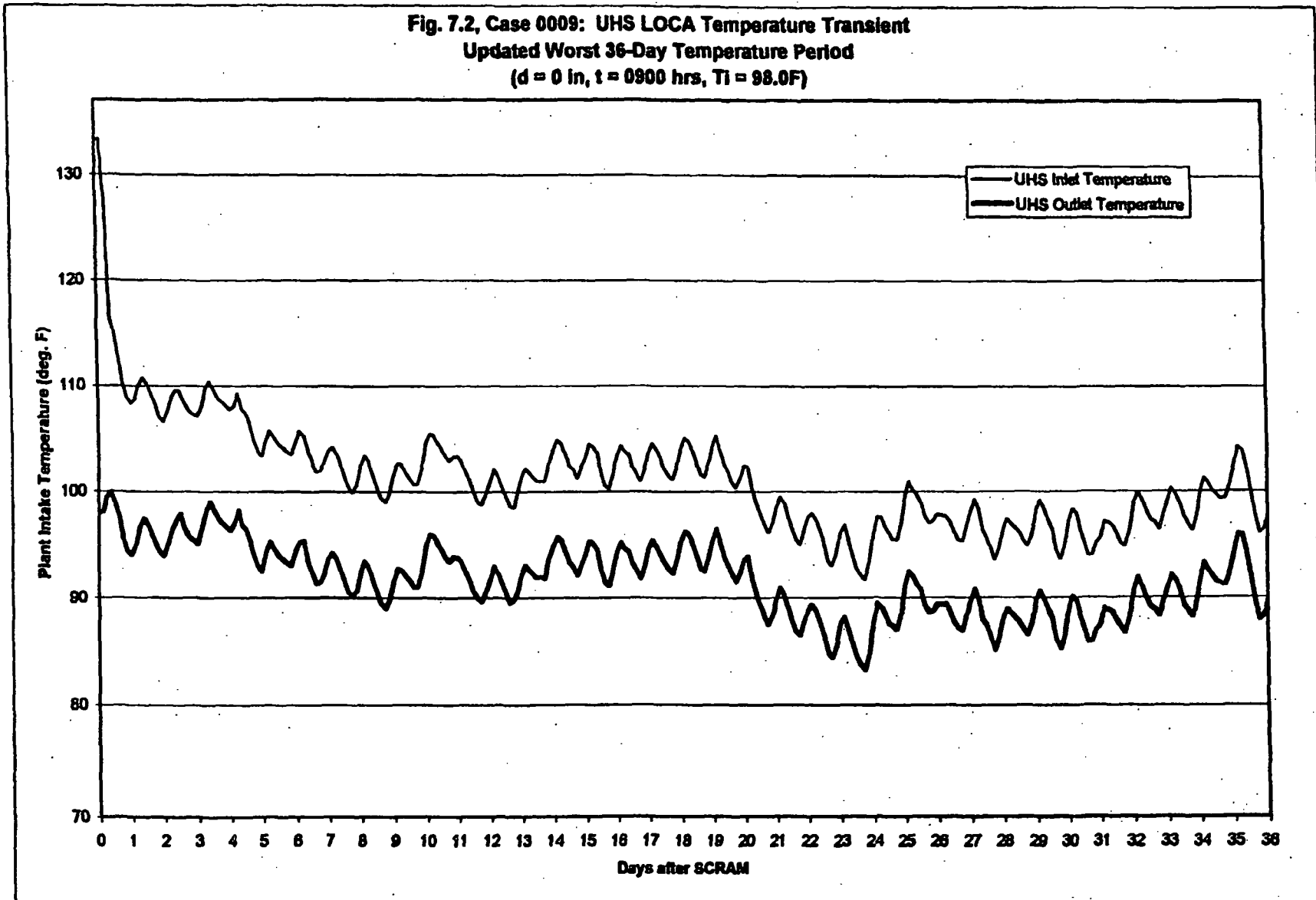
Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.



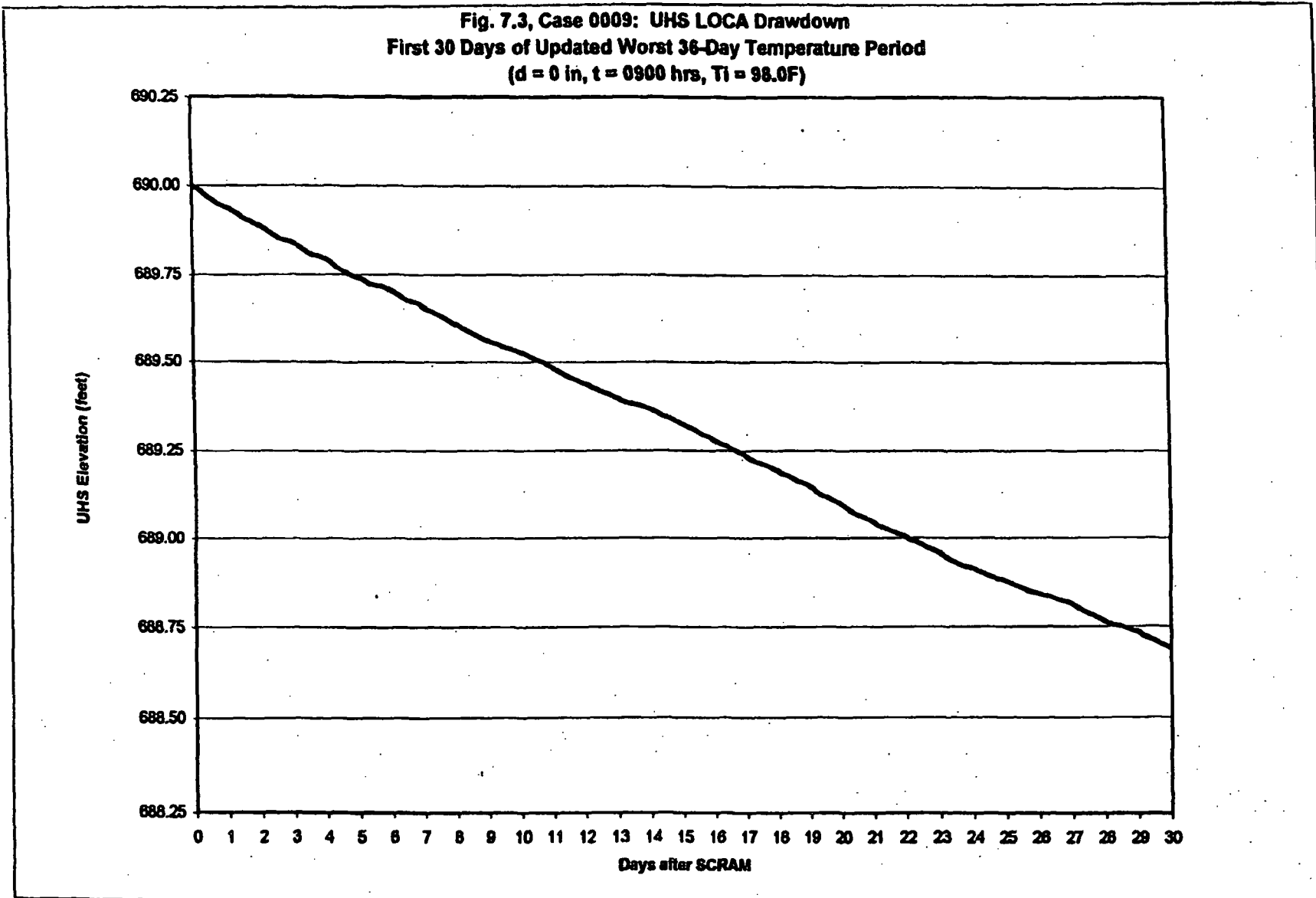
**Fig. 7.1: Limiting Lake Temperatures vs. Time of Day**



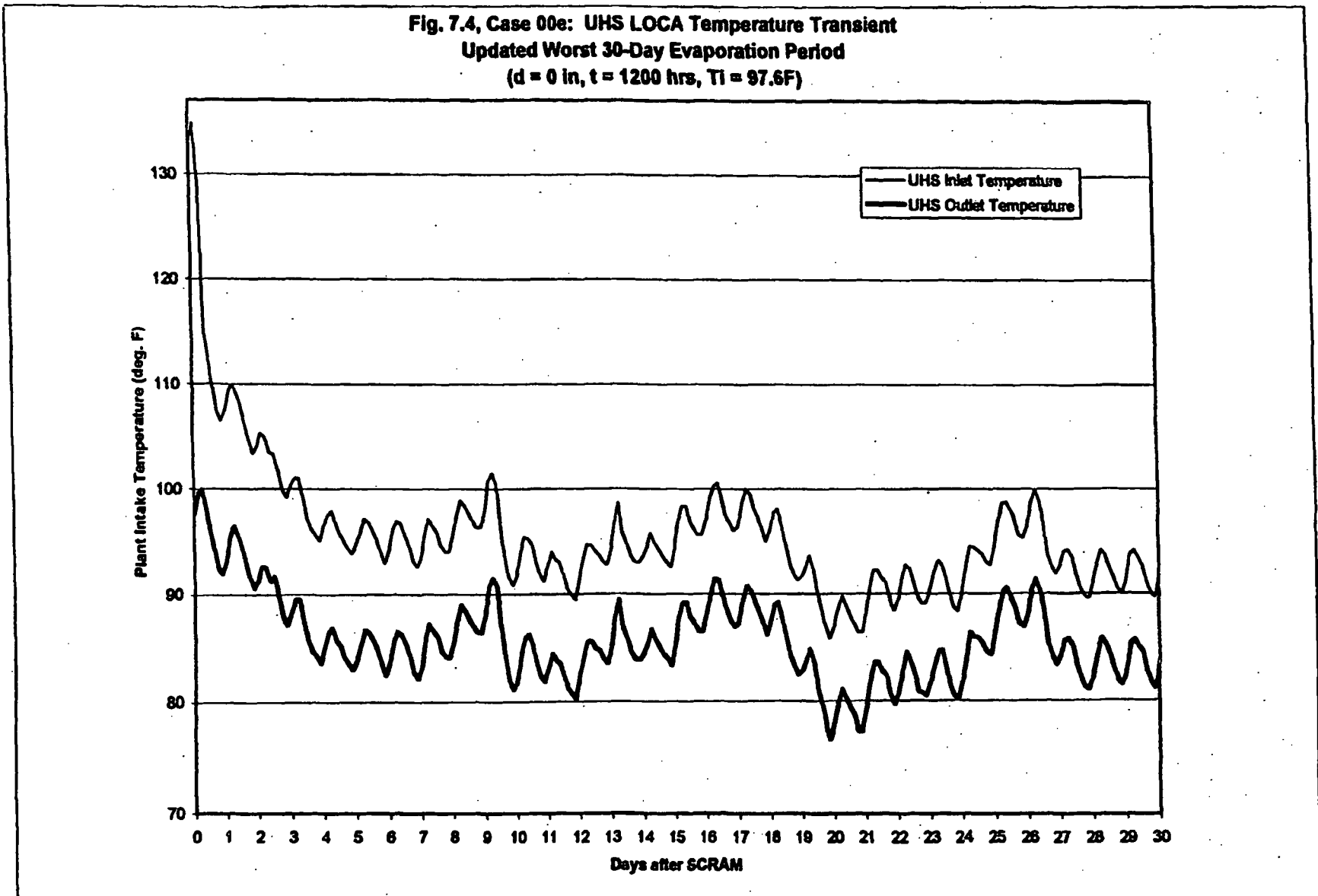
Note: This table represents historical results for the Rev. 3 analysis. Rev. 4 and Rev. 5 analyses results are presented in Attachments G and H, respectively.



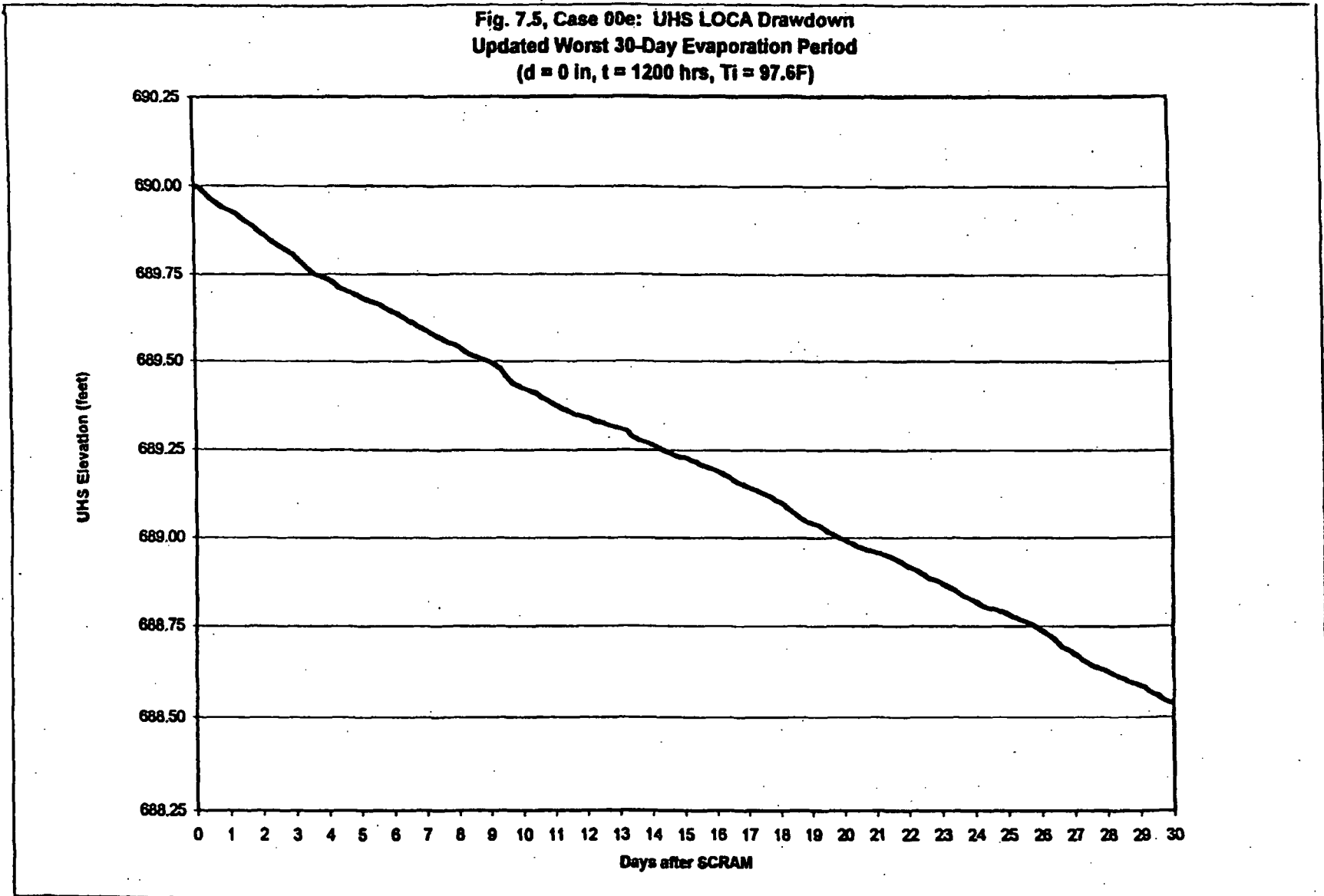
Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.



Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

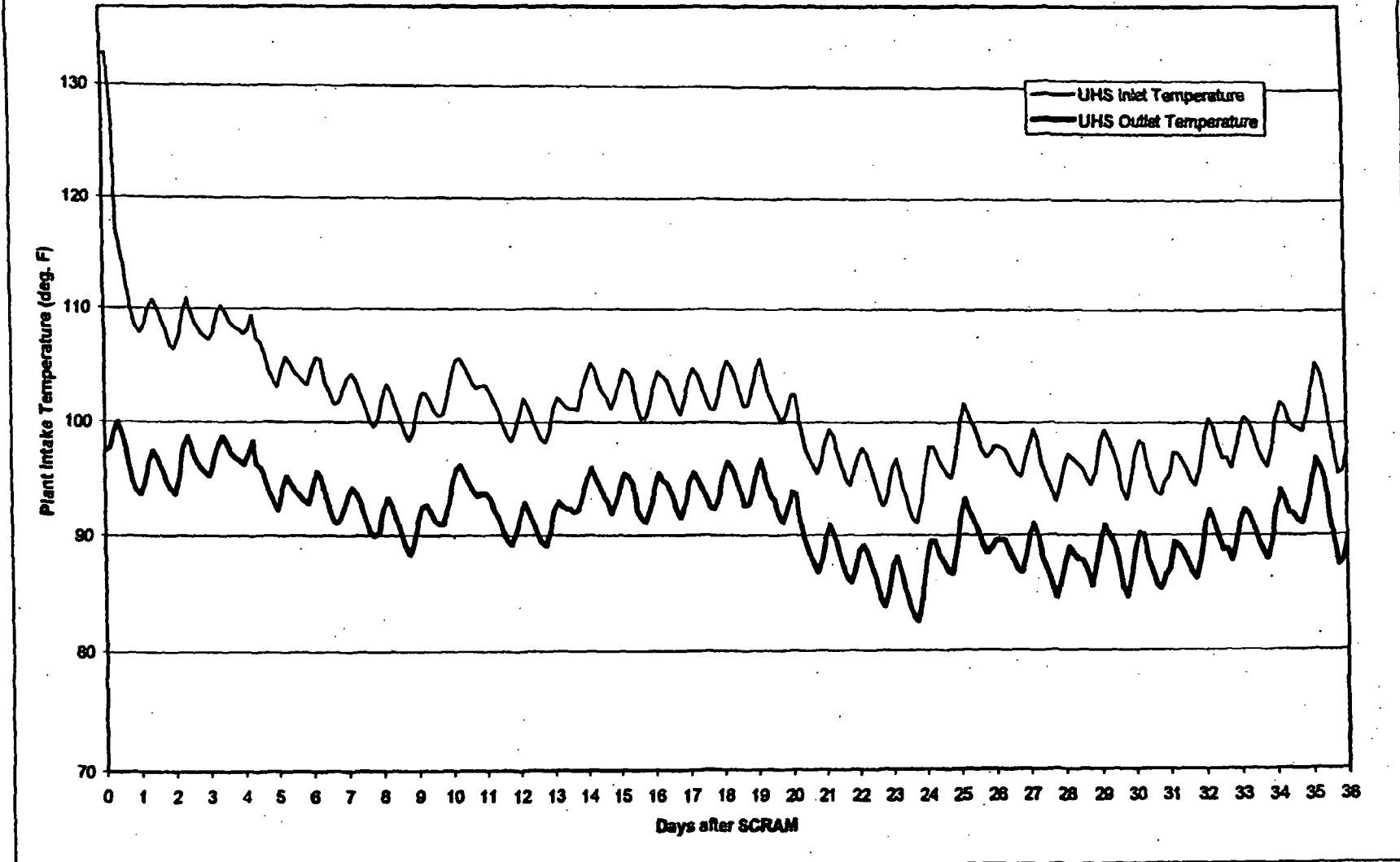


Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.



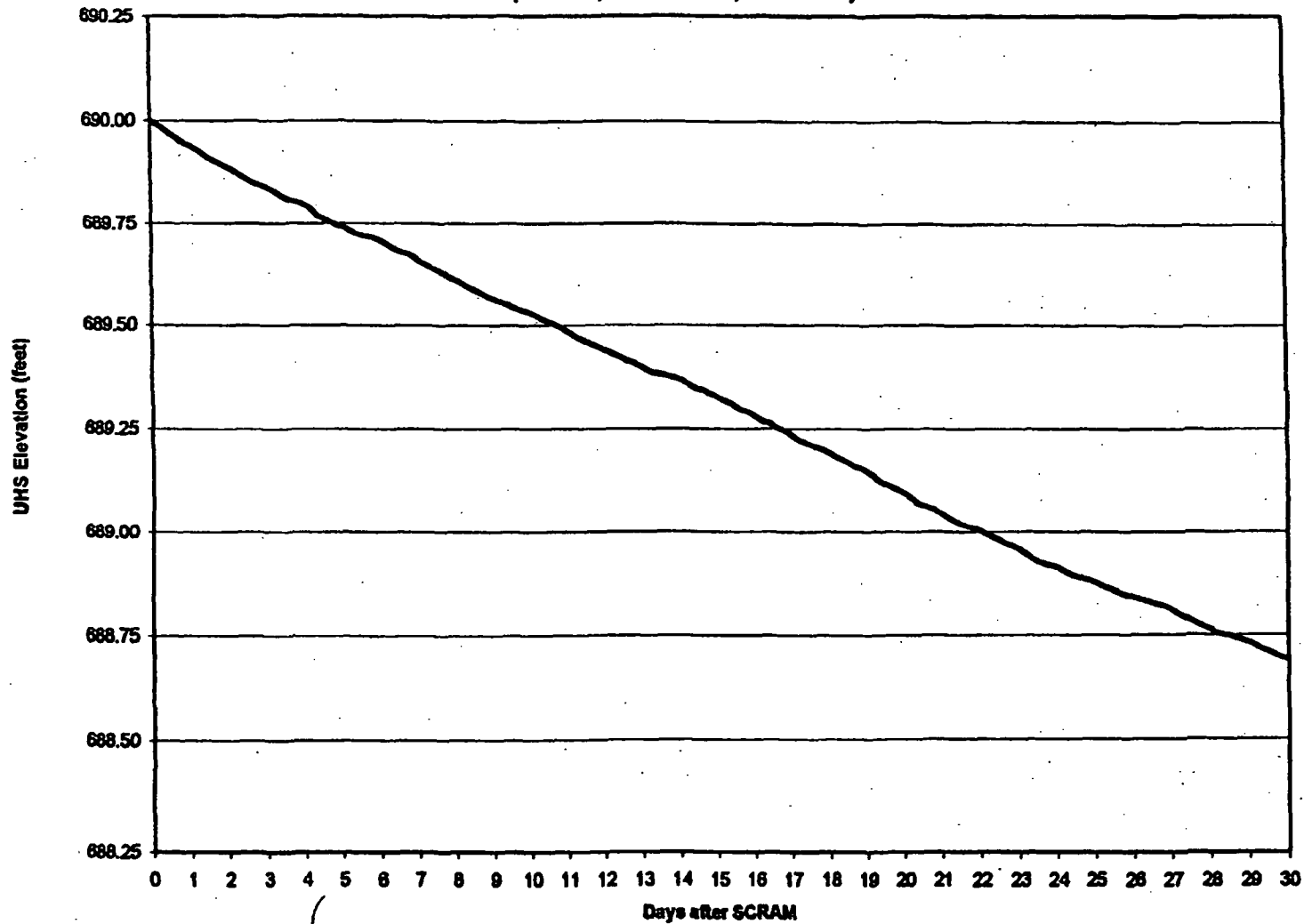
Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

**Fig. 7.6, Case 0609: UHS LOCA Temperature Transient  
Updated Worst 36-Day Temperature Period  
(d = 6 in, t = 0900 hrs, T<sub>I</sub> = 97.5F)**



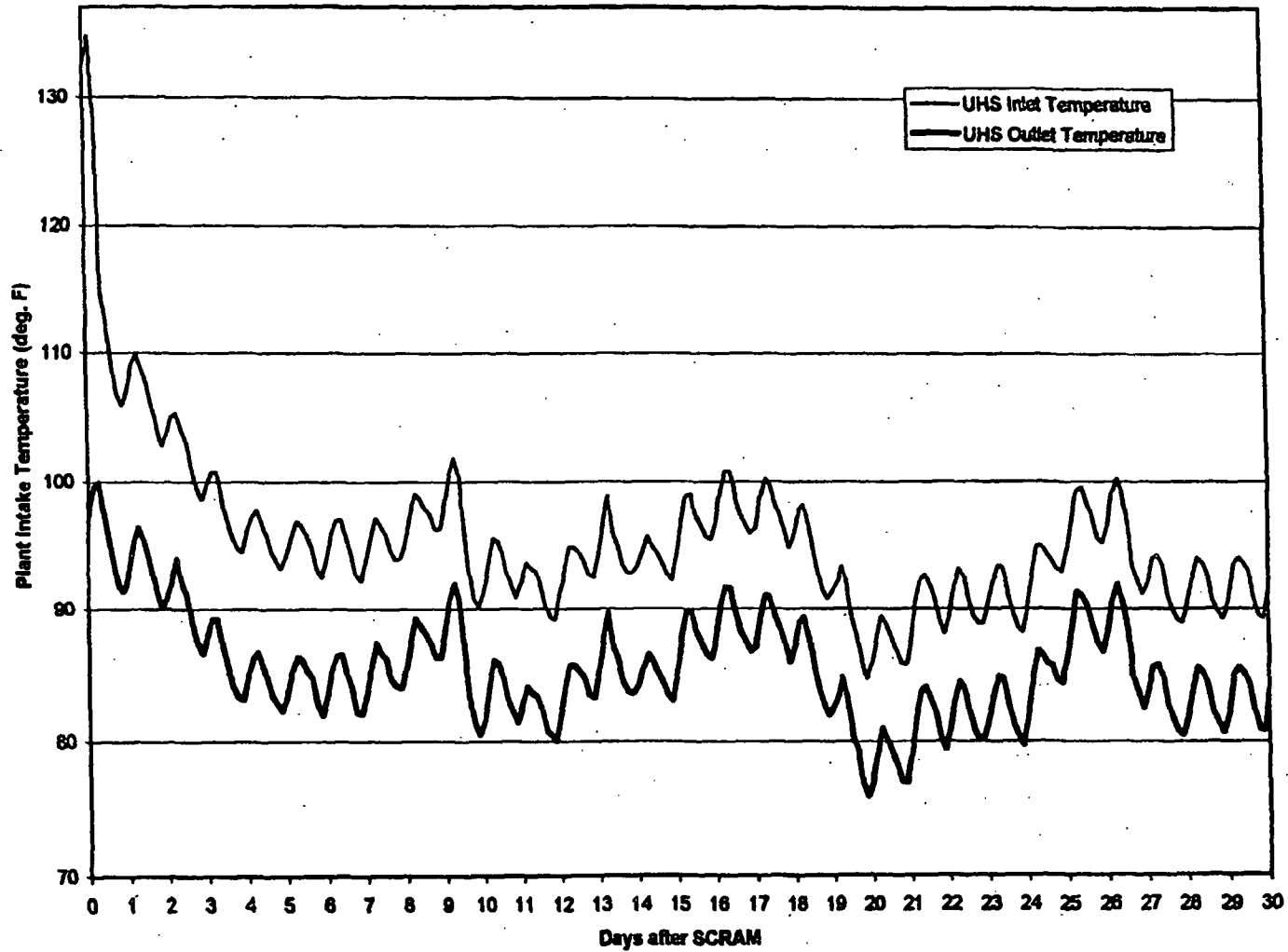
Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

**Fig. 7.7, Case 0609: UHS LOCA Drawdown  
 First 30 Days of Updated Worst 36-Day Temperature Period  
 (d = 6 in, t = 0900 hrs, T<sub>i</sub> = 97.5F)**



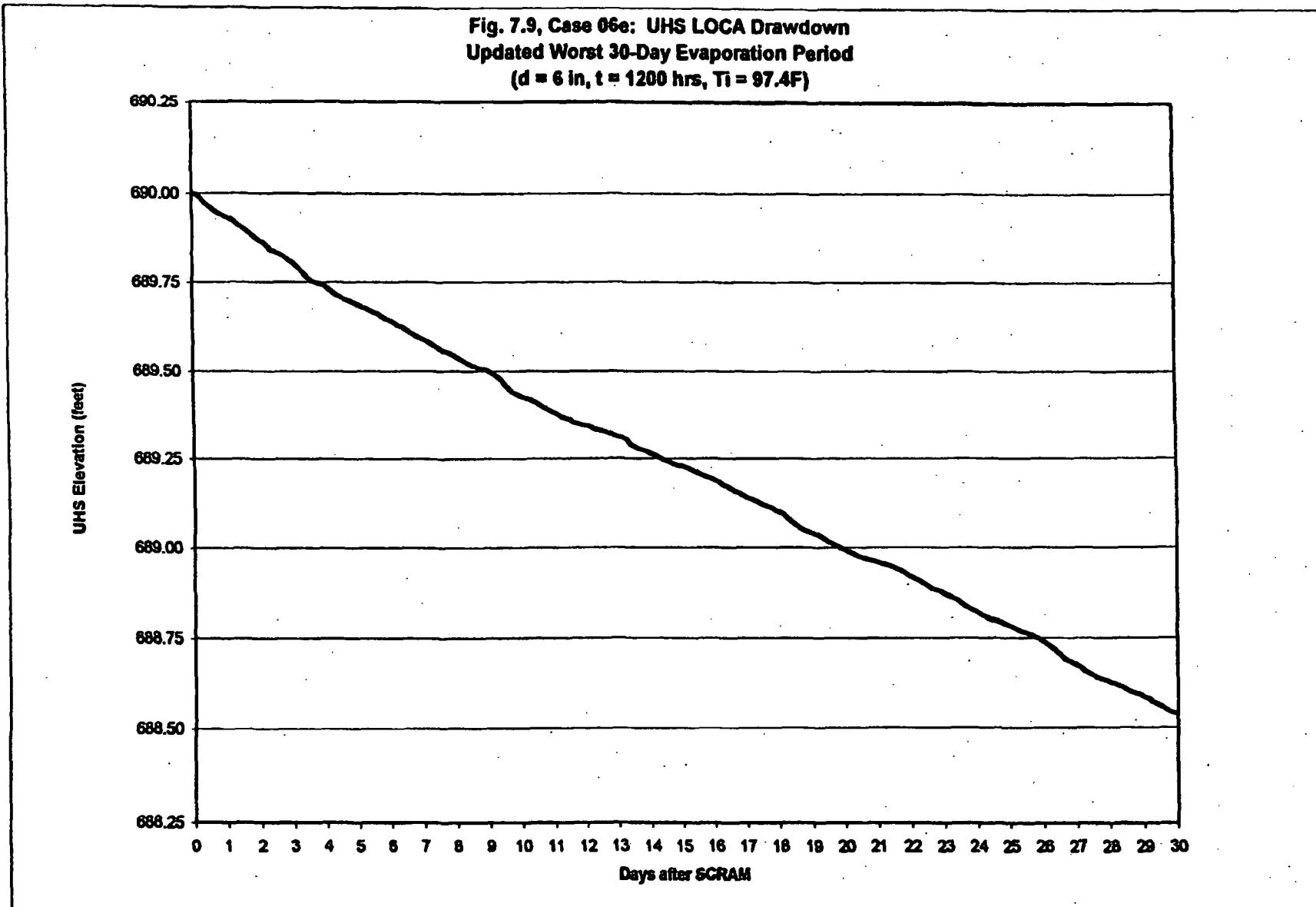
Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

**Fig. 7.8, Case 06e: UHS LOCA Temperature Transient  
Updated Worst 30-Day Evaporation Period  
(d = 6 in, t = 1200 hrs, TI = 97.4F)**

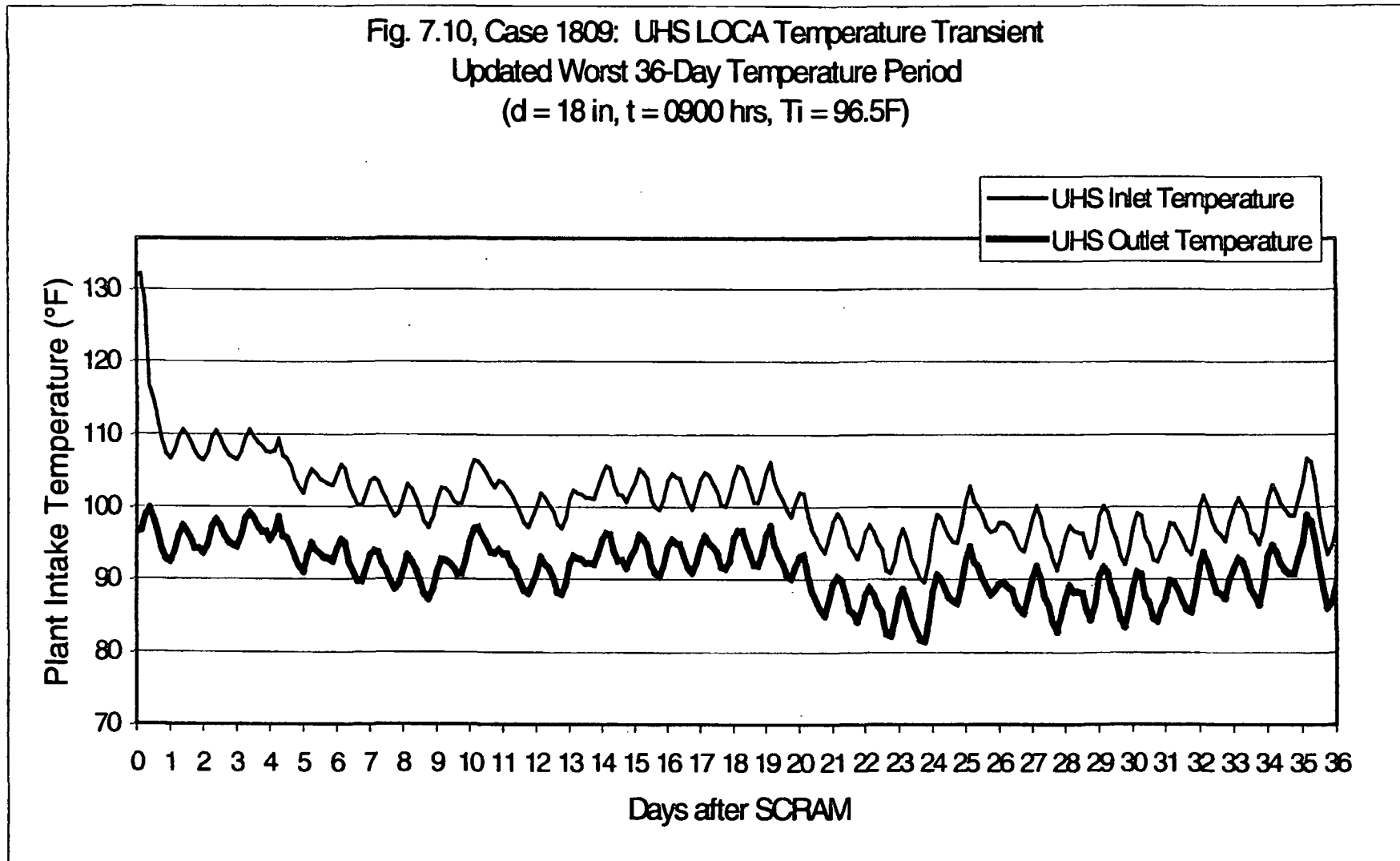


Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

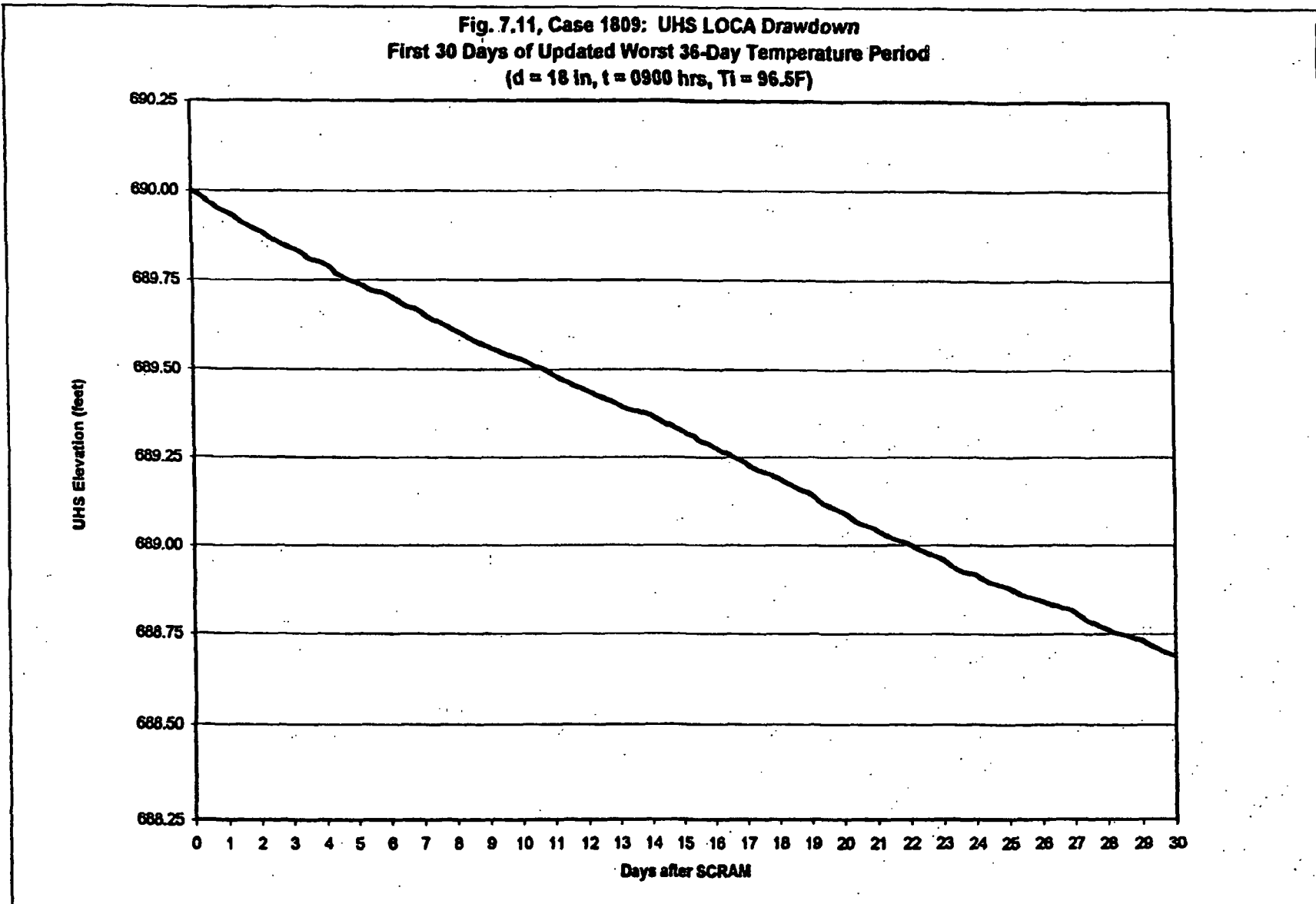




Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

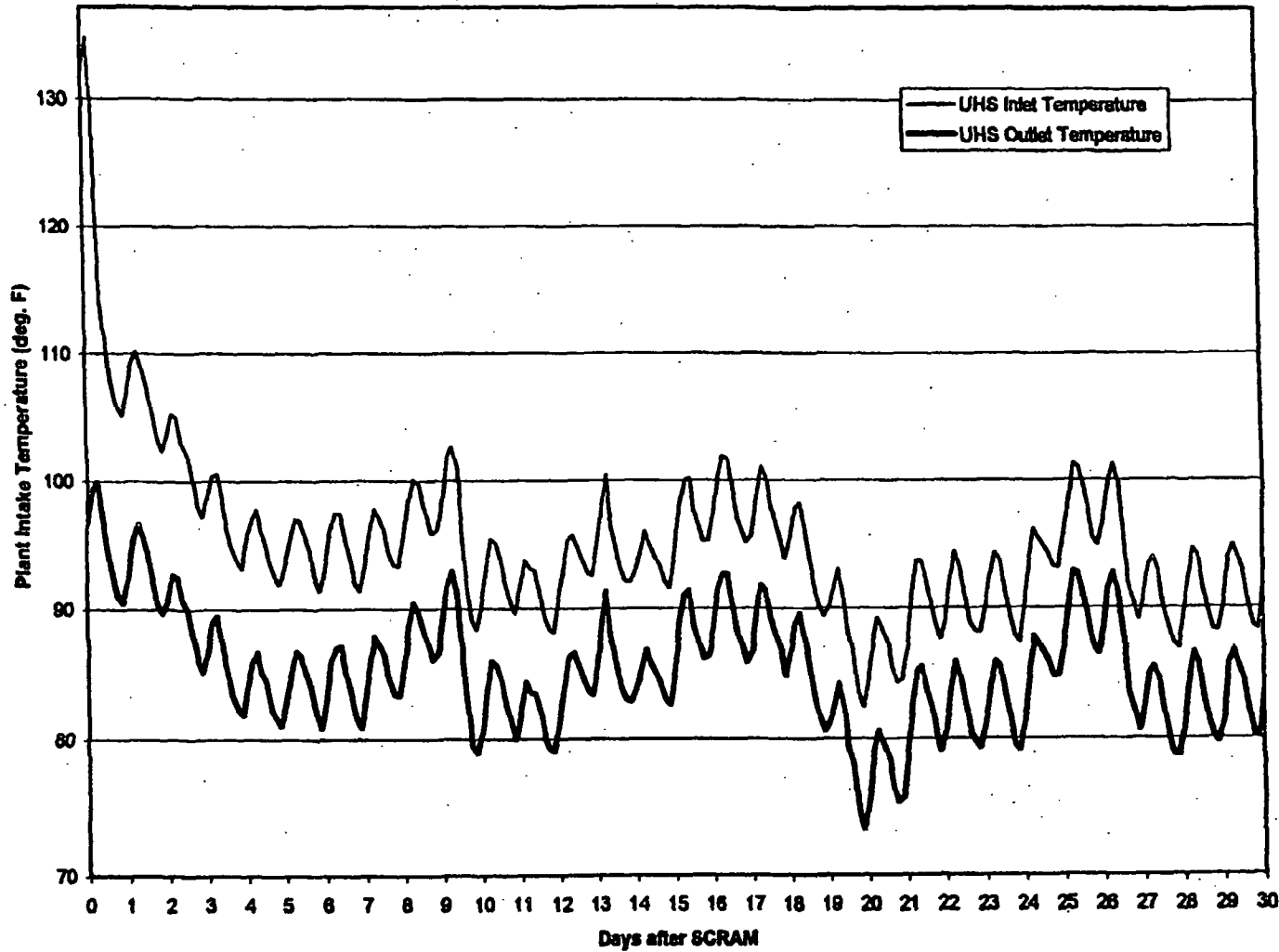


Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

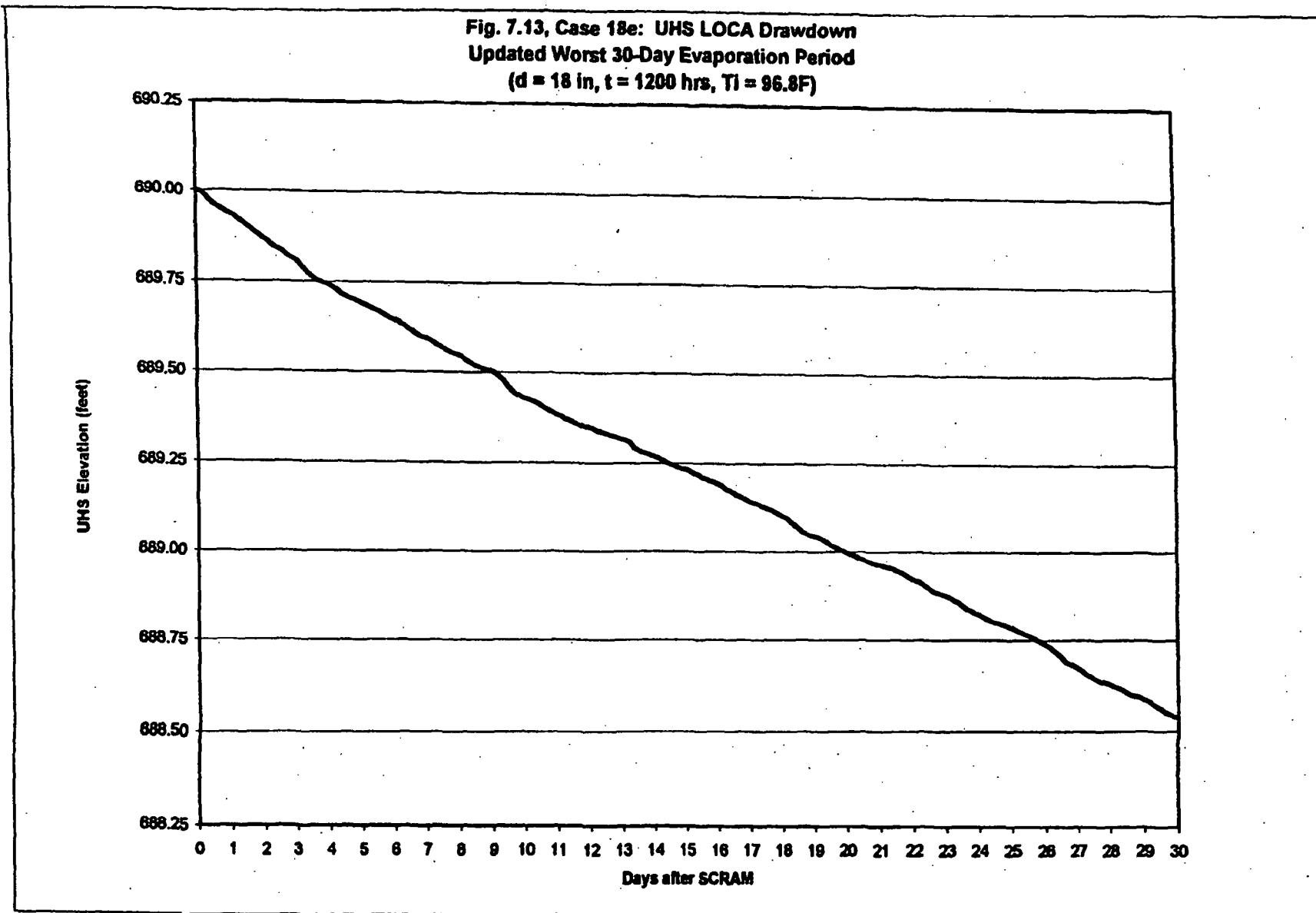


Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

**Fig. 7.12, Case 18e: UHS LOCA Temperature Transient**  
**Updated Worst 30-Day Evaporation Period**  
**(d = 18 in, t = 1200 hrs, T<sub>i</sub> = 96.8F)**

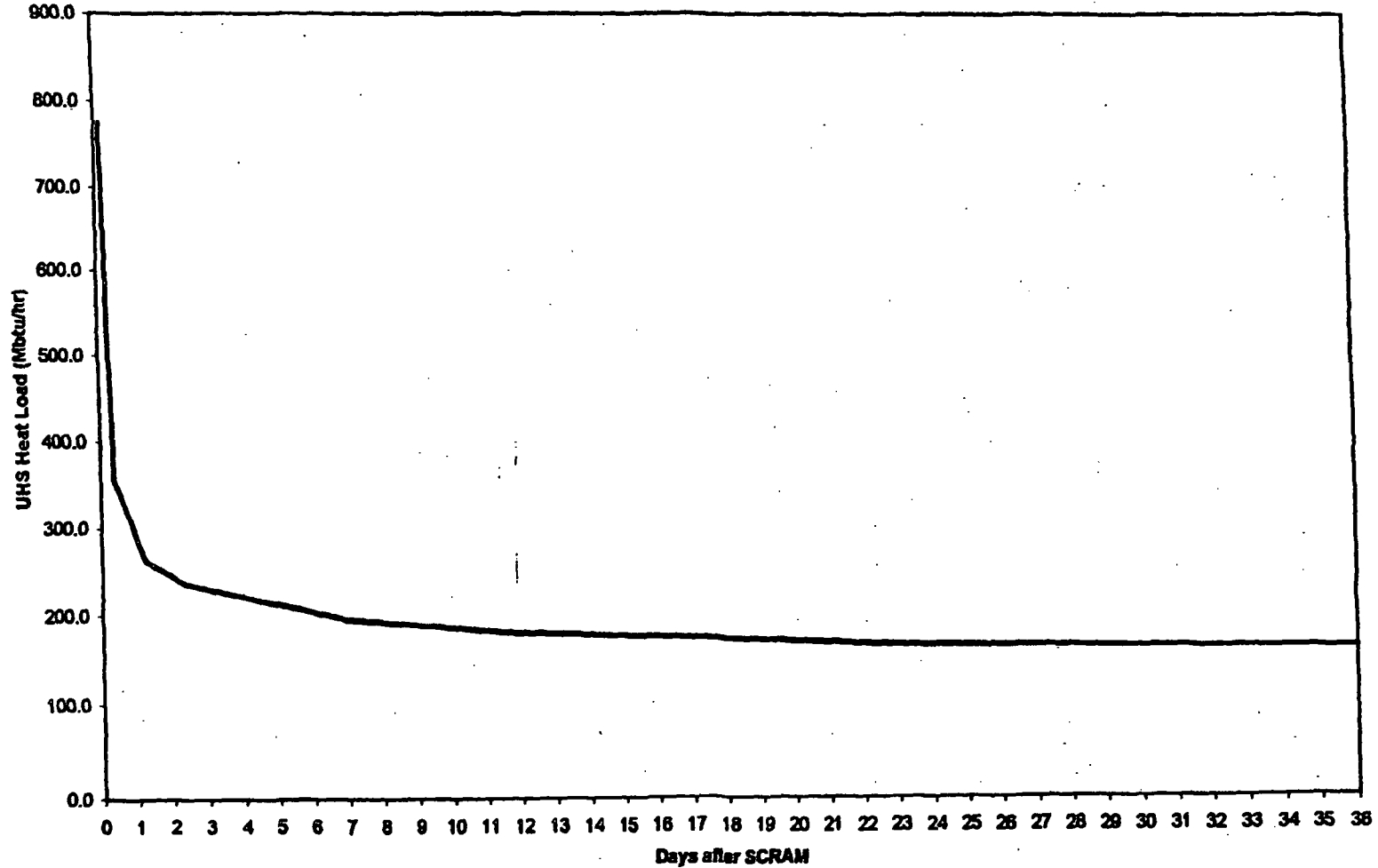


Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.



Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

**Figure 7.14**  
**UHS Heat Load Following LOCA**



Note: The tables and figures here represent historical analysis results for the Rev. 3 calculation. Current design analysis is based on results reported in Attachment G for a 102°F plant intake temperature limit, and Attachment H for a 104°F plant intake temperature limit. These results do, however, provide the basis for the controlling time for the start of the limiting transient, 9 AM.

## Attachment A

## UHSAVG Files

UHSAVG10 Version 1.0 - Sargent & Lundy Program No. 03.7.642-1.0  
 User OJ2069 on PC5121 Tuesday, March 7, 2000 Time: 15:05:48  
 Controlled Files:  
 User DH9449 on PC5407  
 Drive V: = SNL1\_SYS3: \

Volume in drive V is SYS3

[Base]\MAXDAT.EXE	08-11-1997 19:56
[Base]\UHSAVG2.EXE	08-11-1997 19:55
[Base]\WRITE.EXE	08-20-1997 10:45
[Base]\UHSAVG\$.BAT	10-06-1997 16:29

ps489661 bin 26,080,178 12-08-97 4:12p

uhsavg0	inp	141	03-07-00	2:35p
uhsavg18	inp	142	03-07-00	2:35p
uhsavg6	inp	141	03-07-00	2:35p

msg0	sym	4,553	03-07-00	3:03p
msg18	sym	4,553	03-07-00	3:08p
msg6	sym	4,553	03-07-00	3:06p

w0000	inp	301	03-02-00	11:10a
w0300	inp	301	03-02-00	11:06a
w0600	inp	301	03-02-00	11:11a
w0900	inp	301	03-02-00	11:05a
w1200	inp	301	03-02-00	11:00a
w1200e	inp	312	03-08-00	10:31a
w1500	inp	301	03-02-00	11:09a
w1800	inp	301	03-02-00	11:10a
w2100	inp	301	03-02-00	11:10a

MSG0.SYM

0

1

3

1

19480705.

17526

184.E06

86.0

40

8

240

240

288

0

0

83.83

97.

464.9

C:\COMED\LASALLE\WEATHER\PS489661.BIN



MSG6.SYM

0

1

3

1

19480705.

17526

184.E06

86.0

40

8

240

240

288

0

0

82.99

97.

423.5

C:\COMED\LASALLE\WEATHER\PS489661.BIN

MSG18.SYM

0

1

3

1

19480705.

17526

184.E06

86.0

40

8

240

240

288

0

0

81.35

97.

341.4

C:\COMED\LASALLE\WEATHER\PS489661.BIN

SARGENT & LUNDY LLC

UHSAVG PROGRAM

ULTIMATE HEAT SINK ANALYSIS  
DETERMINATION OF DESIGN TEMPERATURE  
AND WATER LOSS PERIODS

INPUT DATA COMMON TO BOTH TOWER AND POND:

VALIDATION OPTION (CREATE AN OUTPUT  
FILE WITH TEMPERATURE (OF POND OR  
TOWER AIR), AND WATER LOSS VALUES,  
WRITTEN ONCE PER 3-HOUR PERIOD);  
NO=0, YES=1 = 0  
IUHS (SELECTION OPTION; 1=POND, 2=TOWER) = 1  
NUMPER (NUMBER OF SUB-PERIODS WITHIN THE  
36-DAY COMBINED TEMPERATURE PERIOD -  
SHOULD ALWAYS BE=3) = 3  
LPLIM (NUMBER OF 3-HR PERIODS OVER  
WHICH DATA IS AVERAGED - SHOULD  
ALWAYS BE SET TO 1) = 1  
SDATE (STARTING DATE FOR THE UHSAVG  
PROCESSING - 6 DIGITS COMBINING YEAR,  
MONTH, AND DAY) = 19480705.  
  
IDYLIM (THE TOTAL NUMBER OF DAYS TO BE  
PROCESSED) = 17526  
QLOAD (HEAT REJECTED BY THE POWER  
STATION - AVERAGE OVER THE PERIOD  
SPECIFIED IN REG. GUIDE 1.27 -  
BTU/HR) = 184000000.00  
FLOW (POWER STATION ESSENTIAL SERVICE  
WATER FLOW, PLUS ANY ADDITIONAL  
FLOW - CFS) = 86.00  
I2LIM (THE NUMBER OF 3-HR INTERVALS  
IN EACH OF 5 DIFFERENT SUB-PERIODS  
THAT ARE IDENTIFIED) = 40 8 240 240

288

INPUT DATA SPECIFIC TO PONDS ONLY:

IPCP (OPTION FOR INCLUSION OF PRECIP  
IN WATER LOSS CALCULATIONS (0=NO,  
1=YES)) = 0  
EXTRA (EXTRA RUNOFF AREA FOR INCLUSION  
OF PRECIP IN WATER LOSS

A (AREA OF POND UHS - ACRES)	=	83.83
TI (INITIAL POND TEMPERATURE SET BY THE USER - DEG F)	=	97.00
VI (INITIAL POND VOLUME SET BY THE USER - ACRE-FT)	=	464.90

NAMES OF EXTERNAL FILES  
USED FOR THIS RUN OF UHSAVG:

INPUT TEXT FILE WITH USER OPTION INPUT:  
 INPUT BINARY FILE WITH WEATHER DATA:  
 C:\COMED\LASALLE\WEATHER\PS489661.BIN  
 OUTPUT TEXT FILE WITH RESULTS: MSG0.SYM  
 OUTPUT TEXT FILE WITH VALIDATION DATA:  
 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

STARTING DATE WAS FOUND  
AND PROCESSING WAS STARTED.

PROCESSING WAS COMPLETED, AND DESIGN  
WEATHER PERIODS WERE SELECTED. THESE  
PERIODS ARE LISTED BELOW, AFTER THE  
DEFINITIONS.

DEFINITION OF "AVERAGE TEMPERATURE":

FOR A POND, THE "AVERAGE TEMPERATURE"  
FOR THE PERIOD REFERS TO THE AVERAGE  
BULK TEMP OF THE POND WATER, WHICH IS  
ASSUMED TO BE THOROUGHLY MIXED.

FOR A TOWER, THE "AVERAGE TEMPERATURE" FOR  
THE PERIOD REFERS TO THE AVERAGE WET BULB  
TEMPERATURE.

DEFINITION OF "AVERAGE EVAPORATION":

"AVERAGE EVAPORATION" IN THE CASE OF  
EITHER A POND OR A TOWER REFERS TO THE  
AVERAGE EVAPORATIVE WATER LOSS FROM THE  
COOLING SYSTEM DURING THE PERIOD.

DEFINITION OF THE DECIMAL PORTION OF  
THE START AND END DATES FOR EACH  
SELECTED WORST-CASE PERIOD:

THE DECIMAL PORTION IDENTIFIES ONE OF  
THE EIGHT 3-HOUR PERIODS OF THAT DAY.  
FOR EXAMPLE, "1" IS THE FIRST 3-HOUR  
PERIOD, AND "8" IS THE LAST 3-HR PERIOD

THE LENGTH OF THE FIRST COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 5.000 DAYS  
AVERAGE TEMPERATURE WAS: 93.413 DEG F  
PERIOD STARTS ON 19950712.4  
PERIOD FINISHES ON 19950717.3

THE LENGTH OF THE SECOND COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 1.000 DAYS  
AVERAGE TEMPERATURE WAS: 94.699 DEG F  
PERIOD STARTS ON 19950715.5  
PERIOD FINISHES ON 19950716.4

THE LENGTH OF THE THIRD COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 30.000 DAYS  
AVERAGE TEMPERATURE WAS: 89.138 DEG F  
PERIOD STARTS ON 19830710.6  
PERIOD FINISHES ON 19830809.5

THE LENGTH OF THE EVAPORATION  
PERIOD WAS: 30.000 DAYS  
AVERAGE EVAPORATION WAS: 1.859 CFS  
PERIOD STARTS ON 19540618.5  
PERIOD FINISHES ON 19540718.4

THE LENGTH OF THE WORST-CASE  
CONSECUTIVE TEMPERATURE PERIOD  
WAS: 36.000 DAYS  
AVERAGE TEMPERATURE WAS: 89.060 DEG F  
PERIOD STARTS ON 19950726.7  
PERIOD FINISHES ON 19950831.6

**File: MSG6.SYM**

SARGENT & LUNDY LLC

UHSAVG PROGRAM

ULTIMATE HEAT SINK ANALYSIS  
DETERMINATION OF DESIGN TEMPERATURE  
AND WATER LOSS PERIODS

INPUT DATA COMMON TO BOTH TOWER AND POND:

VALIDATION OPTION (CREATE AN OUTPUT  
FILE WITH TEMPERATURE (OF POND OR  
TOWER AIR), AND WATER LOSS VALUES,  
WRITTEN ONCE PER 3-HOUR PERIOD);  
NO=0, YES=1 = 0  
IUHS (SELECTION OPTION; 1=POND, 2=TOWER) = 1  
NUMPER (NUMBER OF SUB-PERIODS WITHIN THE  
36-DAY COMBINED TEMPERATURE PERIOD -  
SHOULD ALWAYS BE=3) = 3  
LPLIM (NUMBER OF 3-HR PERIODS OVER  
WHICH DATA IS AVERAGED - SHOULD  
ALWAYS BE SET TO 1) = 1  
SDATE (STARTING DATE FOR THE UHSAVG  
PROCESSING - 6 DIGITS COMBINING YEAR,  
MONTH, AND DAY) = 19480705.  
  
IDYLIM (THE TOTAL NUMBER OF DAYS TO BE  
PROCESSED) = 17526  
QLOAD (HEAT REJECTED BY THE POWER  
STATION - AVERAGE OVER THE PERIOD  
SPECIFIED IN REG. GUIDE 1.27 -  
BTU/HR) = 184000000.00  
FLOW (POWER STATION ESSENTIAL SERVICE  
WATER FLOW, PLUS ANY ADDITIONAL  
FLOW - CFS) = 86.00  
I2LIM (THE NUMBER OF 3-HR INTERVALS  
IN EACH OF 5 DIFFERENT SUB-PERIODS  
THAT ARE IDENTIFIED) = 40 8 240 240

288

INPUT DATA SPECIFIC TO PONDS ONLY:

IPCP (OPTION FOR INCLUSION OF PRECIP  
IN WATER LOSS CALCULATIONS (0=NO,  
1=YES)) = 0  
EXTRA (EXTRA RUNOFF AREA FOR INCLUSION

OF PRECIP IN WATER LOSS  
 CALCULATIONS - (ACRES) ) = .00  
 A (AREA OF POND UHS - ACRES) = 82.99  
 TI (INITIAL POND TEMPERATURE SET BY  
 THE USER - DEG F) = 97.00  
 VI (INITIAL POND VOLUME SET BY THE  
 USER - ACRE-FT) = 423.50

NAMES OF EXTERNAL FILES  
 USED FOR THIS RUN OF UHSAVG:

INPUT TEXT FILE WITH USER OPTION INPUT:  
 INPUT BINARY FILE WITH WEATHER DATA:  
 C:\COMED\LASALLE\WEATHER\PS489661.BIN  
 OUTPUT TEXT FILE WITH RESULTS: MSG6.SYM  
 OUTPUT TEXT FILE WITH VALIDATION DATA:  
 □□□

STARTING DATE WAS FOUND  
 AND PROCESSING WAS STARTED.

PROCESSING WAS COMPLETED, AND DESIGN  
 WEATHER PERIODS WERE SELECTED. THESE  
 PERIODS ARE LISTED BELOW, AFTER THE  
 DEFINITIONS.

DEFINITION OF "AVERAGE TEMPERATURE":

FOR A POND, THE "AVERAGE TEMPERATURE"  
 FOR THE PERIOD REFERS TO THE AVERAGE  
 BULK TEMP OF THE POND WATER, WHICH IS  
 ASSUMED TO BE THOROUGHLY MIXED.

FOR A TOWER, THE "AVERAGE TEMPERATURE" FOR  
 THE PERIOD REFERS TO THE AVERAGE WET BULB  
 TEMPERATURE.

DEFINITION OF "AVERAGE EVAPORATION":

"AVERAGE EVAPORATION" IN THE CASE OF  
 EITHER A POND OR A TOWER REFERS TO THE  
 AVERAGE EVAPORATIVE WATER LOSS FROM THE  
 COOLING SYSTEM DURING THE PERIOD.

DEFINITION OF THE DECIMAL PORTION OF  
 THE START AND END DATES FOR EACH  
 SELECTED WORST-CASE PERIOD:

THE DECIMAL PORTION IDENTIFIES ONE OF  
 THE EIGHT 3-HOUR PERIODS OF THAT DAY.  
 FOR EXAMPLE, "1" IS THE FIRST 3-HOUR

OF THE DAY.

THE LENGTH OF THE FIRST COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 5.000 DAYS  
AVERAGE TEMPERATURE WAS: 93.565 DEG F  
PERIOD STARTS ON 19950712.2  
PERIOD FINISHES ON 19950717.1

THE LENGTH OF THE SECOND COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 1.000 DAYS  
AVERAGE TEMPERATURE WAS: 94.791 DEG F  
PERIOD STARTS ON 19950715.5  
PERIOD FINISHES ON 19950716.4

THE LENGTH OF THE THIRD COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 30.000 DAYS  
AVERAGE TEMPERATURE WAS: 89.208 DEG F  
PERIOD STARTS ON 19830710.5  
PERIOD FINISHES ON 19830809.4

THE LENGTH OF THE EVAPORATION  
PERIOD WAS: 30.000 DAYS  
AVERAGE EVAPORATION WAS: 1.845 CFS  
PERIOD STARTS ON 19540618.5  
PERIOD FINISHES ON 19540718.4

THE LENGTH OF THE WORST-CASE  
CONSECUTIVE TEMPERATURE PERIOD  
WAS: 36.000 DAYS  
AVERAGE TEMPERATURE WAS: 89.104 DEG F  
PERIOD STARTS ON 19950726.7  
PERIOD FINISHES ON 19950831.6



*File: MSG18.SYM*

SARGENT &amp; LUNDY LLC

UHSAVG PROGRAM

ULTIMATE HEAT SINK ANALYSIS  
DETERMINATION OF DESIGN TEMPERATURE  
AND WATER LOSS PERIODS

INPUT DATA COMMON TO BOTH TOWER AND POND:

VALIDATION OPTION (CREATE AN OUTPUT  
 FILE WITH TEMPERATURE (OF POND OR  
 TOWER AIR), AND WATER LOSS VALUES,  
 WRITTEN ONCE PER 3-HOUR PERIOD);  
 NO=0, YES=1 = 0  
 IUHS (SELECTION OPTION; 1=POND, 2=TOWER) = 1  
 NUMPER (NUMBER OF SUB-PERIODS WITHIN THE  
 36-DAY COMBINED TEMPERATURE PERIOD -  
 SHOULD ALWAYS BE=3) = 3  
 LPLIM (NUMBER OF 3-HR PERIODS OVER  
 WHICH DATA IS AVERAGED - SHOULD  
 ALWAYS BE SET TO 1) = 1  
 SDATE (STARTING DATE FOR THE UHSAVG  
 PROCESSING - 6 DIGITS COMBINING YEAR,  
 MONTH, AND DAY) = 19480705.  
  
 IDYLIM (THE TOTAL NUMBER OF DAYS TO BE  
 PROCESSED) = 17526  
 QLOAD (HEAT REJECTED BY THE POWER  
 STATION - AVERAGE OVER THE PERIOD  
 SPECIFIED IN REG. GUIDE 1.27 -  
 BTU/HR) = 184000000.00  
 FLOW (POWER STATION ESSENTIAL SERVICE  
 WATER FLOW, PLUS ANY ADDITIONAL  
 FLOW - CFS) = 86.00  
 I2LIM (THE NUMBER OF 3-HR INTERVALS  
 IN EACH OF 5 DIFFERENT SUB-PERIODS  
 THAT ARE IDENTIFIED) = 40 8 240 240 288

INPUT DATA SPECIFIC TO PONDS ONLY:

IPCP (OPTION FOR INCLUSION OF PRECIP  
 IN WATER LOSS CALCULATIONS (0=NO,  
 1=YES)) = 0  
 EXTRA (EXTRA RUNOFF AREA FOR INCLUSION  
 OF PRECIP IN WATER LOSS



THE LENGTH OF THE FIRST COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 5.000 DAYS  
AVERAGE TEMPERATURE WAS: 93.865 DEG F  
PERIOD STARTS ON 19950712.1  
PERIOD FINISHES ON 19950716.8

THE LENGTH OF THE SECOND COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 1.000 DAYS  
AVERAGE TEMPERATURE WAS: 94.935 DEG F  
PERIOD STARTS ON 19950715.5  
PERIOD FINISHES ON 19950716.4

THE LENGTH OF THE THIRD COMPONENT  
OF THE COMBINED TEMPERATURE PERIOD  
WAS: 30.000 DAYS  
AVERAGE TEMPERATURE WAS: 89.334 DEG F  
PERIOD STARTS ON 19830710.5  
PERIOD FINISHES ON 19830809.4

THE LENGTH OF THE EVAPORATION  
PERIOD WAS: 30.000 DAYS  
AVERAGE EVAPORATION WAS: 1.820 CFS  
PERIOD STARTS ON 19540618.5  
PERIOD FINISHES ON 19540718.4

THE LENGTH OF THE WORST-CASE  
CONSECUTIVE TEMPERATURE PERIOD  
WAS: 36.000 DAYS  
AVERAGE TEMPERATURE WAS: 89.191 DEG F  
PERIOD STARTS ON 19950726.5  
PERIOD FINISHES ON 19950831.4

0

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM00.BIN

T00.BIN

E30.BIN

TEXT.TXT

1995	7	12	1	1995	7	16	8
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	1	1995	8	19	8
1954	6	18	4	1954	7	18	3

0

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM03.BIN

T03.BIN

E30.BIN

TEXT.TXT

1995	7	12	2	1995	7	17	1
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	2	1995	8	20	1
1954	6	18	4	1954	7	18	3

0

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM06.BIN

T06.BIN

E30.BIN

TEXT.TXT

1995	7	12	3	1995	7	17	2
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	3	1995	8	20	2
1954	6	18	4	1954	7	18	3

0

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM09.BIN

T09.BIN

E30.BIN

TEXT.TXT

1995	7	12	4	1995	7	17	3
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	4	1995	8	20	3
1954	6	18	4	1954	7	18	3

0

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM12.BIN

T12.BIN

E30.BIN

TEXT.TXT

1995	7	12	5	1995	7	17	4
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	5	1995	8	20	4
1954	6	18	4	1954	7	18	3



0

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM15.BIN

T15.BIN

E30.BIN

TEXT.TXT

1995	7	12	6	1995	7	17	5
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	6	1995	8	20	5
1954	6	18	4	1954	7	18	3

0

□

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM18.BIN

T18.BIN

E30.BIN

TEXT.TXT

1995	7	12	7	1995	7	17	6
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	7	1995	8	20	6
1954	6	18	4	1954	7	18	3

0

MSG-WRIT.SYM

C:\WAKELAND\LASALLE\PS489661.BIN

TCOM21.BIN

T21.BIN

E30.BIN

TEXT.TXT

1995	7	12	8	1995	7	17	7
1995	7	15	5	1995	7	16	4
1983	7	10	6	1983	8	9	5
1995	7	15	8	1995	8	20	7
1954	6	18	4	1954	7	18	3

MSGWRT.SYM  
C:\COMED\LASALLE\WEATHER\PS489661.BIN  
TCOMUAVG.BIN  
T36UAVG.BIN  
E3012.BIN  
TEXT.TXT  
1995 7 12 2 1995 7 17 1  
1995 7 15 5 1995 7 16 4  
1983 7 10 6 1983 8 9 5  
1995 7 26 7 1995 8 31 6  
1954 6 18 5 1954 7 18 4

## Attachment B

## LAKET-PC Output

LAKET10 Version 1.0 - Sargent & Lundy Program No. 03.7.292-1.0  
 User 0H9449 on PC5407 Wednesday, February 23, 2000 Time: 14:12:20  
 User 0J2069 on PC5121  
 Controlled Files:

Drive V: = SNL1\_SYS3: \

Volume in drive V is SYS3

[Base]\PIA8586.BIN	03-31-1992 16:04
[Base]\LPRINT.EXE	08-03-1995 11:42
[Base]\BRAUHS3A.BIN	08-01-1995 21:06
[Base]\LAKET\$.BAT	07-02-1996 11:49
[Base]\BRAUHS3A.DAT	08-02-1995 16:57
[Base]\LAKET.EXE	10-27-1997 08:45
[Base]\TEST.DAT	11-23-1992 14:00
[Base]\LAKETRUN.BAT	10-24-1997 13:27

LAKET Plot Program - Sargent & Lundy Program No. 03.7.292-1.2  
 User 0H9449 on PC5407 Wednesday, February 23, 2000  
 User 0J2069 on PC5121

Directory of C:\WAKELAND\LASALLE

c0000	dat	2,323	03-03-00	2:08p
c0003	dat	2,321	03-03-00	2:31p
c0006	dat	2,322	03-03-00	2:54p
c0009	dat	2,322	03-03-00	2:09p
com0009	dat	2,326	03-07-00	5:29p
com0012	dat	2,326	03-06-00	11:19a
com0015	dat	2,326	03-06-00	1:01p
c0018	dat	2,323	03-03-00	2:10p
c0021	dat	2,323	03-03-00	2:11p
c0600	dat	2,887	03-03-00	2:14p
c0603	dat	2,885	03-03-00	2:35p
c0606	dat	2,886	03-03-00	2:59p
com0609	dat	2,889	03-06-00	10:24a
com0612	dat	2,890	03-06-00	11:21a
com0615	dat	2,890	03-06-00	11:23a
c0618	dat	2,887	03-03-00	2:11p
c0621	dat	2,887	03-03-00	2:11p
c1800	dat	2,929	03-03-00	2:15p
c1803	dat	2,927	03-03-00	2:46p
c1806	dat	2,928	03-03-00	3:08p
c1809	dat	2,928	03-03-00	3:13p
com1809	dat	2,932	03-07-00	5:34p
com1812	dat	2,931	03-06-00	11:21a
com1815	dat	2,932	03-06-00	1:09p
c1818	dat	2,929	03-03-00	2:17p
c1821	dat	2,929	03-03-00	2:17p
c00e	dat	2,595	03-08-00	10:45a
c06e	dat	2,597	03-08-00	10:53a
c18e	dat	2,640	03-08-00	11:15a

## Directory of C:\WAKELAND\LASALLE

e3012	bin	44,642	03-08-00	10:38a
t00	bin	53,570	03-02-00	1:44p
t03	bin	53,570	03-02-00	1:45p
t06	bin	53,570	03-02-00	1:46p
t09	bin	53,570	03-02-00	1:47p
t12	bin	53,570	03-02-00	1:49p
t15	bin	53,570	03-02-00	1:50p
t18	bin	53,570	03-02-00	1:52p
t21	bin	53,570	03-02-00	1:53p
tcom00	bin	53,570	03-02-00	1:44p
tcom03	bin	53,570	03-02-00	1:45p
tcom06	bin	53,570	03-02-00	1:46p
tcom09	bin	53,570	03-02-00	1:47p
tcom12	bin	53,570	03-02-00	1:49p
tcom15	bin	53,570	03-02-00	1:50p
tcom18	bin	53,570	03-02-00	1:52p
tcom21	bin	53,570	03-02-00	1:53p

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 1  
Date : 03/03/2000  
Time : 14:18:14.18

Case 0000: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 0000; power upra

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	100.0	95.5		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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11.09				
11.07				

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:18:14.18

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Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:18:14.24

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Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:18:14.79

Case 0000: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 0000; power upra

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.

Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:18:14.79

Case 0000: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 0000; power upra

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I	35.260	28.790	16.680	16.280
	15.320	14.970	14.530	14.290
	13.880	13.450	13.300	13.300
	13.300	13.240	12.730	12.730
	12.570	12.430	12.240	12.020
	12.020	12.020	12.020	12.010
	11.490	11.490	11.490	11.490
	11.490	11.490	11.490	11.490
	11.090	11.070	11.070	11.070
	11.070	10.870	10.860	10.860
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.270
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.720	9.700
	9.700	9.700	9.700	9.700
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.400	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.150	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.720	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700

8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:18:15.12

Case 0000: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 0000; power upra

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.24	-1.37
NATURAL EVAP (CFS)	.00	-.76	-.69	-.75
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.82	92.57	89.34
LAKE INLET TEMP (F)	.00	99.72	101.75	100.01
LAKE OUTLET TEMP (F)	.00	89.96	93.55	90.46

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.3	89.1
LAKE INLET TEMP (F)	126.0	109.0	99.3
LAKE OUTLET TEMP (F)	98.8	96.8	90.2



Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:18:15.12

Case 0000: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 0000; power upra

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.24	-1.37
NATURAL EVAP (CFS)	.00	-.76	-.69	-.75
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.82	92.57	89.34
LAKE INLET TEMP (F)	.00	99.72	101.75	100.01
LAKE OUTLET TEMP (F)	.00	89.96	93.55	90.46

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.3	89.1
LAKE INLET TEMP (F)	126.0	109.0	99.3
LAKE OUTLET TEMP (F)	98.8	96.8	90.2

Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:18:15.12

Case 0000: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 0000; power upra

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.16 ( 8051900)	-.20 ( 7011900)	-.18	-1.26223E+01
TOTAL EVAP (CFS)	-.25 ( 8041900)	-4.54 ( 7031900)	-1.37	-9.78239E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.55 ( 7031900)	-.75	-5.38859E+01
FORCED EVAP (CFS)	-.25 ( 8041900)	-1.67 ( 7021900)	-.62	-4.39380E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.66 ( 8051900)	689.28	4.92180E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.62 ( 7011900)	82.69 ( 7071900)	89.34	6.37916E+03
LAKE INLET TEMP (F)	133.76 ( 7011900)	93.35 ( 7261900)	100.01	7.14096E+03
LAKE OUTLET TEMP (F)	99.39 ( 7011900)	84.26 ( 7071900)	90.46	6.45926E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.3	89.1
LAKE INLET TEMP (F)	126.0	109.0	99.3
LAKE OUTLET TEMP (F)	98.8	96.8	90.2

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.34

Case 0003: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=99.3F @ 0300; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	99.3	94.8		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
13.30				
13.30				
13.24				
12.73				
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Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.40

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Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.40

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Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.73

Case 0003: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=99.3F @ 0300; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 99.30 94.80

WEATHER STATION ID 0.

Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.73

Case 0003: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=99.3F @ 0300; power uprat

FPLANT

70100 - 80500 R/I 86.000

TWRITE

70100 - 80500 S/I	35.260	28.790	16.680	16.280
	15.320	14.970	14.530	14.290
	13.880	13.450	13.300	13.300
	13.300	13.240	12.730	12.730
	12.570	12.430	12.240	12.020
	12.020	12.020	12.020	12.010
	11.490	11.490	11.490	11.490
	11.490	11.490	11.490	11.490
	11.090	11.070	11.070	11.070
	11.070	10.870	10.860	10.860
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.270
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.720	9.700
	9.700	9.700	9.700	9.700
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.400	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.150	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.720	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700

8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.89

Case 0003: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=99.3F @ 0300; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.27	-1.37
NATURAL EVAP (CFS)	.00	-.76	-.71	-.76
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.80	92.61	89.33
LAKE INLET TEMP (F)	.00	99.71	101.84	100.01
LAKE OUTLET TEMP (F)	.00	89.95	93.64	90.46

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.3	89.1
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.8	90.2

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.89

Case 0003: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=99.3F @ 0300; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.27	-1.37
NATURAL EVAP (CFS)	.00	-.76	-.71	-.76
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.80	92.61	89.33
LAKE INLET TEMP (F)	.00	99.71	101.84	100.01
LAKE OUTLET TEMP (F)	.00	89.95	93.64	90.46

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.3	89.1
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.8	90.2

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:31:48.89

Case 0003: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=99.3F @ 0300; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.16 ( 8051900)	-.20 ( 7011900)	-.18	-1.26209E+01
TOTAL EVAP (CFS)	-.25 ( 8041900)	-4.51 ( 7031900)	-1.37	-9.78949E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.55 ( 7031900)	-.76	-5.39557E+01
FORCED EVAP (CFS)	-.25 ( 8041900)	-1.70 ( 7021900)	-.62	-4.39392E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.66 ( 8051900)	689.28	4.92179E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.60 ( 7011900)	82.69 ( 7071900)	89.33	6.37839E+03
LAKE INLET TEMP (F)	133.32 ( 7011900)	93.57 ( 7261900)	100.01	7.14110E+03
LAKE OUTLET TEMP (F)	99.94 ( 7011900)	84.10 ( 7071900)	90.46	6.45933E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.3	89.1
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.8	90.2

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:54:23.63

Case 0006: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.6F @ 0600; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	98.6	94.1		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
13.30				
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13.24				
12.73				
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11.09				
11.07				

Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:54:23.68

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Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:54:23.68

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- 8.52
- 8.49





Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:54:24.23

Case 0006: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.6F @ 0600; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 98.60 94.10

WEATHER STATION ID 0.



8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:54:24.40

Case 0006: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.6F @ 0600; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

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QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.29	-1.38
NATURAL EVAP (CFS)	.00	-.76	-.74	-.76
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.75	92.63	89.29
LAKE INLET TEMP (F)	.00	99.67	101.81	99.97
LAKE OUTLET TEMP (F)	.00	89.91	93.61	90.42

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TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.2	89.0
LAKE INLET TEMP (F)	127.0	108.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.5	90.2



Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:54:24.40

Case 0006: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.6F @ 0600; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.29	-1.38
NATURAL EVAP (CFS)	.00	-.76	-.74	-.76
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.75	92.63	89.29
LAKE INLET TEMP (F)	.00	99.67	101.81	99.97
LAKE OUTLET TEMP (F)	.00	89.91	93.61	90.42

TEMPERATURE FREQUENCY OF OCCURENCES

	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.2	89.0
LAKE INLET TEMP (F)	127.0	108.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.5	90.2

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 14:54:24.45

Case 0006: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.6F @ 0600; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.16 ( 8051900)	-.20 ( 7011900)	-.18	-1.26178E+01
TOTAL EVAP (CFS)	-.25 ( 8041900)	-4.51 ( 7031900)	-1.38	-9.81999E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.53 ( 7031900)	-.76	-5.42259E+01
FORCED EVAP (CFS)	-.25 ( 8041900)	-1.62 ( 7011900)	-.62	-4.39740E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.66 ( 8051900)	689.28	4.92179E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.34 ( 7011900)	82.67 ( 7071900)	89.29	6.37598E+03
LAKE INLET TEMP (F)	132.80 ( 7011900)	93.42 ( 7261900)	99.97	7.13817E+03
LAKE OUTLET TEMP (F)	99.98 ( 7011900)	84.00 ( 7071900)	90.42	6.45642E+03

TEMPERATURE FREQUENCY OF OCCURENCES

	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.2	89.0
LAKE INLET TEMP (F)	127.0	108.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.5	90.2

Created : Mon Oct 27 08:45:58 1997

Time : 15:10:29.38

Case 0009: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.0F @ 0900; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	98.0	93.5		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
13.30				
13.30				
13.24				
12.73				
12.73				
12.57				
12.43				
12.24				
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11.09				
11.07				





Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 15:10:29.38

9.19  
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Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 15:10:29.99

Case 0009: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.0F @ 0900; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 98.00 93.50

WEATHER STATION ID 0.

Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 15:10:29.99

Case 0009: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.0F @ 0900; power uprat

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 15:10:30.26

Case 0009: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.0F @ 0900; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.31	-1.38
NATURAL EVAP (CFS)	.00	-.76	-.76	-.76
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.71	92.63	89.26
LAKE INLET TEMP (F)	.00	99.63	101.80	99.93
LAKE OUTLET TEMP (F)	.00	89.86	93.60	90.38

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.0	89.0
LAKE INLET TEMP (F)	128.0	107.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.4	90.1

Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 15:10:30.26

Case 0009: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.0F @ 0900; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.39	-1.31	-1.38
NATURAL EVAP (CFS)	.00	-.76	-.76	-.76
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.71	92.63	89.26
LAKE INLET TEMP (F)	.00	99.63	101.80	99.93
LAKE OUTLET TEMP (F)	.00	89.86	93.60	90.38

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.0	89.0
LAKE INLET TEMP (F)	128.0	107.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.4	90.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 11  
 Date : 03/03/2000  
 Time : 15:10:30.26

Case 0009: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=98.0F @ 0900; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.16 ( 8051900)	-.20 ( 7011900)	-.18	-1.26189E+01
TOTAL EVAP (CFS)	-.25 ( 8041900)	-4.60 ( 7031900)	-1.38	-9.83474E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.51 ( 7031900)	-.76	-5.43582E+01
FORCED EVAP (CFS)	-.25 ( 8041900)	-1.63 ( 7011900)	-.62	-4.39893E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.66 ( 8051900)	689.28	4.92179E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.06 ( 7011900)	82.65 ( 7061900)	89.26	6.37326E+03
LAKE INLET TEMP (F)	133.90 ( 7011900)	93.50 ( 7251900)	99.93	7.13538E+03
LAKE OUTLET TEMP (F)	100.00 ( 7011900)	84.00 ( 7061900)	90.38	6.45365E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.0	89.0
LAKE INLET TEMP (F)	128.0	107.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.4	90.1

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/07/2000  
Time : 17:30:51.66

Case 0009: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.0F @ 0900; power u

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	98.0	93.5		
999				
FPLANT	R/I	86.0		
TPRICE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Time : 17:30:51.71

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
Date : 03/07/2000  
Time : 17:30:51.71

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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 7  
 Date : 03/07/2000  
 Time : 17:30:52.21

Case 0009: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.0F @ 0900; power u

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 98.00 93.50

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.490	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/07/2000  
 Time : 17:30:52.54

Case 0009: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.0F @ 0900; power u

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.63	-1.32	-1.59
NATURAL EVAP (CFS)	.00	-.99	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.57	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.87	89.48	90.67
LAKE INLET TEMP (F)	.00	101.56	98.70	101.16
LAKE OUTLET TEMP (F)	.00	91.80	90.52	91.62

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.8
LAKE INLET TEMP (F)	128.0	109.3	100.8
LAKE OUTLET TEMP (F)	99.0	97.1	91.8



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/07/2000  
 Time : 17:30:52.54

Case 0009: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.0F @ 0900; power u

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.63	-1.32	-1.59
NATURAL EVAP (CFS)	.00	-.99	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.57	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.87	89.48	90.67
LAKE INLET TEMP (F)	.00	101.56	98.70	101.16
LAKE OUTLET TEMP (F)	.00	91.80	90.52	91.62

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.8
LAKE INLET TEMP (F)	128.0	109.3	100.8
LAKE OUTLET TEMP (F)	99.0	97.1	91.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/07/2000  
 Time : 17:30:52.54

Case 0009: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.0F @ 0900; power u

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE- FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24192E+01
TOTAL EVAP (CFS)	-.28 ( 8051900)	-3.97 ( 7051900)	-1.59	-1.13531E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-2.68 ( 7051900)	-.96	-6.83140E+01
FORCED EVAP (CFS)	-.26 ( 7311900)	-1.52 ( 7011900)	-.63	-4.52166E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.47 ( 8051900)	689.19	4.92118E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.57 ( 7041900)	82.25 ( 7241900)	90.67	6.47458E+03
LAKE INLET TEMP (F)	133.38 ( 7011900)	91.65 ( 7241900)	101.16	7.22337E+03
LAKE OUTLET TEMP (F)	99.94 ( 7011900)	83.16 ( 7241900)	91.62	6.54203E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.8
LAKE INLET TEMP (F)	128.0	109.3	100.8
LAKE OUTLET TEMP (F)	99.0	97.1	91.8

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 1  
Date : 03/06/2000  
Time : 11:12:17.94

Case 0012: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.5F @ 1200; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	98.5	94.0		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
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14.97				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Case 0012: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.5F @ 1200; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 98.50 94.00

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/06/2000  
Time : 11:12:18.43

Case 0012: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.5F @ 1200; power uprat

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 -	80500	S/I	35.260	28.790	16.680	16.280
			15.320	14.970	14.530	14.290
			13.880	13.450	13.300	13.300
			13.300	13.240	12.730	12.730
			12.570	12.430	12.240	12.020
			12.020	12.020	12.020	12.010
			11.490	11.490	11.490	11.490
			11.490	11.490	11.490	11.490
			11.090	11.070	11.070	11.070
			11.070	10.870	10.860	10.860
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.270
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.720	9.700
			9.700	9.700	9.700	9.700
			9.540	9.540	9.540	9.540
			9.540	9.540	9.540	9.540
			9.540	9.540	9.540	9.540
			9.400	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.150	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.720	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700

8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0012: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.5F @ 1200; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.64	-1.32	-1.59
NATURAL EVAP (CFS)	.00	-.99	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.57	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.88	89.48	90.68
LAKE INLET TEMP (F)	.00	101.58	98.69	101.18
LAKE OUTLET TEMP (F)	.00	91.81	90.51	91.63

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	128.0	109.2	101.0
LAKE OUTLET TEMP (F)	99.0	96.9	91.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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Case 0012: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.5F @ 1200; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.64	-1.32	-1.59
NATURAL EVAP (CFS)	.00	-.99	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.57	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.88	89.48	90.68
LAKE INLET TEMP (F)	.00	101.58	98.69	101.18
LAKE OUTLET TEMP (F)	.00	91.81	90.51	91.63

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	128.0	109.2	101.0
LAKE OUTLET TEMP (F)	99.0	96.9	91.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0012: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=98.5F @ 1200; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24163E+01
TOTAL EVAP (CFS)	-.28 ( 8051900)	-3.86 ( 7051900)	-1.59	-1.13675E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-2.67 ( 7051900)	-.96	-6.84598E+01
FORCED EVAP (CFS)	-.26 ( 7311900)	-1.54 ( 7011900)	-.63	-4.52152E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.47 ( 8051900)	689.19	4.92117E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.50 ( 7041900)	82.24 ( 7241900)	90.68	6.47533E+03
LAKE INLET TEMP (F)	134.83 ( 7011900)	91.65 ( 7241900)	101.18	7.22482E+03
LAKE OUTLET TEMP (F)	99.99 ( 7011900)	83.16 ( 7241900)	91.63	6.54307E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	128.0	109.2	101.0
LAKE OUTLET TEMP (F)	99.0	96.9	91.8

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Case 0015: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=99.5F @ 1500; power u

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2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	99.5	95.0		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
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14.29				
13.88				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/06/2000  
 Time : 13:02:19.87

Case 0015: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=99.5F @ 1500; power u

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 99.50 95.00

WEATHER STATION ID 0.



8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
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8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 13:02:19.98

Case 0015: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=99.5F @ 1500; power u

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.64	-1.32	-1.60
NATURAL EVAP (CFS)	.00	-1.00	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.84	89.49	90.65
LAKE INLET TEMP (F)	.00	101.54	98.70	101.14
LAKE OUTLET TEMP (F)	.00	91.77	90.51	91.59

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.6	90.9
LAKE INLET TEMP (F)	127.0	109.3	101.0
LAKE OUTLET TEMP (F)	98.8	96.9	91.8



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 13:02:20.04

Case 0015: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; T1=99.5F @ 1500; power u

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.64	-1.32	-1.60
NATURAL EVAP (CFS)	.00	-1.00	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.84	89.49	90.65
LAKE INLET TEMP (F)	.00	101.54	98.70	101.14
LAKE OUTLET TEMP (F)	.00	91.77	90.51	91.59

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.6	90.9
LAKE INLET TEMP (F)	127.0	109.3	101.0
LAKE OUTLET TEMP (F)	98.8	96.9	91.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
 Created : Mon Oct 27 08:45:58 1997

Page : 11  
 Date : 03/06/2000  
 Time : 13:02:20.04

Case 0015: LaSalle UHS (Updated Worst 5/1/30-Day Temp.; Ti=99.5F @ 1500; power u

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24086E+01
TOTAL EVAP (CFS)	-.28 ( 8051900)	-4.09 ( 7051900)	-1.60	-1.14028E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-3.27 ( 7051900)	-.96	-6.88232E+01
FORCED EVAP (CFS)	-.26 ( 7311900)	-1.58 ( 7011900)	-.63	-4.52052E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.47 ( 8051900)	689.19	4.92115E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.35 ( 7041900)	82.24 ( 7241900)	90.65	6.47283E+03
LAKE INLET TEMP (F)	135.20 ( 7011900)	91.54 ( 7241900)	101.14	7.22206E+03
LAKE OUTLET TEMP (F)	99.94 ( 7011900)	83.05 ( 7241900)	91.59	6.54024E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.6	90.9
LAKE INLET TEMP (F)	127.0	109.3	101.0
LAKE OUTLET TEMP (F)	98.8	96.9	91.8

Program : ANSYS 10  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 16:32:04.07

Case 0018: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 1800; power upra

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6

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8 100.0 95.5  
999  
FPLANT R/I 86.0  
TPRISE S/I

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- 15.32
- 14.97
- 14.53
- 14.29
- 13.88
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 2  
Date : 03/03/2000  
Time : 16:32:04.13

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 3  
Date : 03/03/2000  
Time : 16:32:04.13

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
Date : 03/03/2000  
Time : 16:32:04.13

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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 7  
 Date : 03/03/2000  
 Time : 16:32:04.67

Case 0018: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 1800; power upra

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.



8.700	8.700	8.700	8.490
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 16:32:04.95

Case 0018: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 1800; power upra

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.37	-1.34	-1.37
NATURAL EVAP (CFS)	.00	-.75	-.79	-.76
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.54	92.57	89.10
LAKE INLET TEMP (F)	.00	99.46	101.72	99.77
LAKE OUTLET TEMP (F)	.00	89.70	93.51	90.23

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	94.4	88.9
LAKE INLET TEMP (F)	126.0	105.5	99.3
LAKE OUTLET TEMP (F)	97.5	95.7	90.0

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 16:32:04.95

Case 0018: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 1800; power upra

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.37	-1.34	-1.37
NATURAL EVAP (CFS)	.00	-.75	-.79	-.76
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.54	92.57	89.10
LAKE INLET TEMP (F)	.00	99.46	101.72	99.77
LAKE OUTLET TEMP (F)	.00	89.70	93.51	90.23

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	94.4	88.9
LAKE INLET TEMP (F)	126.0	105.5	99.3
LAKE OUTLET TEMP (F)	97.5	95.7	90.0

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 16:32:04.95

Case 0018: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 1800; power upra

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.16 ( 8051900)	-.20 ( 7011900)	-.18	-1.26427E+01
TOTAL EVAP (CFS)	-.25 ( 8031900)	-4.62 ( 7021900)	-1.37	-9.78120E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.41 ( 7021900)	-.76	-5.39938E+01
FORCED EVAP (CFS)	-.25 ( 8031900)	-1.38 ( 7011900)	-.61	-4.38182E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.66 ( 8051900)	689.29	4.92186E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.38 ( 8031900)	82.53 ( 7061900)	89.10	6.36231E+03
LAKE INLET TEMP (F)	133.93 ( 7011900)	93.44 ( 7251900)	99.77	7.12436E+03
LAKE OUTLET TEMP (F)	98.67 ( 7011900)	83.86 ( 7061900)	90.23	6.44259E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	94.4	88.9
LAKE INLET TEMP (F)	126.0	105.5	99.3
LAKE OUTLET TEMP (F)	97.5	95.7	90.0

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 1  
Date : 03/03/2000  
Time : 16:39:49.73

Case 0021: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 2100; power upra

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	100.0	95.5		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Date : 03/03/2000  
Time : 16:39:49.78

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
Date : 03/03/2000  
Time : 16:39:49.78

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 7  
Date : 03/03/2000  
Time : 16:39:50.00

Case 0021: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 2100; power upra

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Page : 8  
Date : 03/03/2000  
Time : 16:39:50.28

Case 0021: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 2100; power upra

FPLANT

70100 - 80500 R/I 86.000

TPRICE

70100 - 80500 S/I	35.260	28.790	16.680	16.280
	15.320	14.970	14.530	14.290
	13.880	13.450	13.300	13.300
	13.300	13.240	12.730	12.730
	12.570	12.430	12.240	12.020
	12.020	12.020	12.020	12.010
	11.490	11.490	11.490	11.490
	11.490	11.490	11.490	11.490
	11.090	11.070	11.070	11.070
	11.070	10.870	10.860	10.860
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.270
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.720	9.700
	9.700	9.700	9.700	9.700
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.400	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.150	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.720	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
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8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 16:39:50.55

Case 0021: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 2100; power upra

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.38	-1.37	-1.37
NATURAL EVAP (CFS)	.00	-.75	-.82	-.76
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.57	92.54	89.12
LAKE INLET TEMP (F)	.00	99.50	101.66	99.80
LAKE OUTLET TEMP (F)	.00	89.74	93.46	90.25

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.0	94.4	88.9
LAKE INLET TEMP (F)	126.0	105.3	99.3
LAKE OUTLET TEMP (F)	97.7	95.7	90.1



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 16:39:50.55

Case 0021: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 2100; power upra

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.18
TOTAL EVAP (CFS)	.00	-1.38	-1.37	-1.37
NATURAL EVAP (CFS)	.00	-.75	-.82	-.76
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.57	92.54	89.12
LAKE INLET TEMP (F)	.00	99.50	101.66	99.80
LAKE OUTLET TEMP (F)	.00	89.74	93.46	90.25
TEMPERATURE	FREQUENCY OF OCCURENCES			
	1%	5%	50%	
NATURAL LAKE TEMP (F)	96.0	94.4	88.9	
LAKE INLET TEMP (F)	126.0	105.3	99.3	
LAKE OUTLET TEMP (F)	97.7	95.7	90.1	

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 16:39:50.55

Case 0021: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0F @ 2100; power upra

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.16 ( 8051900)	-.20 ( 7011900)	-.18	-1.26421E+01
TOTAL EVAP (CFS)	-.25 ( 8031900)	-4.66 ( 7021900)	-1.37	-9.80903E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.45 ( 7021900)	-.76	-5.42381E+01
FORCED EVAP (CFS)	-.25 ( 8031900)	-1.76 ( 7011900)	-.61	-4.38522E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.66 ( 8051900)	689.29	4.92186E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.38 ( 8031900)	82.59 ( 7061900)	89.12	6.36379E+03
LAKE INLET TEMP (F)	133.75 ( 7011900)	93.38 ( 7251900)	99.80	7.12633E+03
LAKE OUTLET TEMP (F)	98.49 ( 7011900)	84.08 ( 7061900)	90.25	6.44461E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.0	94.4	88.9
LAKE INLET TEMP (F)	126.0	105.3	99.3
LAKE OUTLET TEMP (F)	97.7	95.7	90.1

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Time : 14:20:11.83

Case 0600: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @0000; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0

7				
1	0			
8	100.0	95.5		
999				

FPLANT R/I 86.0  
Tprise S/I

- 35.26
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- 16.68
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- 15.32
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/03/2000  
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CALCULATION NO. L-002457

REVISION NO. 7

ATTACHMENT B  
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Time : 14:20:12.05

END

PROJECT NO. 11333-246

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 14:20:12.44

Case 0600: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @0000; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 14:20:12.60

Case 0600: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @0000; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.38	-1.25	-1.36
NATURAL EVAP (CFS)	.00	-.76	-.70	-.75
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.75	92.74	89.31
LAKE INLET TEMP (F)	.00	99.59	101.78	99.89
LAKE OUTLET TEMP (F)	.00	89.82	93.59	90.35

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	95.5	89.0
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	98.8	96.7	90.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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 Time : 14:20:12.60

Case 0600: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @0000; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.38	-1.25	-1.36
NATURAL EVAP (CFS)	.00	-.76	-.70	-.75
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.75	92.74	89.31
LAKE INLET TEMP (F)	.00	99.59	101.78	99.89
LAKE OUTLET TEMP (F)	.00	89.82	93.59	90.35

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	95.5	89.0
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	98.8	96.7	90.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 14:20:12.60

Case 0600: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @0000; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24523E+01
TOTAL EVAP (CFS)	-.22 ( 8041900)	-4.45 ( 7031900)	-1.36	-9.73128E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.49 ( 7031900)	-.75	-5.33378E+01
FORCED EVAP (CFS)	-.22 ( 8041900)	-1.65 ( 7021900)	-.62	-4.39751E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.66 ( 8051900)	689.28	4.92178E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.81 ( 7011900)	82.19 ( 7071900)	89.31	6.37696E+03
LAKE INLET TEMP (F)	133.63 ( 7011900)	92.93 ( 7261900)	99.89	7.13288E+03
LAKE OUTLET TEMP (F)	99.40 ( 7011900)	83.36 ( 7071900)	90.35	6.45117E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	95.5	89.0
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	98.8	96.7	90.1

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/03/2000  
Time : 14:36:07.37

Case 0603: LaSalle UHS (Updated Worst 36-Day Temp; Ti=99.2F @0300; power uprate

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0

7  
1 0  
8 99.2 94.7  
999  
FPLANT R/I 86.0  
Tprise S/I

- 35.26
- 28.79
- 16.68
- 16.28
- 15.32
- 14.97
- 14.53
- 14.29
- 13.88
- 13.45
- 13.30
- 13.30
- 13.30
- 13.24
- 12.73
- 12.73
- 12.57
- 12.43
- 12.24
- 12.02
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Page : 2  
Date : 03/03/2000  
Time : 14:36:07.43

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
Date : 03/03/2000  
Time : 14:36:07.43

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/03/2000  
Time : 14:36:07.54

END

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 14:36:07.81

Case 0603: LaSalle UHS (Updated Worst 36-Day Temp; Ti=99.2F @0300; power uprate

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 99.20 94.70

WEATHER STATION ID 0.

Program : LAKET-PC  
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Case 0603: LaSalle UHS (Updated Worst 36-Day Temp; Ti=99.2F @0300; power uprate

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

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Case 0603: LaSalle UHS (Updated Worst 36-Day Temp; Ti=99.2F @0300; power uprate

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.38	-1.27	-1.36
NATURAL EVAP (CFS)	.00	-.75	-.72	-.75
FORCED EVAP (CFS)	.00	-.63	-.56	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.73	92.77	89.29
LAKE INLET TEMP (F)	.00	99.58	101.81	99.89
LAKE OUTLET TEMP (F)	.00	89.82	93.62	90.35

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.3	95.5	89.0
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.7	90.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0603: LaSalle UHS (Updated Worst 36-Day Temp; Ti=99.2F @0300; power uprate

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.38	-1.27	-1.36
NATURAL EVAP (CFS)	.00	-.75	-.72	-.75
FORCED EVAP (CFS)	.00	-.63	-.56	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.73	92.77	89.29
LAKE INLET TEMP (F)	.00	99.58	101.81	99.89
LAKE OUTLET TEMP (F)	.00	89.82	93.62	90.35

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.3	95.5	89.0
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.7	90.1

Program : LAKET-PC  
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Case 0603: LaSalle UHS (Updated Worst 36-Day Temp; Ti=99.2F @0300; power uprate

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24511E+01
TOTAL EVAP (CFS)	-.22 ( 8041900)	-4.47 ( 7031900)	-1.36	-9.73689E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.48 ( 7031900)	-.75	-5.33954E+01
FORCED EVAP (CFS)	-.22 ( 8041900)	-1.67 ( 7021900)	-.62	-4.39735E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.66 ( 8051900)	689.28	4.92178E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.76 ( 7011900)	82.20 ( 7071900)	89.29	6.37599E+03
LAKE INLET TEMP (F)	133.12 ( 7011900)	92.94 ( 7261900)	99.89	7.13237E+03
LAKE OUTLET TEMP (F)	99.96 ( 7011900)	83.73 ( 7071900)	90.35	6.45128E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.3	95.5	89.0
LAKE INLET TEMP (F)	125.0	109.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.7	90.1

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Time : 14:59:24.73

Case 0606: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.9F @0600; power uprate

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2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
7				
1	0			
8	97.9	93.4		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
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Program : LAKET-PC  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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END

Program : LAKET-PC  
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Case 0606: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.9F @0600; power uprate

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.90 93.40

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Case 0606: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.9F @0600; power uprate

FPLANT

70100 - 80500 R/I 86.000

TPIRISE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0606: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.9F @0600; power uprate

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.38	-1.29	-1.37
NATURAL EVAP (CFS)	.00	-.75	-.74	-.75
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.66	92.78	89.23
LAKE INLET TEMP (F)	.00	99.51	101.81	99.83
LAKE OUTLET TEMP (F)	.00	89.75	93.62	90.29

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.3	89.0
LAKE INLET TEMP (F)	126.0	108.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.5	90.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0606: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.9F @0600; power uprate

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP. (CFS)	.00	-1.38	-1.29	-1.37
NATURAL EVAP (CFS)	.00	-.75	-.74	-.75
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.66	92.78	89.23
LAKE INLET TEMP (F)	.00	99.51	101.81	99.83
LAKE OUTLET TEMP (F)	.00	89.75	93.62	90.29

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.3	89.0
LAKE INLET TEMP (F)	126.0	108.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.5	90.1



Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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 Date : 03/03/2000  
 Time : 14:59:25.39

Case 0606: LaSalle UHS (Updated Worst 36-Day Temp; T1=97.9F @0600; power uprate

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24532E+01
TOTAL EVAP (CFS)	-.22 ( 8041900)	-4.46 ( 7031900)	-1.37	-9.74773E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.44 ( 7031900)	-.75	-5.35152E+01
FORCED EVAP (CFS)	-.22 ( 8041900)	-1.65 ( 7011900)	-.62	-4.39622E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.65 ( 8051900)	689.28	4.92179E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.06 ( 7011900)	82.15 ( 7071900)	89.23	6.37134E+03
LAKE INLET TEMP (F)	132.08 ( 7011900)	92.96 ( 7261900)	99.83	7.12853E+03
LAKE OUTLET TEMP (F)	99.98 ( 7011900)	83.38 ( 7071900)	90.29	6.44715E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.8	95.3	89.0
LAKE INLET TEMP (F)	126.0	108.0	99.3
LAKE OUTLET TEMP (F)	99.0	96.5	90.1

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 1  
Date : 03/06/2000  
Time : 10:28:47.11

Case 0609: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @0900; power up

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
7				
1	0			
8	97.5	93.0		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Page : 2  
Date : 03/06/2000  
Time : 10:28:47.11

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
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Time : 10:28:47.16

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CALCULATION NO. L-002457

REVISION NO. 7

ATTACHMENT B  
PAGE B156 OF B358

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Time : 10:28:47.33

END

PROJECT NO. 11333-246



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 8  
 Date : 03/06/2000  
 Time : 10:28:47.71

Case 0609: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @0900; power up

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.50 93.00

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Page : 9  
Date : 03/06/2000  
Time : 10:28:47.71

Case 0609: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @0900; power up

FPLANT

70100 - 80500 R/I 86.000

Tprise

70100 - 80500 S/I	35.260	28.790	16.680	16.280
	15.320	14.970	14.530	14.290
	13.880	13.450	13.300	13.300
	13.300	13.240	12.730	12.730
	12.570	12.430	12.240	12.020
	12.020	12.020	12.020	12.010
	11.490	11.490	11.490	11.490
	11.490	11.490	11.490	11.490
	11.090	11.070	11.070	11.070
	11.070	10.870	10.860	10.860
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.270
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.720	9.700
	9.700	9.700	9.700	9.700
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.400	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.150	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.720	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 10:28:47.99

Case 0609: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @0900; power up

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.62	-1.32	-1.58
NATURAL EVAP (CFS)	.00	-.97	-.77	-.94
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.57	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.79	89.62	90.63
LAKE INLET TEMP (F)	.00	101.45	98.76	101.08
LAKE OUTLET TEMP (F)	.00	91.70	90.58	91.55

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.9	90.9
LAKE INLET TEMP (F)	128.0	109.4	100.9
LAKE OUTLET TEMP (F)	99.0	97.1	91.9

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Date : 03/06/2000  
 Time : 10:28:48.04

Case 0609: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @0900; power up

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.62	-1.32	-1.58
NATURAL EVAP (CFS)	.00	-.97	-.77	-.94
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.57	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.79	89.62	90.63
LAKE INLET TEMP (F)	.00	101.45	98.76	101.08
LAKE OUTLET TEMP (F)	.00	91.70	90.58	91.55

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.9	90.9
LAKE INLET TEMP (F)	128.0	109.4	100.9
LAKE OUTLET TEMP (F)	99.0	97.1	91.9

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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Case 0609: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @0900; power up

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.22325E+01
TOTAL EVAP (CFS)	-.32 ( 8051900)	-4.06 ( 7051900)	-1.58	-1.12591E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-2.67 ( 7051900)	-.94	-6.74198E+01
FORCED EVAP (CFS)	-.26 ( 7311900)	-1.53 ( 7011900)	-.63	-4.51712E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.47 ( 8051900)	689.19	4.92117E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.72 ( 7041900)	81.74 ( 7241900)	90.63	6.47137E+03
LAKE INLET TEMP (F)	132.95 ( 7011900)	90.99 ( 7241900)	101.08	7.21761E+03
LAKE OUTLET TEMP (F)	99.98 ( 7011900)	82.50 ( 7241900)	91.55	6.53681E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.9	90.9
LAKE INLET TEMP (F)	128.0	109.4	100.9
LAKE OUTLET TEMP (F)	99.0	97.1	91.9

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Time : 11:24:37.23

Case 0612: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=98.34F @1200; power u

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
7				
1	0			
8	98.3	93.8		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/06/2000.  
Time : 11:24:37.23

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

Page : 3  
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Time : 11:24:37.23

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 5  
Date : 03/06/2000  
Time : 11:24:37.29

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CALCULATION NO. L-002457

REVISION NO. 7

ATTACHMENT B  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Time : 11:24:37.45

END

PROJECT NO. 11333-246

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 8  
 Date : 03/06/2000  
 Time : 11:24:37.73

Case 0612: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=98.34F @1200; power u

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 98.30 93.80

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 9  
Date : 03/06/2000  
Time : 11:24:37.73

Case 0612: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=98.34F @1200; power u

FPLANT

70100 - 80500 R/I 86.000

TPRICE

70100 -	80500	S/I	35.260	28.790	16.680	16.280
15.320				14.970	14.530	14.290
13.880				13.450	13.300	13.300
13.300				13.240	12.730	12.730
12.570				12.430	12.240	12.020
12.020				12.020	12.020	12.010
11.490				11.490	11.490	11.490
11.490				11.490	11.490	11.490
11.090				11.070	11.070	11.070
11.070				10.870	10.860	10.860
10.500				10.500	10.500	10.500
10.500				10.500	10.500	10.500
10.500				10.500	10.500	10.500
10.500				10.500	10.500	10.270
9.990				9.990	9.990	9.990
9.990				9.990	9.990	9.990
9.990				9.990	9.990	9.990
9.990				9.990	9.990	9.990
9.990				9.990	9.720	9.700
9.700				9.700	9.700	9.700
9.540				9.540	9.540	9.540
9.540				9.540	9.540	9.540
9.540				9.540	9.540	9.540
9.400				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.190	9.190
9.190				9.190	9.150	8.850
8.850				8.850	8.850	8.850
8.850				8.850	8.850	8.850
8.850				8.850	8.850	8.850
8.850				8.850	8.850	8.850
8.850				8.850	8.850	8.850
8.850				8.850	8.850	8.850
8.850				8.850	8.850	8.850
8.720				8.700	8.700	8.700
8.700				8.700	8.700	8.700
8.700				8.700	8.700	8.700
8.700				8.700	8.700	8.700
8.700				8.700	8.700	8.700
8.700				8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220



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Case 0612: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=98.34F @1200; power u

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.62	-1.32	-1.58
NATURAL EVAP (CFS)	.00	-.98	-.77	-.95
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.82	89.62	90.65
LAKE INLET TEMP (F)	.00	101.47	98.76	101.10
LAKE OUTLET TEMP (F)	.00	91.72	90.58	91.56

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	128.0	109.5	100.9
LAKE OUTLET TEMP (F)	99.3	96.9	91.9

Program : LAKET-PC  
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Case 0612: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=98.34F @1200; power u

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.62	-1.32	-1.58
NATURAL EVAP (CFS)	.00	-.98	-.77	-.95
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.82	89.62	90.65
LAKE INLET TEMP (F)	.00	101.47	98.76	101.10
LAKE OUTLET TEMP (F)	.00	91.72	90.58	91.56

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	128.0	109.5	100.9
LAKE OUTLET TEMP (F)	99.3	96.9	91.9

Program : LAKET-PC  
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Case 0612: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=98.34F @1200; power u

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.22264E+01
TOTAL EVAP (CFS)	-.32 ( 8051900)	-3.97 ( 7051900)	-1.58	-1.12836E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-2.66 ( 7051900)	-.95	-6.76335E+01
FORCED EVAP (CFS)	-.26 ( 7311900)	-1.55 ( 7011900)	-.63	-4.52026E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.47 ( 8051900)	689.19	4.92116E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.70 ( 7041900)	81.73 ( 7241900)	90.65	6.47304E+03
LAKE INLET TEMP (F)	134.74 ( 7011900)	90.99 ( 7241900)	101.10	7.21878E+03
LAKE OUTLET TEMP (F)	99.96 ( 7011900)	82.50 ( 7241900)	91.56	6.53794E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	128.0	109.5	100.9
LAKE OUTLET TEMP (F)	99.3	96.9	91.9

Program : LAKET-PC  
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Case 0615: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.5F @1500; power up

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
7				
1	0			
8	99.5	95.0		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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CALCULATION NO. L-002457

REVISION NO. 7

ATTACHMENT B  
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Program : LAKET-PC  
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END

PROJECT NO. 11333-246

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Case 0615: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.5F @1500; power up

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 99.50 95.00

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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 Time : 13:05:15.52

Case 0615: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.5F @1500; power up

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.63	-1.32	-1.59
NATURAL EVAP (CFS)	.00	-.98	-.77	-.95
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.79	89.62	90.62
LAKE INLET TEMP (F)	.00	101.43	98.77	101.06
LAKE OUTLET TEMP (F)	.00	91.67	90.59	91.52

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	127.0	109.0	100.9
LAKE OUTLET TEMP (F)	98.8	96.8	91.9

Program : LAKET-PC  
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Case 0615: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.5F @1500; power up

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.63	-1.32	-1.59
NATURAL EVAP (CFS)	.00	-.98	-.77	-.95
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.79	89.62	90.62
LAKE INLET TEMP (F)	.00	101.43	98.77	101.06
LAKE OUTLET TEMP (F)	.00	91.67	90.59	91.52

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	127.0	109.0	100.9
LAKE OUTLET TEMP (F)	98.8	96.8	91.9

Program : LAKET-PC  
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Case 0615: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.5F @1500; power up

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.22170E+01
TOTAL EVAP (CFS)	-.32 ( 8051900)	-4.00 ( 7051900)	-1.59	-1.13212E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-3.20 ( 7051900)	-.95	-6.80232E+01
FORCED EVAP (CFS)	-.26 ( 7311900)	-1.59 ( 7011900)	-.63	-4.51890E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.46 ( 8051900)	689.19	4.92113E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	97.57 ( 7041900)	81.73 ( 7241900)	90.62	6.47104E+03
LAKE INLET TEMP (F)	135.23 ( 7011900)	91.15 ( 7241900)	101.06	7.21610E+03
LAKE OUTLET TEMP (F)	99.97 ( 7011900)	82.66 ( 7241900)	91.52	6.53520E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.8	90.9
LAKE INLET TEMP (F)	127.0	109.0	100.9
LAKE OUTLET TEMP (F)	98.8	96.8	91.9



Program : LAKET-PC  
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Time : 16:34:23.31

Case 0618: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @1800; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
7				
1	0			
8	100.0	95.5		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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11.09				

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
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Created : Mon Oct 27 08:45:58 1997

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CALCULATION NO. L-002457

REVISION NO. 7

ATTACHMENT B  
PAGE B195 OF B358

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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END

PROJECT NO. 11333-246

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 16:34:23.97

Case 0618: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @1800; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.



Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Case 0618: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @1800; power uprat

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I	35.260	28.790	16.680	16.280
	15.320	14.970	14.530	14.290
	13.880	13.450	13.300	13.300
	13.300	13.240	12.730	12.730
	12.570	12.430	12.240	12.020
	12.020	12.020	12.020	12.010
	11.490	11.490	11.490	11.490
	11.490	11.490	11.490	11.490
	11.090	11.070	11.070	11.070
	11.070	10.870	10.860	10.860
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.500
	10.500	10.500	10.500	10.270
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.990	9.990
	9.990	9.990	9.720	9.700
	9.700	9.700	9.700	9.700
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.540	9.540	9.540	9.540
	9.400	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.190	9.190
	9.190	9.190	9.150	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.850	8.850	8.850	8.850
	8.720	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700
	8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0618: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @1800; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.37	-1.33	-1.36
NATURAL EVAP (CFS)	.00	-.74	-.79	-.75
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.48	92.68	89.07
LAKE INLET TEMP (F)	.00	99.36	101.66	99.68
LAKE OUTLET TEMP (F)	.00	89.60	93.49	90.14

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.3	94.6	88.9
LAKE INLET TEMP (F)	125.0	105.6	99.3
LAKE OUTLET TEMP (F)	97.7	95.7	90.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0618: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @1800; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.37	-1.33	-1.36
NATURAL EVAP (CFS)	.00	-.74	-.79	-.75
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.48	92.68	89.07
LAKE INLET TEMP (F)	.00	99.36	101.66	99.68
LAKE OUTLET TEMP (F)	.00	89.60	93.49	90.14

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.3	94.6	88.9
LAKE INLET TEMP (F)	125.0	105.6	99.3
LAKE OUTLET TEMP (F)	97.7	95.7	90.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 0618: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @1800; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24752E+01
TOTAL EVAP (CFS)	-.22 ( 8031900)	-4.54 ( 7021900)	-1.36	-9.72176E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.35 ( 7021900)	-.75	-5.34099E+01
FORCED EVAP (CFS)	-.22 ( 8031900)	-1.77 ( 7011900)	-.61	-4.38076E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.66 ( 8051900)	689.29	4.92185E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.90 ( 8031900)	82.07 ( 7061900)	89.07	6.35974E+03
LAKE INLET TEMP (F)	133.82 ( 7011900)	93.08 ( 7251900)	99.68	7.11789E+03
LAKE OUTLET TEMP (F)	98.56 ( 7011900)	83.55 ( 7061900)	90.14	6.43622E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.3	94.6	88.9
LAKE INLET TEMP (F)	125.0	105.6	99.3
LAKE OUTLET TEMP (F)	97.7	95.7	90.1

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Case 0621: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @2100; power uprat

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2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0

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8 100.0 95.5  
999  
FPLANT R/I 86.0  
TPRISE S/I

- 35.26
- 28.79
- 16.68
- 16.28
- 15.32
- 14.97
- 14.53
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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CALCULATION NO. L-002457

REVISION NO. 7

ATTACHMENT B  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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END

PROJECT NO. 11333-246

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 16:40:57.07

Case 0621: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @2100; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/03/2000  
Time : 16:40:57.07

Case 0621: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @2100; power uprat

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
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8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
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8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
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8.220	8.220	8.220	8.220
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8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 16:40:57.23

Case 0621: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @2100; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.37	-1.36	-1.37
NATURAL EVAP (CFS)	.00	-.74	-.81	-.75
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.51	92.64	89.09
LAKE INLET TEMP (F)	.00	99.37	101.59	99.68
LAKE OUTLET TEMP (F)	.00	89.61	93.40	90.13

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.5	94.7	88.9
LAKE INLET TEMP (F)	125.0	105.5	99.3
LAKE OUTLET TEMP (F)	97.7	95.8	90.1



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Case 0621: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @2100; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.16	-.17
TOTAL EVAP (CFS)	.00	-1.37	-1.36	-1.37
NATURAL EVAP (CFS)	.00	-.74	-.81	-.75
FORCED EVAP (CFS)	.00	-.62	-.55	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.76	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.51	92.64	89.09
LAKE INLET TEMP (F)	.00	99.37	101.59	99.68
LAKE OUTLET TEMP (F)	.00	89.61	93.40	90.13

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.5	94.7	88.9
LAKE INLET TEMP (F)	125.0	105.5	99.3
LAKE OUTLET TEMP (F)	97.7	95.8	90.1

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Case 0621: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @2100; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24743E+01
TOTAL EVAP (CFS)	-.22 ( 8031900)	-4.59 ( 7021900)	-1.37	-9.74854E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.39 ( 7021900)	-.75	-5.36504E+01
FORCED EVAP (CFS)	-.22 ( 8031900)	-1.76 ( 7011900)	-.61	-4.38350E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.65 ( 8051900)	689.29	4.92185E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.89 ( 8031900)	82.12 ( 7061900)	89.09	6.36119E+03
LAKE INLET TEMP (F)	133.61 ( 7011900)	92.99 ( 7251900)	99.68	7.11760E+03
LAKE OUTLET TEMP (F)	98.35 ( 7011900)	83.60 ( 7061900)	90.13	6.43604E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.5	94.7	88.9
LAKE INLET TEMP (F)	125.0	105.5	99.3
LAKE OUTLET TEMP (F)	97.7	95.8	90.1

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Case 1800: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 0000; power upra

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	100.0	95.5		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
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15.32				
14.97				
14.53				
14.29				
13.88				
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Program : LAKET-PC  
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Program : LAKET-PC  
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Program : LAKET-PC  
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Case 1800: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 0000; power upra

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.

Program : LAKET-PC  
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Case 1800: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 0000; power upra

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

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Case 1800: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 0000; power upra

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.26	-1.35
NATURAL EVAP (CFS)	.00	-.74	-.70	-.73
FORCED EVAP (CFS)	.00	-.63	-.56	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.61	93.07	89.23
LAKE INLET TEMP (F)	.00	99.28	101.79	99.63
LAKE OUTLET TEMP (F)	.00	89.54	93.60	90.11

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	98.0	95.9	89.0
LAKE INLET TEMP (F)	125.0	109.3	99.2
LAKE OUTLET TEMP (F)	98.8	96.8	89.9

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 1800: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 0000; power upra

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.26	-1.35
NATURAL EVAP (CFS)	.00	-.74	-.70	-.73
FORCED EVAP (CFS)	.00	-.63	-.56	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.61	93.07	89.23
LAKE INLET TEMP (F)	.00	99.28	101.79	99.63
LAKE OUTLET TEMP (F)	.00	89.54	93.60	90.11

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	98.0	95.9	89.0
LAKE INLET TEMP (F)	125.0	109.3	99.2
LAKE OUTLET TEMP (F)	98.8	96.8	89.9

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Case 1800: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 0000; power upra

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 8051900)	-.20 ( 7011900)	-.17	-1.20057E+01
TOTAL EVAP (CFS)	-.19 ( 8041900)	-4.29 ( 7021900)	-1.35	-9.63174E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.34 ( 7031900)	-.73	-5.23042E+01
FORCED EVAP (CFS)	-.19 ( 8041900)	-1.61 ( 7021900)	-.62	-4.40131E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.65 ( 8051900)	689.28	4.92177E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.33 ( 8041900)	81.06 ( 7071900)	89.23	6.37166E+03
LAKE INLET TEMP (F)	133.28 ( 7011900)	91.90 ( 7261900)	99.63	7.11400E+03
LAKE OUTLET TEMP (F)	99.47 ( 7011900)	82.11 ( 7071900)	90.11	6.43400E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	98.0	95.9	89.0
LAKE INLET TEMP (F)	125.0	109.3	99.2
LAKE OUTLET TEMP (F)	98.8	96.8	89.9

Program : LAKET-PC  
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Case 1803: LaSalle UHS (Updated Worst 36-Day Temp; Ti=98.8F @ 0300; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	98.8	94.3		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
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Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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 Date : 03/03/2000  
 Time : 14:47:04.06

Case 1803: LaSalle UHS (Updated Worst 36-Day Temp; Ti=98.8F @ 0300; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 98.80 94.30

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 14:47:04.23

Case 1803: LaSalle UHS (Updated Worst 36-Day Temp; Ti=98.8F @ 0300; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.28	-1.35
NATURAL EVAP (CFS)	.00	-.73	-.72	-.73
FORCED EVAP (CFS)	.00	-.63	-.56	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.58	93.08	89.21
LAKE INLET TEMP (F)	.00	99.26	101.77	99.61
LAKE OUTLET TEMP (F)	.00	89.52	93.57	90.08

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	98.0	95.8	89.0
LAKE INLET TEMP (F)	124.0	109.0	99.1
LAKE OUTLET TEMP (F)	99.0	96.8	89.9



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 14:47:04.23

Case 1803: LaSalle UHS (Updated Worst 36-Day Temp; Ti=98.8F @ 0300; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.28	-1.35
NATURAL EVAP (CFS)	.00	-.73	-.72	-.73
FORCED EVAP (CFS)	.00	-.63	-.56	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.58	93.08	89.21
LAKE INLET TEMP (F)	.00	99.26	101.77	99.61
LAKE OUTLET TEMP (F)	.00	89.52	93.57	90.08

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	98.0	95.8	89.0
LAKE INLET TEMP (F)	124.0	109.0	99.1
LAKE OUTLET TEMP (F)	99.0	96.8	89.9

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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Case 1803: LaSalle UHS (Updated Worst 36-Day Temp; Ti=98.8F @ 0300; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 8051900)	-.20 ( 7011900)	-.17	-1.20063E+01
TOTAL EVAP (CFS)	-.19 ( 8041900)	-4.28 ( 7031900)	-1.35	-9.63009E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.33 ( 7031900)	-.73	-5.23063E+01
FORCED EVAP (CFS)	-.19 ( 8041900)	-1.64 ( 7011900)	-.62	-4.39946E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.65 ( 8051900)	689.28	4.92177E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.32 ( 8041900)	81.06 ( 7071900)	89.21	6.36976E+03
LAKE INLET TEMP (F)	132.46 ( 7011900)	91.91 ( 7261900)	99.61	7.11241E+03
LAKE OUTLET TEMP (F)	99.95 ( 7011900)	82.24 ( 7071900)	90.08	6.43251E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	98.0	95.8	89.0
LAKE INLET TEMP (F)	124.0	109.0	99.1
LAKE OUTLET TEMP (F)	99.0	96.8	89.9

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Time : 15:04:24.35

Case 1806: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.2F @ 0600; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	97.2	92.7		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/03/2000  
Time : 15:04:24.40

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Date : 03/03/2000  
 Time : 15:04:24.73

Case 1806: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.2F @ 0600; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.20 92.70

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
 Created : Mon Oct 27 08:45:58 1997

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Case 1806: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.2F @ 0600; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.30	-1.35
NATURAL EVAP (CFS)	.00	-.73	-.74	-.73
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.50	93.07	89.14
LAKE INLET TEMP (F)	.00	99.19	101.74	99.54
LAKE OUTLET TEMP (F)	.00	89.45	93.54	90.02

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	95.7	89.0
LAKE INLET TEMP (F)	126.0	107.0	99.1
LAKE OUTLET TEMP (F)	99.0	96.6	89.9

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 15:04:24.90

Case 1806: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.2F @ 0600; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.30	-1.35
NATURAL EVAP (CFS)	.00	-.73	-.74	-.73
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.50	93.07	89.14
LAKE INLET TEMP (F)	.00	99.19	101.74	99.54
LAKE OUTLET TEMP (F)	.00	89.45	93.54	90.02

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	95.7	89.0
LAKE INLET TEMP (F)	126.0	107.0	99.1
LAKE OUTLET TEMP (F)	99.0	96.6	89.9

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 15:04:24.90

Case 1806: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.2F @ 0600; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 8051900)	-.20 ( 7011900)	-.17	-1.20089E+01
TOTAL EVAP (CFS)	-.19 ( 8041900)	-4.25 ( 7031900)	-1.35	-9.63718E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.29 ( 7031900)	-.73	-5.24012E+01
FORCED EVAP (CFS)	-.19 ( 8041900)	-1.69 ( 7011900)	-.62	-4.39706E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.65 ( 8051900)	689.28	4.92178E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.31 ( 8041900)	81.03 ( 7071900)	89.14	6.36490E+03
LAKE INLET TEMP (F)	131.22 ( 7011900)	91.93 ( 7261900)	99.54	7.10792E+03
LAKE OUTLET TEMP (F)	99.94 ( 7011900)	82.08 ( 7071900)	90.02	6.42803E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	95.7	89.0
LAKE INLET TEMP (F)	126.0	107.0	99.1
LAKE OUTLET TEMP (F)	99.0	96.6	89.9

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/03/2000  
Time : 15:18:40.69

Case 1809: LaSalle UHS (Updated Worst 36-Day Temp; Ti=96.5F @ 0900; power uprat

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	96.5	92.0		
999				
FPLANT	R/I	86.0		
TPRICE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
13.30				
13.30				
13.24				
12.73				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 2  
Date : 03/03/2000  
Time : 15:18:40.69

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Case 1809: LaSalle UHS (Updated Worst 36-Day Temp; Ti=96.5F @ 0900; power uprat

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 96.50 92.00

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Case 1809: LaSalle UHS (Updated Worst 36-Day Temp; Ti=96.5F @ 0900; power uprat

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I	35.260	28.790	16.680	16.280
15.320	14.970	14.530	14.290	
13.880	13.450	13.300	13.300	
13.300	13.240	12.730	12.730	
12.570	12.430	12.240	12.020	
12.020	12.020	12.020	12.010	
11.490	11.490	11.490	11.490	
11.490	11.490	11.490	11.490	
11.090	11.070	11.070	11.070	
11.070	10.870	10.860	10.860	
10.500	10.500	10.500	10.500	
10.500	10.500	10.500	10.500	
10.500	10.500	10.500	10.500	
10.500	10.500	10.500	10.270	
9.990	9.990	9.990	9.990	
9.990	9.990	9.990	9.990	
9.990	9.990	9.990	9.990	
9.990	9.990	9.990	9.990	
9.990	9.990	9.990	9.990	
9.990	9.990	9.720	9.700	
9.700	9.700	9.700	9.700	
9.540	9.540	9.540	9.540	
9.540	9.540	9.540	9.540	
9.540	9.540	9.540	9.540	
9.400	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.190	9.190	
9.190	9.190	9.150	8.850	
8.850	8.850	8.850	8.850	
8.850	8.850	8.850	8.850	
8.850	8.850	8.850	8.850	
8.850	8.850	8.850	8.850	
8.850	8.850	8.850	8.850	
8.720	8.700	8.700	8.700	
8.700	8.700	8.700	8.700	
8.700	8.700	8.700	8.700	
8.700	8.700	8.700	8.700	
8.700	8.700	8.700	8.700	

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
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Case 1809: LaSalle UHS (Updated Worst 36-Day Temp; Ti=96.5F @ 0900; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.31	-1.35
NATURAL EVAP (CFS)	.00	-.73	-.76	-.74
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.47	93.03	89.10
LAKE INLET TEMP (F)	.00	99.16	101.68	99.51
LAKE OUTLET TEMP (F)	.00	89.43	93.49	89.99

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.6	88.9
LAKE INLET TEMP (F)	128.0	106.7	99.1
LAKE OUTLET TEMP (F)	99.0	96.6	89.8



Program : LAKET-PC  
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Case 1809: LaSalle UHS (Updated Worst 36-Day Temp; Ti=96.5F @ 0900; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.36	-1.31	-1.35
NATURAL EVAP (CFS)	.00	-.73	-.76	-.74
FORCED EVAP (CFS)	.00	-.63	-.55	-.62
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.36	688.74	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.47	93.03	89.10
LAKE INLET TEMP (F)	.00	99.16	101.68	99.51
LAKE OUTLET TEMP (F)	.00	89.43	93.49	89.99

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.6	88.9
LAKE INLET TEMP (F)	128.0	106.7	99.1
LAKE OUTLET TEMP (F)	99.0	96.6	89.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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Case 1809: LaSalle UHS (Updated Worst 36-Day Temp; Ti=96.5F @ 0900; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 8051900)	-.20 ( 7011900)	-.17	-1.20097E+01
TOTAL EVAP (CFS)	-.19 ( 8041900)	-4.29 ( 7031900)	-1.35	-9.64773E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.28 ( 7031900)	-.74	-5.25177E+01
FORCED EVAP (CFS)	-.19 ( 8041900)	-1.71 ( 7011900)	-.62	-4.39596E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.65 ( 8051900)	689.28	4.92178E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.30 ( 8041900)	81.03 ( 7061900)	89.10	6.36216E+03
LAKE INLET TEMP (F)	132.78 ( 7011900)	91.95 ( 7251900)	99.51	7.10574E+03
LAKE OUTLET TEMP (F)	99.98 ( 7011900)	82.15 ( 7061900)	89.99	6.42586E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.6	88.9
LAKE INLET TEMP (F)	128.0	106.7	99.1
LAKE OUTLET TEMP (F)	99.0	96.6	89.8

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Case 1809: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=96.5F @ 0900; power u

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2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4

7 1 0  
8 96.5 92.0

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FPLANT R/I 86.0

TPRISE S/I

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 1809: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=96.5F @ 0900; power u

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 96.50 92.00

WEATHER STATION ID 0.

Program : LAKET-PC  
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Case 1809: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=96.5F @ 0900; power u

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 -	80500	S/I	35.260	28.790	16.680	16.280
			15.320	14.970	14.530	14.290
			13.880	13.450	13.300	13.300
			13.300	13.240	12.730	12.730
			12.570	12.430	12.240	12.020
			12.020	12.020	12.020	12.010
			11.490	11.490	11.490	11.490
			11.490	11.490	11.490	11.490
			11.090	11.070	11.070	11.070
			11.070	10.870	10.860	10.860
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.270
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.720	9.700
			9.700	9.700	9.700	9.700
			9.540	9.540	9.540	9.540
			9.540	9.540	9.540	9.540
			9.540	9.540	9.540	9.540
			9.540	9.540	9.540	9.540
			9.400	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.150	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.720	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700
			8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
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8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
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Case 1809: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=96.5F @ 0900; power u

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.16
TOTAL EVAP (CFS)	.00	-1.59	-1.32	-1.55
NATURAL EVAP (CFS)	.00	-.95	-.76	-.92
FORCED EVAP (CFS)	.00	-.65	-.56	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.65	89.93	90.55
LAKE INLET TEMP (F)	.00	101.11	98.69	100.77
LAKE OUTLET TEMP (F)	.00	91.37	90.65	91.27

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.2	90.8
LAKE INLET TEMP (F)	127.0	109.3	100.7
LAKE OUTLET TEMP (F)	99.0	97.3	91.5

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Case 1809: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=96.5F @ 0900; power u

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.16
TOTAL EVAP (CFS)	.00	-1.59	-1.32	-1.55
NATURAL EVAP (CFS)	.00	-.95	-.76	-.92
FORCED EVAP (CFS)	.00	-.65	-.56	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.65	89.93	90.55
LAKE INLET TEMP (F)	.00	101.11	98.69	100.77
LAKE OUTLET TEMP (F)	.00	91.37	90.65	91.27

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.2	90.8
LAKE INLET TEMP (F)	127.0	109.3	100.7
LAKE OUTLET TEMP (F)	99.0	97.3	91.5

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Case 1809: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=96.5F @ 0900; power u

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.13 ( 8051900)	-.20 ( 7011900)	-.16	-1.17357E+01
TOTAL EVAP (CFS)	-.24 ( 8051900)	-4.05 ( 7051900)	-1.55	-1.10956E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-2.67 ( 7051900)	-.92	-6.57451E+01
FORCED EVAP (CFS)	-.23 ( 7311900)	-1.56 ( 7011900)	-.63	-4.52110E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.47 ( 8051900)	689.19	4.92117E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.25 ( 7041900)	80.47 ( 7241900)	90.55	6.46545E+03
LAKE INLET TEMP (F)	132.14 ( 7011900)	89.64 ( 7241900)	100.77	7.19565E+03
LAKE OUTLET TEMP (F)	99.79 ( 7011900)	81.38 ( 7241900)	91.27	6.51731E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.2	90.8
LAKE INLET TEMP (F)	127.0	109.3	100.7
LAKE OUTLET TEMP (F)	99.0	97.3	91.5

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Case 1812: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @ 1200; power u

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	97.5	93.0		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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Program : LAKET-PC  
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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 1812: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @ 1200; power u

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.50 93.00

WEATHER STATION ID 0.

Program : LAKET-PC  
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Case 1812: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @ 1200; power u

FPLANT

70100 - 80500 R/I 86.000

TPRICE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

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Case 1812: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @ 1200; power u

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.16
TOTAL EVAP (CFS)	.00	-1.60	-1.32	-1.56
NATURAL EVAP (CFS)	.00	-.95	-.76	-.92
FORCED EVAP (CFS)	.00	-.65	-.56	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.68	89.93	90.57
LAKE INLET TEMP (F)	.00	101.14	98.69	100.80
LAKE OUTLET TEMP (F)	.00	91.40	90.65	91.29

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.0	90.9
LAKE INLET TEMP (F)	128.0	109.1	100.7
LAKE OUTLET TEMP (F)	99.3	97.3	91.5



Program : LAKET-PC  
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Case 1812: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @ 1200; power u

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.16
TOTAL EVAP (CFS)	.00	-1.60	-1.32	-1.56
NATURAL EVAP (CFS)	.00	-.95	-.76	-.92
FORCED EVAP (CFS)	.00	-.65	-.56	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.68	89.93	90.57
LAKE INLET TEMP (F)	.00	101.14	98.69	100.80
LAKE OUTLET TEMP (F)	.00	91.40	90.65	91.29

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.0	90.9
LAKE INLET TEMP (F)	128.0	109.1	100.7
LAKE OUTLET TEMP (F)	99.3	97.3	91.5

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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Case 1812: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=97.5F @ 1200; power u

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.13 ( 8051900)	-.20 ( 7011900)	-.16	-1.17287E+01
TOTAL EVAP (CFS)	-.24 ( 8051900)	-4.04 ( 7051900)	-1.56	-1.11183E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-2.66 ( 7051900)	-.92	-6.59592E+01
FORCED EVAP (CFS)	-.23 ( 7311900)	-1.67 ( 7011900)	-.63	-4.52236E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.46 ( 8051900)	689.19	4.92115E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.22 ( 7041900)	80.47 ( 7241900)	90.57	6.46728E+03
LAKE INLET TEMP (F)	134.65 ( 7011900)	89.64 ( 7241900)	100.80	7.19739E+03
LAKE OUTLET TEMP (F)	99.98 ( 7011900)	81.37 ( 7241900)	91.29	6.51890E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.0	90.9
LAKE INLET TEMP (F)	128.0	109.1	100.7
LAKE OUTLET TEMP (F)	99.3	97.3	91.5

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Case 1815: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.4F @ 1500; power u

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4

7 1 0  
8 99.4 94.9

999  
FPLANT R/I 86.0

TPRISE S/I

35.26

28.79

16.68

16.28

15.32

14.97

14.53

14.29

13.88

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Program : LAKET-PC  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 1815: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.4F @ 1500; power u

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 99.40 94.90

WEATHER STATION ID 0.

Program : LAKET-PC  
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Case 1815: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.4F @ 1500; power u

FPLANT

70100 - 80500 R/I 86.000

TPRICE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

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Case 1815: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.4F @ 1500; power u

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.16
TOTAL EVAP (CFS)	.00	-1.60	-1.32	-1.56
NATURAL EVAP (CFS)	.00	-.96	-.76	-.93
FORCED EVAP (CFS)	.00	-.65	-.56	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.28	688.56	689.18
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.67	89.93	90.56
LAKE INLET TEMP (F)	.00	101.10	98.68	100.77
LAKE OUTLET TEMP (F)	.00	91.37	90.64	91.27

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.0	90.9
LAKE INLET TEMP (F)	127.0	109.0	100.7
LAKE OUTLET TEMP (F)	99.0	97.1	91.6

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Case 1815: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.4F @ 1500; power u

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.16
TOTAL EVAP (CFS)	.00	-1.60	-1.32	-1.56
NATURAL EVAP (CFS)	.00	-.96	-.76	-.93
FORCED EVAP (CFS)	.00	-.65	-.56	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.28	688.56	689.18
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.67	89.93	90.56
LAKE INLET TEMP (F)	.00	101.10	98.68	100.77
LAKE OUTLET TEMP (F)	.00	91.37	90.64	91.27

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.0	90.9
LAKE INLET TEMP (F)	127.0	109.0	100.7
LAKE OUTLET TEMP (F)	99.0	97.1	91.6

Program : LAKET-PC  
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Case 1815: LaSalle UHS (Updated Worst 5/1/30-Day Temp; Ti=99.4F @ 1500; power u

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.13 ( 8051900)	-.20 ( 7011900)	-.16	-1.17127E+01
TOTAL EVAP (CFS)	-.24 ( 8051900)	-4.05 ( 7051900)	-1.56	-1.11671E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-3.03 ( 7051900)	-.93	-6.64355E+01
FORCED EVAP (CFS)	-.23 ( 7311900)	-1.61 ( 7011900)	-.63	-4.52352E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.46 ( 8051900)	689.18	4.92111E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.16 ( 7041900)	80.46 ( 7241900)	90.56	6.46670E+03
LAKE INLET TEMP (F)	135.25 ( 7011900)	89.62 ( 7241900)	100.77	7.19528E+03
LAKE OUTLET TEMP (F)	99.99 ( 7011900)	81.36 ( 7241900)	91.27	6.51694E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.8	96.0	90.9
LAKE INLET TEMP (F)	127.0	109.0	100.7
LAKE OUTLET TEMP (F)	99.0	97.1	91.6

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Case 1818: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 1800; power upra

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	100.0	95.5		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
13.30				
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13.24				
12.73				
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Program : LAKET-PC  
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9.19  
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Program : LAKET-PC  
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Case 1818: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 1800; power upra

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.

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Case 1818: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 1800; power upra

FPLANT

70100 - 80500 R/I 86.000

TPRICE

70100 -	80500	S/I	35.260	28.790	16.680	16.280
15.320	14.970	14.530	14.290			
13.880	13.450	13.300	13.300			
13.300	13.240	12.730	12.730			
12.570	12.430	12.240	12.020			
12.020	12.020	12.020	12.010			
11.490	11.490	11.490	11.490			
11.490	11.490	11.490	11.490			
11.090	11.070	11.070	11.070			
11.070	10.870	10.860	10.860			
10.500	10.500	10.500	10.500			
10.500	10.500	10.500	10.500			
10.500	10.500	10.500	10.500			
10.500	10.500	10.500	10.270			
9.990	9.990	9.990	9.990			
9.990	9.990	9.990	9.990			
9.990	9.990	9.990	9.990			
9.990	9.990	9.990	9.990			
9.990	9.990	9.720	9.700			
9.700	9.700	9.700	9.700			
9.540	9.540	9.540	9.540			
9.540	9.540	9.540	9.540			
9.540	9.540	9.540	9.540			
9.400	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.190	9.190			
9.190	9.190	9.150	8.850			
8.850	8.850	8.850	8.850			
8.850	8.850	8.850	8.850			
8.850	8.850	8.850	8.850			
8.850	8.850	8.850	8.850			
8.850	8.850	8.850	8.850			
8.850	8.850	8.850	8.850			
8.720	8.700	8.700	8.700			
8.700	8.700	8.700	8.700			
8.700	8.700	8.700	8.700			
8.700	8.700	8.700	8.700			
8.700	8.700	8.700	8.700			

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

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Case 1818: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 1800; power upra

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.35	-1.32	-1.34
NATURAL EVAP (CFS)	.00	-.72	-.78	-.73
FORCED EVAP (CFS)	.00	-.62	-.54	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.75	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.35	92.85	88.98
LAKE INLET TEMP (F)	.00	99.05	101.50	99.39
LAKE OUTLET TEMP (F)	.00	89.31	93.30	89.87

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.0	88.9
LAKE INLET TEMP (F)	125.0	105.8	99.1
LAKE OUTLET TEMP (F)	98.0	96.0	89.8



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Case 1818: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 1800; power upra

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.35	-1.32	-1.34
NATURAL EVAP (CFS)	.00	-.72	-.78	-.73
FORCED EVAP (CFS)	.00	-.62	-.54	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.75	689.29
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.35	92.85	88.98
LAKE INLET TEMP (F)	.00	99.05	101.50	99.39
LAKE OUTLET TEMP (F)	.00	89.31	93.30	89.87

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.0	88.9
LAKE INLET TEMP (F)	125.0	105.8	99.1
LAKE OUTLET TEMP (F)	98.0	96.0	89.8

Program : LAKET-PC  
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Case 1818: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 1800; power upra

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 8051900)	-.20 ( 7011900)	-.17	-1.20347E+01
TOTAL EVAP (CFS)	-.19 ( 8031900)	-4.28 ( 7021900)	-1.34	-9.60339E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.21 ( 7021900)	-.73	-5.22645E+01
FORCED EVAP (CFS)	-.19 ( 8031900)	-1.77 ( 7011900)	-.61	-4.37694E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.65 ( 8051900)	689.29	4.92184E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.27 ( 8031900)	81.00 ( 7061900)	88.98	6.35326E+03
LAKE INLET TEMP (F)	133.50 ( 7011900)	92.05 ( 7251900)	99.39	7.09704E+03
LAKE OUTLET TEMP (F)	98.57 ( 8031900)	82.24 ( 7061900)	89.87	6.41702E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.0	88.9
LAKE INLET TEMP (F)	125.0	105.8	99.1
LAKE OUTLET TEMP (F)	98.0	96.0	89.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 16:42:04.08

Case 1821: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 2100; power upra

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	100.0	95.5		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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13.24				
12.73				
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11.09				
11.07				

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
Date : 03/03/2000  
Time : 16:42:04.13

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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 16:42:04.68

Case 1821: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 2100; power upra

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 16:42:04.85

Case 1821: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 2100; power upra

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.35	-1.35	-1.35
NATURAL EVAP (CFS)	.00	-.72	-.80	-.74
FORCED EVAP (CFS)	.00	-.62	-.54	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.38	92.79	88.99
LAKE INLET TEMP (F)	.00	99.07	101.42	99.40
LAKE OUTLET TEMP (F)	.00	89.33	93.25	89.87

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.0	88.9
LAKE INLET TEMP (F)	125.0	105.6	99.1
LAKE OUTLET TEMP (F)	97.8	96.0	89.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 10  
 Date : 03/03/2000  
 Time : 16:42:04.85

Case 1821: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 2100; power upra

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	-.14	-.17
TOTAL EVAP (CFS)	.00	-1.35	-1.35	-1.35
NATURAL EVAP (CFS)	.00	-.72	-.80	-.74
FORCED EVAP (CFS)	.00	-.62	-.54	-.61
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.37	688.75	689.28
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	88.38	92.79	88.99
LAKE INLET TEMP (F)	.00	99.07	101.42	99.40
LAKE OUTLET TEMP (F)	.00	89.33	93.25	89.87

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.0	88.9
LAKE INLET TEMP (F)	125.0	105.6	99.1
LAKE OUTLET TEMP (F)	97.8	96.0	89.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/03/2000  
 Time : 16:42:04.85

Case 1821: LaSalle UHS (Updated Worst 36-Day Temp; Ti=100.0F @ 2100; power upra

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 8051900)	-.20 ( 7011900)	-.17	-1.20338E+01
TOTAL EVAP (CFS)	-.19 ( 8031900)	-4.38 ( 7021900)	-1.35	-9.63046E+01
NATURAL EVAP (CFS)	.00 ( 7011900)	-3.25 ( 7021900)	-.74	-5.24969E+01
FORCED EVAP (CFS)	-.19 ( 8031900)	-1.77 ( 7011900)	-.61	-4.38077E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.65 ( 8051900)	689.28	4.92184E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.26 ( 8031900)	81.04 ( 7061900)	88.99	6.35459E+03
LAKE INLET TEMP (F)	133.26 ( 7011900)	92.04 ( 7251900)	99.40	7.09739E+03
LAKE OUTLET TEMP (F)	98.57 ( 8031900)	82.27 ( 7061900)	89.87	6.41749E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.0	95.0	88.9
LAKE INLET TEMP (F)	125.0	105.6	99.1
LAKE OUTLET TEMP (F)	97.8	96.0	89.8

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 10:45:12.20

Case 00e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

1				
2	070100	073000	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6

7 1 0  
 8 97.6 93.1

999  
 FPLANT R/I 86.0  
 TPRISE S/I

- 35.26
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- 15.32
- 14.97
- 14.53
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Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 2  
 Date : 03/08/2000  
 Time : 10:45:12.25

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/08/2000  
Time : 10:45:12.25

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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8.49  
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END

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 10:45:12.75

Case 00e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

RUN 30 DAYS FROM 70100 TO 73000  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.60 93.10

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 10:45:12.86

Case 00e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	- .18	.00	- .18
TOTAL EVAP (CFS)	.00	-1.85	.00	-1.85
NATURAL EVAP (CFS)	.00	-1.23	.00	-1.23
FORCED EVAP (CFS)	.00	- .63	.00	- .63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.23	.00	689.23
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.56	.00	84.56
LAKE INLET TEMP (F)	.00	95.49	.00	95.49
LAKE OUTLET TEMP (F)	.00	85.69	.00	85.69

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	92.2	84.1
LAKE INLET TEMP (F)	128.0	106.5	94.6
LAKE OUTLET TEMP (F)	99.0	92.7	85.2



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 10:45:12.86

Case 00e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	- .18	.00	- .18
TOTAL EVAP (CFS)	.00	-1.85	.00	-1.85
NATURAL EVAP (CFS)	.00	-1.23	.00	-1.23
FORCED EVAP (CFS)	.00	- .63	.00	- .63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.23	.00	689.23
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.56	.00	84.56
LAKE INLET TEMP (F)	.00	95.49	.00	95.49
LAKE OUTLET TEMP (F)	.00	85.69	.00	85.69

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	92.2	84.1
LAKE INLET TEMP (F)	128.0	106.5	94.6
LAKE OUTLET TEMP (F)	99.0	92.7	85.2

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 00e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 7301900)	-.20 ( 7011900)	-.18	-1.04198E+01
TOTAL EVAP (CFS)	-.55 ( 7121900)	-5.34 ( 7101900)	-1.85	-1.10111E+02
NATURAL EVAP (CFS)	-.28 ( 7051900)	-4.08 ( 7101900)	-1.23	-7.29136E+01
FORCED EVAP (CFS)	-.15 ( 7011900)	-1.92 ( 7011900)	-.63	-3.71974E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.54 ( 7301900)	689.23	4.10120E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.31 ( 7011900)	76.28 ( 7201900)	84.56	5.03142E+03
LAKE INLET TEMP (F)	134.81 ( 7011900)	85.75 ( 7201900)	95.49	5.68204E+03
LAKE OUTLET TEMP (F)	99.95 ( 7011900)	76.90 ( 7201900)	85.69	5.09892E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	92.2	84.1
LAKE INLET TEMP (F)	128.0	106.5	94.6
LAKE OUTLET TEMP (F)	99.0	92.7	85.2

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 1  
Date : 03/08/2000  
Time : 10:54:07.45

Case 06e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.4F @1200; power uprate;

1				
2	070100	073000	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	82.99	423.5	74.69	381.2
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
7				
1	0			
8	97.4	92.9		
999				
FPLANT	R/I	86.0		
TPRICE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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13.30				
13.24				
12.73				
12.73				
12.57				
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11.09				

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/08/2000  
Time : 10:54:07.50

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
Date : 03/08/2000  
Time : 10:54:07.50

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/08/2000  
Time : 10:54:07.56

8.49  
8.49  
8.44  
END



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 7  
 Date : 03/08/2000  
 Time : 10:54:07.94

Case 06e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.4F @1200; power uprate;

RUN 30 DAYS FROM 70100 TO 73000  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.40 92.90

WEATHER STATION ID 0.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 10:54:08.10

Case 06e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.4F @1200; power uprate;

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.83	.00	-1.83
NATURAL EVAP (CFS)	.00	-1.21	.00	-1.21
FORCED EVAP (CFS)	.00	-.63	.00	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.23	.00	689.23
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.48	.00	84.48
LAKE INLET TEMP (F)	.00	95.36	.00	95.36
LAKE OUTLET TEMP (F)	.00	85.57	.00	85.57

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	92.2	84.0
LAKE INLET TEMP (F)	128.0	106.0	94.4
LAKE OUTLET TEMP (F)	99.0	92.5	85.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

Page : 10  
 Date : 03/08/2000  
 Time : 10:54:08.10

Case 06e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.4F @1200; power uprate;

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.83	.00	-1.83
NATURAL EVAP (CFS)	.00	-1.21	.00	-1.21
FORCED EVAP (CFS)	.00	-.63	.00	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.23	.00	689.23
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.48	.00	84.48
LAKE INLET TEMP (F)	.00	95.36	.00	95.36
LAKE OUTLET TEMP (F)	.00	85.57	.00	85.57

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	92.2	84.0
LAKE INLET TEMP (F)	128.0	106.0	94.4
LAKE OUTLET TEMP (F)	99.0	92.5	85.1

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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Case 06e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.4F @1200; power uprate;

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 7301900)	-.20 ( 7011900)	-.17	-1.02724E+01
TOTAL EVAP (CFS)	-.52 ( 7121900)	-5.34 ( 7101900)	-1.83	-1.09123E+02
NATURAL EVAP (CFS)	-.27 ( 7051900)	-4.09 ( 7101900)	-1.21	-7.19232E+01
FORCED EVAP (CFS)	-.14 ( 7011900)	-1.97 ( 7011900)	-.63	-3.71999E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.54 ( 7301900)	689.23	4.10120E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.39 ( 7011900)	75.49 ( 7201900)	84.48	5.02675E+03
LAKE INLET TEMP (F)	134.78 ( 7011900)	84.71 ( 7201900)	95.36	5.67428E+03
LAKE OUTLET TEMP (F)	99.97 ( 7011900)	76.02 ( 7201900)	85.57	5.09204E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	95.8	92.2	84.0
LAKE INLET TEMP (F)	128.0	106.0	94.4
LAKE OUTLET TEMP (F)	99.0	92.5	85.1

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Page : 1  
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Time : 11:15:45.39

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=96.8 F @ 1200; power uprat

1				
2	070100	073000	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	96.8	92.3		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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13.24				
12.73				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 2  
Date : 03/08/2000  
Time : 11:15:45.44

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 4  
Date : 03/08/2000  
Time : 11:15:45.44

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 03/08/2000  
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8.49  
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END

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
 Created : Mon Oct 27 08:45:58 1997

Page : 7  
 Date : 03/08/2000  
 Time : 11:15:45.83

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=96.8 F @ 1200; power uprat

RUN 30 DAYS FROM 70100 TO 73000  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 96.80 92.30

WEATHER STATION ID 0.

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Time : 11:15:45.83

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=96.8 F @ 1200; power uprat

FPLANT

70100 - 73000 R/I 86.000

TPRISE

70100 - 73000 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 11:15:45.94

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=96.8 F @ 1200; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.80	.00	-1.80
NATURAL EVAP (CFS)	.00	-1.18	.00	-1.18
FORCED EVAP (CFS)	.00	-.63	.00	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.23	.00	689.23
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.30	.00	84.30
LAKE INLET TEMP (F)	.00	95.11	.00	95.11
LAKE OUTLET TEMP (F)	.00	85.36	.00	85.36

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.0	91.7	84.1
LAKE INLET TEMP (F)	128.0	105.7	94.4
LAKE OUTLET TEMP (F)	99.0	92.6	85.2



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 11:15:45.94

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=96.8 F @ 1200; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.80	.00	-1.80
NATURAL EVAP (CFS)	.00	-1.18	.00	-1.18
FORCED EVAP (CFS)	.00	-.63	.00	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.23	.00	689.23
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.30	.00	84.30
LAKE INLET TEMP (F)	.00	95.11	.00	95.11
LAKE OUTLET TEMP (F)	.00	85.36	.00	85.36

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.0	91.7	84.1
LAKE INLET TEMP (F)	128.0	105.7	94.4
LAKE OUTLET TEMP (F)	99.0	92.6	85.2

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 03/08/2000  
 Time : 11:15:45.94

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=96.8 F @ 1200; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 7301900)	-.20 ( 7011900)	-.17	-9.88611E+00
TOTAL EVAP (CFS)	-.48 ( 7121900)	-5.39 ( 7101900)	-1.80	-1.07149E+02
NATURAL EVAP (CFS)	-.24 ( 7121900)	-4.15 ( 7101900)	-1.18	-6.99473E+01
FORCED EVAP (CFS)	-.14 ( 7011900)	-2.08 ( 7011900)	-.63	-3.72013E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	688.54 ( 7301900)	689.23	4.10121E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.58 ( 7011900)	73.46 ( 7201900)	84.30	5.01606E+03
LAKE INLET TEMP (F)	134.67 ( 7011900)	82.35 ( 7201900)	95.11	5.65925E+03
LAKE OUTLET TEMP (F)	99.97 ( 7011900)	73.54 ( 7201900)	85.36	5.07904E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.0	91.7	84.1
LAKE INLET TEMP (F)	128.0	105.7	94.4
LAKE OUTLET TEMP (F)	99.0	92.6	85.2

**Attachment C**  
**EXCEL Formulas**

EXCEL Formulas for Table 6.1 Determination of UHS Area-Capacity Profiles

1	F	G	H	I	J	K
2				with No Sediment		
3			Surface	Incremental	Total	
4	Elevation	Slice	Area	Volume	Volume	
5	(feet)	Number	(acres)	(acre-feet)	(acre-feet)	
6						
7						
8	675		0.0076		-	
9		15		$= (H8+H10+SQRT(H8*H10))/3$		
10	$=F8+1$		0.064		=I9	
11		14		$= (H10+H12+SQRT(H10*H12))/3$		
12	$=F10+1$		0.1857		=J10+I11	
13		13		$= (H12+H14+SQRT(H12*H14))/3$		
14	$=F12+1$		0.3263		=J12+I13	
15		12		=H14		
16		12 (Adj)	3.4397	$=H16*0.66$		
17		12 (Adj)		1.66		
18	$=F14+1$		5.1493		=J14+I15+I16+I17	
19		11		$= (H18+H20+SQRT(H18*H20))/3$		
20	$=F18+1$		6.327		=J18+I19	
21		10		$= (H20+H22+SQRT(H20*H22))/3$		
22	$=F20+1$		8.1173		=J20+I21	
23		9		$= (H22+H24+SQRT(H22*H24))/3$		
24	$=F22+1$		9.7301		=J22+I23	
25		8		$= (H24+H26+SQRT(H24*H26))/3$		
26	$=F24+1$		12.0857		=J24+I25	
27		7		$= (H26+H28+SQRT(H26*H28))/3$		
28	$=F26+1$		14.75		=J26+I27	
29		6		$= (H28+H31+SQRT(H28*H31))/3$		
30		6 (Adj)		-0.84		
31	$=F28+1$		29.6984		=J28+I29+I30	
32		5		=H31		
33		5 (Adj)	32.3376	$=H33*0.67$		
34		5 (Adj)		19.54		
35	$=F31+1$		77.3331		=J31+I32+I33+I34	
36		4		$= (H35+H37+SQRT(H35*H37))/3$		
37	$=F35+1$		78.9604		=J35+I36	
38		3		$= (H37+H39+SQRT(H37*H39))/3$		
39	$=F37+1$		80.5479		=J37+I38	
40		2		$= (H39+H41+SQRT(H39*H41))/3$		
41	$=F39+1$		82.1516		=J39+I40	
42		1		$= (H41+H43+SQRT(H41*H43))/3$		
43	$=F41+1$		83.8297		=J41+I42	
44						
45						
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						

EXCEL Formulas for Table 6.1 Determination of UHS Area-Capacity Profiles

1	L	M	N	O	P
2				with 0.5 feet of Sediment	
3			Surface	Incremental	Total
4	Elevation	Slice	Area	Volume	Volume
5	(feet)	Number	(acres)	(acre-feet)	(acre-feet)
7	0.5	=1-L7			
8	675.5		0.0076		
9		15		=(N8+N10+SQRT(N8*N10))/3	
10	=L8+1		0.064		=O9
11		14		=(N10+N12+SQRT(N10*N12))/3	
12	=L10+1		0.1857		=P10+O11
13		13		=(N12+N14+SQRT(N12*N14))/3	
14	=L12+1		0.3263		=P12+O13
15		12		=N14	
16		12 (Adj)	3.4397	=N16*0.66	
17		12 (Adj)		1.66	
18	=L14+1		5.1493		=P14+O15+O16+O17
19		11		=(N18+N20+SQRT(N18*N20))/3	
20	=L18+1		6.327		=P18+O19
21		10		=(N20+N22+SQRT(N20*N22))/3	
22	=L20+1		8.1173		=P20+O21
23		9		=(N22+N24+SQRT(N22*N24))/3	
24	=L22+1		9.7301		=P22+O23
25		8		=(N24+N26+SQRT(N24*N26))/3	
26	=L24+1		12.0857		=P24+O25
27		7		=(N26+N28+SQRT(N26*N28))/3	
28	=L26+1		14.75		=P26+O27
29		6		=(N28+N34+SQRT(N28*N34))/3	
30		6 (Adj)		-0.84	
31		(0.5)(6)		=(N28+N32+SQRT(N28*N32))*(L32-L28)/3	
32	686		=N28*(N34-N28)*(L32-L28)		=P28+O31
33		6&6		=(N32+N34+SQRT(N32*N34))*(L34-L32)/3+N34*(L38-L34)	
34	=L28+1		29.6984		=P28+O29+O30
35		5		=N34	
36		5 (Adj)	32.3376	=N36*0.67	
37		5 (Adj)		19.54	
38	=L32+1		=N34		=P32+O33+O30+0.2537*O36+0.5*O37
39		4&5		=N38*(L40-L38)*(N40+N42+SQRT(N40*N42))*(L42-L40)/3	
40	=L34+1		77.3331		=P34+O35+O36+O37
41		4		=(N40+N44+SQRT(N40*N44))/3	
42	=L38+1		=N40*(N44-N40)*(L42-L40)		=P38+O39+0.7463*O36+0.5*O37
43		3&4		=(N44+N46+SQRT(N44*N46))*(L46-L44)/3+(N42+N44+SQRT(N42*N44))*(L44-L42)/3	
44	=L40+1		78.9604		=P40+O41
45		3		=(N44+N48+SQRT(N44*N48))/3	
46	=L42+1		=N44*(N48-N44)*(L46-L44)		=P42+O43
47		2&3		=(N48+N50+SQRT(N48*N50))*(L50-L48)/3+(N46+N48+SQRT(N46*N48))*(L48-L46)/3	
48	=L44+1		80.5479		=P44+O45
49		2		=(N48+N51+SQRT(N48*N51))/3	
50	=L46+1		=N48*(N51-N48)*(L50-L48)		=P46+O47
51	=L48+1		82.1516		=P48+O49
52					
53					
54					
55					
56					
57					

EXCEL Formulas for Table 6.1 Determination of UHS Area-Capacity Profiles

1	Q	R	S	T	U	V
2	with 1 feet of Sediment					
3			Surface	Incremental	Total	
4	Elevation	Slice	Area	Volume	Volume	
5	(feet)	Number	(acres)	(acre-feet)	(acre-feet)	
6						
7						
8	676		0.0076			
9		15		$=(S8+S10+SQRT(S8*S10))/3$		
10	$=Q8+1$		0.064		$=T9$	
11		14		$=(S10+S12+SQRT(S10*S12))/3$		
12	$=Q10+1$		0.1857		$=U10+T11$	
13		13		$=(S12+S14+SQRT(S12*S14))/3$		
14	$=Q12+1$		0.3263		$=U12+T13$	
15		12		0.33		
16		12 (Adj)	3.4397	$=S16*0.66$		
17		12 (Adj)		1.66		
18	$=Q14+1$		5.1493		$=U14+T15+T16+T17$	
19		11		$=(S18+S20+SQRT(S18*S20))/3$		
20	$=Q18+1$		6.327		$=U18+T19$	
21		10		$=(S20+S22+SQRT(S20*S22))/3$		
22	$=Q20+1$		8.1173		$=U20+T21$	
23		9		$=(S22+S24+SQRT(S22*S24))/3$		
24	$=Q22+1$		9.7301		$=U22+T23$	
25		8		$=(S24+S26+SQRT(S24*S26))/3$		
26	$=Q24+1$		12.0857		$=U24+T25$	
27		7		$=(S26+S28+SQRT(S26*S28))/3$		
28	$=Q26+1$		14.75		$=U26+T27$	
29		6		$=(S28+S31+SQRT(S28*S31))/3$		
30		6 (Adj)		-0.84		
31			29.6984		$=U28+T29+T30$	
32	$=Q28+1$	5		29.7		
33		5 (Adj)	32.3376	$=S33*0.67$		
34	$=Q32+1$	5 (Adj)		19.54		
35			77.3331		$=U31+T32+T33+T34$	
36	$=Q34+1$	4		$=(S35+S37+SQRT(S35*S37))/3$		
37			78.9604		$=U35+T36$	
38	$=Q36+1$	3		$=(S37+S39+SQRT(S37*S39))/3$		
39			80.5479		$=U37+T38$	
40		2		$=(S39+S41+SQRT(S39*S41))/3$		
41			82.1516		$=U39+T40$	
42						
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EXCEL Formulas for Table 6.1 Determination of UHS Area-Capacity Profiles

1	W	X	Y	Z	AA
2				with 1.5 feet of Sediment	
3			Surface	Incremental	Total
4	Elevation	Slice	Area	Volume	Volume
5	(feet)	Number	(acres)	(acre-feet)	(acre-feet)
7	0.5	=1-W7			
8	676.5		0.0076		
9		15		=(Y8+Y10+SQRT(Y8*Y10))/3	
10	=W8+1		0.064		=Z9
11		14		=(Y10+Y12+SQRT(Y10*Y12))/3	
12	=W10+1		0.1857		=AA10+Z11
13		13		=(Y12+Y14+SQRT(Y12*Y14))/3	
14	=W12+1		0.3263		=AA12+Z13
15		12		=Y14	
16		12 (Adj)	3.4397	=Y16*0.66	
17		12 (Adj)		1.66	
18	=W14+1		5.1493		=AA14+Z15+Z16+Z17
19		11		=(Y18+Y20+SQRT(Y18*Y20))/3	
20	=W18+1		6.327		=AA18+Z19
21		10		=(Y20+Y22+SQRT(Y20*Y22))/3	
22	=W20+1		8.1173		=AA20+Z21
23		9		=(Y22+Y24+SQRT(Y22*Y24))/3	
24	=W22+1		9.7301		=AA22+Z23
25		8		=(Y24+Y26+SQRT(Y24*Y26))/3	
26	=W24+1		12.0857		=AA24+Z25
27		7		=(Y26+Y31+SQRT(Y26*Y31))/3	
28		(0.6)(7)		=(Y26+Y29+SQRT(Y26*Y29))*(W29-W26)/3	
29	685		=Y26+(Y31-Y26)*(W29-W26)		=AA26+Z28
30		6&7		=(Y29+Y31+SQRT(Y29*Y31))*(W31-W29)/3+(Y31+Y34+SQRT(Y31*Y34))*(W34-W31)/3	
31	=W26+1		14.75		=AA26+Z27
32		6		=(Y31+Y36+SQRT(Y31*Y36))/3	
33		6 (Adj)		-0.84	
34	=W29+1		=Y31+(Y36-Y31)*(W34-W31)		=AA29+Z30
35		6&6		=(Y34+Y36+SQRT(Y34*Y36))*(W36-W34)/3+Y36*(W40-W36)	
36	=W31+1		29.6984		=AA31+Z32+Z33
37		5		=Y36	
38		5 (Adj)	32.3376	=Y38*0.67	
39		5 (Adj)		19.54	
40	=W34+1		=Y36		=AA34+Z36+Z33+0.2637*Z38+0.5*Z39
41		4&5		=Y40*(W42-W40)+(Y42+Y44+SQRT(Y42*Y44))*(W44-W42)/3	
42	=W36+1		77.3331		=AA36+Z37+Z38+Z39
43		4		=(Y42+Y46+SQRT(Y42*Y46))/3	
44	=W40+1		=Y42+(Y46-Y42)*(W44-W42)		=AA40+Z41+0.7463*Z38+0.5*Z39
45		3&4		=(Y46+Y48+SQRT(Y46*Y48))*(W48-W46)/3+(Y44+Y46+SQRT(Y44*Y46))*(W46-W44)/3	
46	=W42+1		78.9604		=AA42+Z43
47		3		=(Y46+Y50+SQRT(Y46*Y50))/3	
48	=W44+1		=Y46+(Y50-Y46)*(W48-W46)		=AA44+Z45
49		2&3		=(Y50+Y52+SQRT(Y50*Y52))*(W52-W50)/3+(Y48+Y50+SQRT(Y48*Y50))*(W50-W48)/3	
50	=W46+1		80.5479		=AA46+Z47
51		2		=(Y50+Y53+SQRT(Y50*Y53))/3	
52	=W48+1		=Y50+(Y53-Y50)*(W52-W50)		=AA48+Z49
53	=W50+1		82.1516		=AA50+Z51
54					
55					
56					
57					









Excel Formulas for Table 7.2 Plant Temperature Rise

	A	B	C	D	E	F	G	H
	Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
3								
254	=B253	=B253+3	=D254/GS1/GS2	=E254/(B254-A254)	=F254-F253	=G254+H254	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B254)	=H254
255	=B254	=B254+3	=D255/GS1/GS2	=E255/(B255-A255)	=F255-F254	=G255+H255	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B255)	=H255
256	=B255	=B255+3	=D256/GS1/GS2	=E256/(B256-A256)	=F256-F255	=G256+H256	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B256)	=H256
257	=B256	=B256+3	=D257/GS1/GS2	=E257/(B257-A257)	=F257-F256	=G257+H257	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B257)	=H257
258	=B257	=B257+3	=D258/GS1/GS2	=E258/(B258-A258)	=F258-F257	=G258+H258	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B258)	=H258
259	=B258	=B258+3	=D259/GS1/GS2	=E259/(B259-A259)	=F259-F258	=G259+H259	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B259)	=H259
260	=B259	=B259+3	=D260/GS1/GS2	=E260/(B260-A260)	=F260-F259	=G260+H260	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B260)	=H260
261	=B260	=B260+3	=D261/GS1/GS2	=E261/(B261-A261)	=F261-F260	=G261+H261	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B261)	=H261
262	=B261	=B261+3	=D262/GS1/GS2	=E262/(B262-A262)	=F262-F261	=G262+H262	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B262)	=H262
263	=B262	=B262+3	=D263/GS1/GS2	=E263/(B263-A263)	=F263-F262	=G263+H263	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B263)	=H263
264	=B263	=B263+3	=D264/GS1/GS2	=E264/(B264-A264)	=F264-F263	=G264+H264	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B264)	=H264
265	=B264	=B264+3	=D265/GS1/GS2	=E265/(B265-A265)	=F265-F264	=G265+H265	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B265)	=H265
266	=B265	=B265+3	=D266/GS1/GS2	=E266/(B266-A266)	=F266-F265	=G266+H266	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B266)	=H266
267	=B266	=B266+3	=D267/GS1/GS2	=E267/(B267-A267)	=F267-F266	=G267+H267	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B267)	=H267
268	=B267	=B267+3	=D268/GS1/GS2	=E268/(B268-A268)	=F268-F267	=G268+H268	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B268)	=H268
269	=B268	=B268+3	=D269/GS1/GS2	=E269/(B269-A269)	=F269-F268	=G269+H269	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B269)	=H269
270	=B269	=B269+3	=D270/GS1/GS2	=E270/(B270-A270)	=F270-F269	=G270+H270	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B270)	=H270
271	=B270	=B270+3	=D271/GS1/GS2	=E271/(B271-A271)	=F271-F270	=G271+H271	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B271)	=H271
272	=B271	=B271+3	=D272/GS1/GS2	=E272/(B272-A272)	=F272-F271	=G272+H272	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B272)	=H272
273	=B272	=B272+3	=D273/GS1/GS2	=E273/(B273-A273)	=F273-F272	=G273+H273	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B273)	=H273
274	=B273	=B273+3	=D274/GS1/GS2	=E274/(B274-A274)	=F274-F273	=G274+H274	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B274)	=H274
275	=B274	=B274+3	=D275/GS1/GS2	=E275/(B275-A275)	=F275-F274	=G275+H275	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B275)	=H275
276	=B275	=B275+3	=D276/GS1/GS2	=E276/(B276-A276)	=F276-F275	=G276+H276	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B276)	=H276
277	=B276	=B276+3	=D277/GS1/GS2	=E277/(B277-A277)	=F277-F276	=G277+H277	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B277)	=H277
278	=B277	=B277+3	=D278/GS1/GS2	=E278/(B278-A278)	=F278-F277	=G278+H278	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B278)	=H278
279	=B278	=B278+3	=D279/GS1/GS2	=E279/(B279-A279)	=F279-F278	=G279+H279	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B279)	=H279
280	=B279	=B279+3	=D280/GS1/GS2	=E280/(B280-A280)	=F280-F279	=G280+H280	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B280)	=H280
281	=B280	=B280+3	=D281/GS1/GS2	=E281/(B281-A281)	=F281-F280	=G281+H281	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B281)	=H281
282	=B281	=B281+3	=D282/GS1/GS2	=E282/(B282-A282)	=F282-F281	=G282+H282	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B282)	=H282
283	=B282	=B282+3	=D283/GS1/GS2	=E283/(B283-A283)	=F283-F282	=G283+H283	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B283)	=H283
284	=B283	=B283+3	=D284/GS1/GS2	=E284/(B284-A284)	=F284-F283	=G284+H284	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B284)	=H284
285	=B284	=B284+3	=D285/GS1/GS2	=E285/(B285-A285)	=F285-F284	=G285+H285	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B285)	=H285
286	=B285	=B285+3	=D286/GS1/GS2	=E286/(B286-A286)	=F286-F285	=G286+H286	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B286)	=H286
287	=B286	=B286+3	=D287/GS1/GS2	=E287/(B287-A287)	=F287-F286	=G287+H287	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B287)	=H287
288	=B287	=B287+3	=D288/GS1/GS2	=E288/(B288-A288)	=F288-F287	=G288+H288	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B288)	=H288
289	=B288	=B288+3	=D289/GS1/GS2	=E289/(B289-A289)	=F289-F288	=G289+H289	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B289)	=H289
290	=B289	=B289+3	=D290/GS1/GS2	=E290/(B290-A290)	=F290-F289	=G290+H290	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B290)	=H290
291	=B290	=B290+3	=D291/GS1/GS2	=E291/(B291-A291)	=F291-F290	=G291+H291	=sinterp2("Total", "Total", "B2:B73", "D2:D73", ROWS(\$B\$2:\$B\$73), B291)	=H290
292								
293			Average Heat Load	=(AVERAGE(D4:D291))				

Excel Formulas for Table 7.2 Plant Temperature Rise

	A	B	C	D	E	F
1	Time (seconds)	Time (hours)	Combined Generated Heat Load (Btu/hr)	Integrated Generated Heat (Btu)	Sensible Heat Available (Btu)	Total Heat Available (Btu)
2	0	0	2.44E+10	0.00E+00	1.22E+09	1.22E+09
3	1.00E-01	2.78E-05	2.42E+10	6.75E+05	1.22E+09	1.22E+09
4	1.50E-01	4.17E-05	2.35E+10	1.01E+06	1.22E+09	1.22E+09
5	2.00E-01	5.56E-05	2.28E+10	1.33E+06	1.22E+09	1.22E+09
6	4.00E-01	1.11E-04	1.83E+10	2.47E+06	1.22E+09	1.22E+09
7	6.00E-01	1.67E-04	1.45E+10	3.38E+06	1.22E+09	1.22E+09
8	8.00E-01	2.22E-04	1.21E+10	4.12E+06	1.22E+09	1.22E+09
9	1.00E+00	2.78E-04	8.35E+09	4.68E+06	1.22E+09	1.22E+09
10	1.50E+00	4.17E-04	6.11E+09	5.69E+06	1.22E+09	1.22E+09
11	2.00E+00	5.56E-04	3.88E+09	6.38E+06	1.22E+09	1.23E+09
12	4.00E+00	1.11E-03	1.91E+09	7.99E+06	1.22E+09	1.23E+09
13	6.00E+00	1.67E-03	1.60E+09	8.97E+06	1.22E+09	1.23E+09
14	8.00E+00	2.22E-03	1.50E+09	9.83E+06	1.22E+09	1.23E+09
15	1.00E+01	2.78E-03	1.40E+09	1.06E+07	1.22E+09	1.23E+09
16	1.50E+01	4.17E-03	1.30E+09	1.25E+07	1.22E+09	1.23E+09
17	2.00E+01	5.56E-03	1.23E+09	1.43E+07	1.22E+09	1.23E+09
18	4.00E+01	1.11E-02	1.09E+09	2.07E+07	1.22E+09	1.24E+09
19	6.00E+01	1.67E-02	1.02E+09	2.66E+07	1.22E+09	1.25E+09
20	8.00E+01	2.22E-02	9.66E+08	3.21E+07	1.22E+09	1.25E+09
21	1.00E+02	2.78E-02	9.45E+08	3.74E+07	1.22E+09	1.26E+09
22	1.50E+02	4.17E-02	8.71E+08	5.00E+07	1.22E+09	1.27E+09
23	2.00E+02	5.56E-02	8.31E+08	6.18E+07	1.22E+09	1.28E+09
24	4.00E+02	1.11E-01	7.44E+08	1.06E+08	1.22E+09	1.32E+09
25	6.00E+02	1.67E-01	6.95E+08	1.46E+08	1.22E+09	1.36E+09
26	8.00E+02	2.22E-01	6.59E+08	1.83E+08	1.22E+09	1.40E+09
27	1.00E+03	2.78E-01	6.30E+08	2.19E+08	1.22E+09	1.44E+09
28	1.50E+03	4.17E-01	5.77E+08	3.03E+08	1.22E+09	1.52E+09
29	2.00E+03	5.56E-01	5.39E+08	3.80E+08	1.22E+09	1.60E+09
30	4.00E+03	1.11E+00	4.57E+08	6.57E+08	1.22E+09	1.88E+09
31	6.00E+03	1.67E+00	4.18E+08	9.00E+08	1.22E+09	2.12E+09
32	8.00E+03	2.22E+00	3.95E+08	1.13E+09	1.22E+09	2.34E+09
33	1.00E+04	2.78E+00	3.79E+08	1.34E+09	1.22E+09	2.56E+09
34	1.50E+04	4.17E+00	3.53E+08	1.85E+09	1.22E+09	3.07E+09
35	2.00E+04	5.56E+00	3.37E+08	2.33E+09	1.22E+09	3.55E+09
36	4.00E+04	1.11E+01	3.03E+08	4.11E+09	1.22E+09	5.33E+09
37	6.00E+04	1.67E+01	2.85E+08	5.74E+09	1.22E+09	6.96E+09
38	8.00E+04	2.22E+01	2.73E+08	7.29E+09	1.22E+09	8.51E+09
39	8.64E+04	2.40E+01	2.70E+08	7.77E+09	1.22E+09	8.99E+09
40	1.00E+05	2.78E+01	2.64E+08	8.78E+09	1.22E+09	1.00E+10
41	1.50E+05	4.17E+01	2.47E+08	1.23E+10	1.22E+09	1.35E+10
42	1.78E+05	4.94E+01	2.42E+08	1.42E+10	1.22E+09	1.54E+10
43	2.00E+05	5.56E+01	2.36E+08	1.57E+10	1.22E+09	1.69E+10
44	2.59E+05	7.19E+01	2.26E+08	1.95E+10	1.22E+09	2.07E+10
45	3.46E+05	9.61E+01	2.15E+08	2.48E+10	1.22E+09	2.60E+10
46	4.00E+05	1.11E+02	2.10E+08	2.80E+10	1.22E+09	2.92E+10

Excel Formulas for Table 7.2 Plant Temperature Rise

	A	B	C	D	E	F
1	Time (seconds)	Time (hours)	Combined Generated Heat Load (Btu/hr)	Integrated Generated Heat (Btu)	Sensible Heat Available (Btu)	Total Heat Available (Btu)
47	4.32E+05	1.20E+02	2.07E+08	2.98E+10	1.22E+09	3.11E+10
48	6.00E+05	1.67E+02	1.96E+08	3.93E+10	1.22E+09	4.05E+10
49	8.00E+05	2.22E+02	1.87E+08	4.99E+10	1.22E+09	5.11E+10
50	8.64E+05	2.40E+02	1.85E+08	5.32E+10	1.22E+09	5.44E+10
51	1.00E+06	2.78E+02	1.81E+08	6.01E+10	1.22E+09	6.14E+10
52	1.50E+06	4.17E+02	1.72E+08	8.46E+10	1.22E+09	8.59E+10
53	1.73E+06	4.81E+02	1.68E+08	9.55E+10	1.22E+09	9.67E+10
54	2.00E+06	5.56E+02	1.65E+08	1.08E+11	1.22E+09	1.09E+11
55	2.59E+06	7.19E+02	1.60E+08	1.35E+11	1.22E+09	1.36E+11
56	3.46E+06	9.61E+02	1.55E+08	1.73E+11	1.22E+09	1.74E+11
57	4.00E+06	1.11E+03	1.53E+08	1.96E+11	1.22E+09	1.97E+11
58	4.32E+06	1.20E+03	1.52E+08	2.09E+11	1.22E+09	2.11E+11
59	6.00E+06	1.67E+03	1.47E+08	2.79E+11	1.22E+09	2.80E+11
60	8.00E+06	2.22E+03	1.43E+08	3.60E+11	1.22E+09	3.61E+11
61	1.00E+07	2.78E+03	1.41E+08	4.38E+11	1.22E+09	4.40E+11
62	1.50E+07	4.17E+03	1.36E+08	6.30E+11	1.22E+09	6.32E+11
63	2.00E+07	5.56E+03	1.33E+08	8.18E+11	1.22E+09	8.19E+11
64	4.00E+07	1.11E+04	1.28E+08	1.54E+12	1.22E+09	1.54E+12
65	6.00E+07	1.67E+04	1.26E+08	2.25E+12	1.22E+09	2.25E+12
66	8.00E+07	2.22E+04	1.24E+08	2.94E+12	1.22E+09	2.94E+12
67	1.00E+08	2.78E+04	1.23E+08	3.63E+12	1.22E+09	3.63E+12
68	1.50E+08	4.17E+04	1.22E+08	5.33E+12	1.22E+09	5.33E+12
69	2.00E+08	5.56E+04	1.21E+08	7.01E+12	1.22E+09	7.01E+12
70	4.00E+08	1.11E+05	1.20E+08	1.37E+13	1.22E+09	1.37E+13
71	6.00E+08	1.67E+05	1.20E+08	2.04E+13	1.22E+09	2.04E+13
72	8.00E+08	2.22E+05	1.20E+08	2.71E+13	1.22E+09	2.71E+13
73	1.00E+09	2.78E+05	1.20E+08	3.38E+13		

## Excel Formulas for Table 7.2 Plant Temperature Rise

Interpolation - 1

Function sinterp(XSHEET, YSHEET, XRANGE, YRANGE, XYLEN, X)

```
'
  Set XARRAY = Worksheets(XSHEET).Range(XRANGE)
  Set YARRAY = Worksheets(YSHEET).Range(YRANGE)
' Check to ensure that the x value is within the data range.
If X < XARRAY(0) Or X > XARRAY(XYLEN) Then
  sinterp = "x value out of range"
End If
' The following code finds the bounding x values.
  i = 0
  Found = False
  If X = XARRAY(XYLEN) Then
    xrow = XYLEN - 1
    Found = True
  End If
  Do Until Found = True
    If X >= XARRAY(i) And X < XARRAY(i + 1) Then
      xrow = i
      Found = True
    End If

    i = i + 1
  Loop

' The following expression finds the ratio of the x value inputs
' to the bounding values from the data array.
  xratio = (X - XARRAY(xrow)) / (XARRAY(xrow + 1) - XARRAY(xrow))
' The following expression interpolates the y value data based on the
' x value input.
  sinterp = YARRAY(xrow) + xratio * (YARRAY(xrow + 1) - YARRAY(xrow))
End Function
```

SINTERP2.XLA

Equations for UHS Heat Load Plot

A	B	C	D	E	F
1	0			0	24500
2	1	$=((F1+F2)*(E2-E1)+(F2+F3)*(E3-E2)+(F3+F4)*(E4-E3)+(F4+F5)*(E5-E4)+(F5+F6)*(E6-E5)+(F6+F7)*(E7-E6)+(F7+F8)*(E8-E7)+(F8+F9)*(E9-E8)+(F8+F9)*(E9-E8))/2$	=C2/3	0.0000277777777778	24300
3	1	$=(F9+F10)*3/2$	=C3/3	0.000277777777778	8560
4	1	$=(F10+F11)*(E11-E10)+(F11+F12)*(E12-E11))/2$	=C4/3	0.000555555555556	4080
5	1	$=(F12+F13)*3/2$	=C5/3	0.0027777777778	1600
6	1	$=(F13+F14)*3/2$	=C6/3	0.027777777778	1150
7	1	$=(F14+F15)*3/2$	=C7/3	0.2777777778	833
8	1	$=(F15+F16)*3/2$	=C8/3	2.777777778	583
9	1	$=(F16+F17)*3/2$	=C9/3	3	$=F8-(F8-F10)*(E9-E8)/(E10-E8)$
10	2	$=(F17+F18)*3/2$	=C10/3	6	568
11	2	$=(F18+F19)*(E19-E18)+(F19+F20)*(E20-E19))/2$	=C11/3	6.01	365
12	2	$=(F20+F21)*3/2$	=C12/3	9	$=F\$11-(F\$11-F\$19)*(E12-E\$11)/(E\$19-E\$11)$
13	2	$=(F21+F22)*3/2$	=C13/3	=E12+3	$=F\$11-(F\$11-F\$19)*(E13-E\$11)/(E\$19-E\$11)$
14	2	$=(F22+F23)*3/2$	=C14/3	=E13+3	$=F\$11-(F\$11-F\$19)*(E14-E\$11)/(E\$19-E\$11)$
15	2	$=(F23+F24)*3/2$	=C15/3	=E14+3	$=F\$11-(F\$11-F\$19)*(E15-E\$11)/(E\$19-E\$11)$
16	2	$=(F24+F25)*3/2$	=C16/3	=E15+3	$=F\$11-(F\$11-F\$19)*(E16-E\$11)/(E\$19-E\$11)$
17	2	$=(F25+F26)*3/2$	=C17/3	=E16+3	$=F\$11-(F\$11-F\$19)*(E17-E\$11)/(E\$19-E\$11)$
18	3	$=(F26+F27)*3/2$	=C18/3	=E17+3	$=F\$11-(F\$11-F\$19)*(E18-E\$11)/(E\$19-E\$11)$
19	3	$=(F27+F28)*3/2$	=C19/3	27.77777778	264
20	3	$=(F28+F29)*(E29-E28)+(F29+F30)*(E30-E29))/2$	=C20/3	=E18+3	$=F\$19-(F\$19-F\$29)*(E20-E\$19)/(E\$29-E\$19)$
21	3	$=(F30+F31)*3/2$	=C21/3	=E20+3	$=F\$19-(F\$19-F\$29)*(E21-E\$19)/(E\$29-E\$19)$
22	3	$=(F31+F32)*3/2$	=C22/3	=E21+3	$=F\$19-(F\$19-F\$29)*(E22-E\$19)/(E\$29-E\$19)$
23	3	$=(F32+F33)*3/2$	=C23/3	=E22+3	$=F\$19-(F\$19-F\$29)*(E23-E\$19)/(E\$29-E\$19)$
24	3	$=(F33+F34)*3/2$	=C24/3	=E23+3	$=F\$19-(F\$19-F\$29)*(E24-E\$19)/(E\$29-E\$19)$
25	3	$=(F34+F35)*3/2$	=C25/3	=E24+3	$=F\$19-(F\$19-F\$29)*(E25-E\$19)/(E\$29-E\$19)$
26	4	$=(F35+F36)*3/2$	=C26/3	=E25+3	$=F\$19-(F\$19-F\$29)*(E26-E\$19)/(E\$29-E\$19)$
27	4	$=(F36+F37)*3/2$	=C27/3	=E26+3	$=F\$19-(F\$19-F\$29)*(E27-E\$19)/(E\$29-E\$19)$
28	4	$=(F37+F38)*3/2$	=C28/3	=E27+3	$=F\$19-(F\$19-F\$29)*(E28-E\$19)/(E\$29-E\$19)$
29	4	$=(F38+F39)*3/2$	=C29/3	55.555555556	236
30	4	$=(F39+F40)*3/2$	=C30/3	=E28+3	$=F\$29-(F\$29-F\$67)*(E30-E\$29)/(E\$67-E\$29)$
31	4	$=(F40+F41)*3/2$	=C31/3	=E30+3	$=F\$29-(F\$29-F\$67)*(E31-E\$29)/(E\$67-E\$29)$
32	4	$=(F41+F42)*3/2$	=C32/3	=E31+3	$=F\$29-(F\$29-F\$67)*(E32-E\$29)/(E\$67-E\$29)$
33	4	$=(F42+F43)*3/2$	=C33/3	=E32+3	$=F\$29-(F\$29-F\$67)*(E33-E\$29)/(E\$67-E\$29)$
34	5	$=(F43+F44)*3/2$	=C34/3	=E33+3	$=F\$29-(F\$29-F\$67)*(E34-E\$29)/(E\$67-E\$29)$
35	5	$=(F44+F45)*3/2$	=C35/3	=E34+3	$=F\$29-(F\$29-F\$67)*(E35-E\$29)/(E\$67-E\$29)$
36	5	$=(F45+F46)*3/2$	=C36/3	=E35+3	$=F\$29-(F\$29-F\$67)*(E36-E\$29)/(E\$67-E\$29)$
37	5	$=(F46+F47)*3/2$	=C37/3	=E36+3	$=F\$29-(F\$29-F\$67)*(E37-E\$29)/(E\$67-E\$29)$
38	5	$=(F47+F48)*3/2$	=C38/3	=E37+3	$=F\$29-(F\$29-F\$67)*(E38-E\$29)/(E\$67-E\$29)$
39	5	$=(F48+F49)*3/2$	=C39/3	=E38+3	$=F\$29-(F\$29-F\$67)*(E39-E\$29)/(E\$67-E\$29)$
40	5	$=(F49+F50)*3/2$	=C40/3	=E39+3	$=F\$29-(F\$29-F\$67)*(E40-E\$29)/(E\$67-E\$29)$
41	5	$=(F50+F51)*3/2$	=C41/3	=E40+3	$=F\$29-(F\$29-F\$67)*(E41-E\$29)/(E\$67-E\$29)$
42	6	$=(F51+F52)*3/2$	=C42/3	=E41+3	$=F\$29-(F\$29-F\$67)*(E42-E\$29)/(E\$67-E\$29)$
43	6	$=(F52+F53)*3/2$	=C43/3	=E42+3	$=F\$29-(F\$29-F\$67)*(E43-E\$29)/(E\$67-E\$29)$
44	6	$=(F53+F54)*3/2$	=C44/3	=E43+3	$=F\$29-(F\$29-F\$67)*(E44-E\$29)/(E\$67-E\$29)$
45	6	$=(F54+F55)*3/2$	=C45/3	=E44+3	$=F\$29-(F\$29-F\$67)*(E45-E\$29)/(E\$67-E\$29)$
46	6	$=(F55+F56)*3/2$	=C46/3	=E45+3	$=F\$29-(F\$29-F\$67)*(E46-E\$29)/(E\$67-E\$29)$
47	6	$=(F56+F57)*3/2$	=C47/3	=E46+3	$=F\$29-(F\$29-F\$67)*(E47-E\$29)/(E\$67-E\$29)$
48	6	$=(F57+F58)*3/2$	=C48/3	=E47+3	$=F\$29-(F\$29-F\$67)*(E48-E\$29)/(E\$67-E\$29)$
49	6	$=(F58+F59)*3/2$	=C49/3	=E48+3	$=F\$29-(F\$29-F\$67)*(E49-E\$29)/(E\$67-E\$29)$
50	7	$=(F59+F60)*3/2$	=C50/3	=E49+3	$=F\$29-(F\$29-F\$67)*(E50-E\$29)/(E\$67-E\$29)$
51	7	$=(F60+F61)*3/2$	=C51/3	=E50+3	$=F\$29-(F\$29-F\$67)*(E51-E\$29)/(E\$67-E\$29)$
52	7	$=(F61+F62)*3/2$	=C52/3	=E51+3	$=F\$29-(F\$29-F\$67)*(E52-E\$29)/(E\$67-E\$29)$
53	7	$=(F62+F63)*3/2$	=C53/3	=E52+3	$=F\$29-(F\$29-F\$67)*(E53-E\$29)/(E\$67-E\$29)$
54	7	$=(F63+F64)*3/2$	=C54/3	=E53+3	$=F\$29-(F\$29-F\$67)*(E54-E\$29)/(E\$67-E\$29)$
55	7	$=(F64+F65)*3/2$	=C55/3	=E54+3	$=F\$29-(F\$29-F\$67)*(E55-E\$29)/(E\$67-E\$29)$
56	7	$=(F65+F66)*3/2$	=C56/3	=E55+3	$=F\$29-(F\$29-F\$67)*(E56-E\$29)/(E\$67-E\$29)$
57	7	$=(F66+F67)*(E67-E66)+(F67+F68)*(E68-E67))/2$	=C57/3	=E56+3	$=F\$29-(F\$29-F\$67)*(E57-E\$29)/(E\$67-E\$29)$
58	8	$=(F68+F69)*3/2$	=C58/3	=E57+3	$=F\$29-(F\$29-F\$67)*(E58-E\$29)/(E\$67-E\$29)$
59	8	$=(F69+F70)*3/2$	=C59/3	=E58+3	$=F\$29-(F\$29-F\$67)*(E59-E\$29)/(E\$67-E\$29)$
60	8	$=(F70+F71)*3/2$	=C60/3	=E59+3	$=F\$29-(F\$29-F\$67)*(E60-E\$29)/(E\$67-E\$29)$
61	8	$=(F71+F72)*3/2$	=C61/3	=E60+3	$=F\$29-(F\$29-F\$67)*(E61-E\$29)/(E\$67-E\$29)$
62	8	$=(F72+F73)*3/2$	=C62/3	=E61+3	$=F\$29-(F\$29-F\$67)*(E62-E\$29)/(E\$67-E\$29)$
63	8	$=(F73+F74)*3/2$	=C63/3	=E62+3	$=F\$29-(F\$29-F\$67)*(E63-E\$29)/(E\$67-E\$29)$
64	8	$=(F74+F75)*3/2$	=C64/3	=E63+3	$=F\$29-(F\$29-F\$67)*(E64-E\$29)/(E\$67-E\$29)$
65	8	$=(F75+F76)*3/2$	=C65/3	=E64+3	$=F\$29-(F\$29-F\$67)*(E65-E\$29)/(E\$67-E\$29)$
66	9	$=(F76+F77)*3/2$	=C66/3	=E65+3	$=F\$29-(F\$29-F\$67)*(E66-E\$29)/(E\$67-E\$29)$
67	9	$=(F77+F78)*3/2$	=C67/3	166.6666667	196
68	9	$=(F78+F79)*3/2$	=C68/3	=E66+3	$=F\$67-(F\$67-F\$105)*(E68-E\$67)/(E\$105-E\$67)$
69	9	$=(F79+F80)*3/2$	=C69/3	=E68+3	$=F\$67-(F\$67-F\$105)*(E69-E\$67)/(E\$105-E\$67)$
70	9	$=(F80+F81)*3/2$	=C70/3	=E69+3	$=F\$67-(F\$67-F\$105)*(E70-E\$67)/(E\$105-E\$67)$
71	9	$=(F81+F82)*3/2$	=C71/3	=E70+3	$=F\$67-(F\$67-F\$105)*(E71-E\$67)/(E\$105-E\$67)$
72	9	$=(F82+F83)*3/2$	=C72/3	=E71+3	$=F\$67-(F\$67-F\$105)*(E72-E\$67)/(E\$105-E\$67)$
73	9	$=(F83+F84)*3/2$	=C73/3	=E72+3	$=F\$67-(F\$67-F\$105)*(E73-E\$67)/(E\$105-E\$67)$
74	10	$=(F84+F85)*3/2$	=C74/3	=E73+3	$=F\$67-(F\$67-F\$105)*(E74-E\$67)/(E\$105-E\$67)$
75	10	$=(F85+F86)*3/2$	=C75/3	=E74+3	$=F\$67-(F\$67-F\$105)*(E75-E\$67)/(E\$105-E\$67)$
76	10	$=(F86+F87)*3/2$	=C76/3	=E75+3	$=F\$67-(F\$67-F\$105)*(E76-E\$67)/(E\$105-E\$67)$
77	10	$=(F87+F88)*3/2$	=C77/3	=E76+3	$=F\$67-(F\$67-F\$105)*(E77-E\$67)/(E\$105-E\$67)$



Equations for UHS Heat Load Plot

	A	B	C	D	E	F
78	10	=B77+3	=(F88+F89)*3/2	=C78/3	=E77+3	=F\$67-(F\$67-F\$105)*(E78-E\$67)/(E\$105-E\$67)
79	10	=B78+3	=(F89+F90)*3/2	=C79/3	=E78+3	=F\$67-(F\$67-F\$105)*(E79-E\$67)/(E\$105-E\$67)
80	10	=B79+3	=(F90+F91)*3/2	=C80/3	=E79+3	=F\$67-(F\$67-F\$105)*(E80-E\$67)/(E\$105-E\$67)
81	10	=B80+3	=(F91+F92)*3/2	=C81/3	=E80+3	=F\$67-(F\$67-F\$105)*(E81-E\$67)/(E\$105-E\$67)
82	11	=B81+3	=(F92+F93)*3/2	=C82/3	=E81+3	=F\$67-(F\$67-F\$105)*(E82-E\$67)/(E\$105-E\$67)
83	11	=B82+3	=(F93+F94)*3/2	=C83/3	=E82+3	=F\$67-(F\$67-F\$105)*(E83-E\$67)/(E\$105-E\$67)
84	11	=B83+3	=(F94+F95)*3/2	=C84/3	=E83+3	=F\$67-(F\$67-F\$105)*(E84-E\$67)/(E\$105-E\$67)
85	11	=B84+3	=(F95+F96)*3/2	=C85/3	=E84+3	=F\$67-(F\$67-F\$105)*(E85-E\$67)/(E\$105-E\$67)
86	11	=B85+3	=(F96+F97)*3/2	=C86/3	=E85+3	=F\$67-(F\$67-F\$105)*(E86-E\$67)/(E\$105-E\$67)
87	11	=B86+3	=(F97+F98)*3/2	=C87/3	=E86+3	=F\$67-(F\$67-F\$105)*(E87-E\$67)/(E\$105-E\$67)
88	11	=B87+3	=(F98+F99)*3/2	=C88/3	=E87+3	=F\$67-(F\$67-F\$105)*(E88-E\$67)/(E\$105-E\$67)
89	11	=B88+3	=(F99+F100)*3/2	=C89/3	=E88+3	=F\$67-(F\$67-F\$105)*(E89-E\$67)/(E\$105-E\$67)
90	12	=B89+3	=(F100+F101)*3/2	=C90/3	=E89+3	=F\$67-(F\$67-F\$105)*(E90-E\$67)/(E\$105-E\$67)
91	12	=B90+3	=(F101+F102)*3/2	=C91/3	=E90+3	=F\$67-(F\$67-F\$105)*(E91-E\$67)/(E\$105-E\$67)
92	12	=B91+3	=(F102+F103)*3/2	=C92/3	=E91+3	=F\$67-(F\$67-F\$105)*(E92-E\$67)/(E\$105-E\$67)
93	12	=B92+3	=(F103+F104)*3/2	=C93/3	=E92+3	=F\$67-(F\$67-F\$105)*(E93-E\$67)/(E\$105-E\$67)
94	12	=B93+3	=(F104+F105)*(E105-E104)+(F105+F106)*(E106-E105)/2	=C94/3	=E93+3	=F\$67-(F\$67-F\$105)*(E94-E\$67)/(E\$105-E\$67)
95	12	=B94+3	=(F106+F107)*3/2	=C95/3	=E94+3	=F\$67-(F\$67-F\$105)*(E95-E\$67)/(E\$105-E\$67)
96	12	=B95+3	=(F107+F108)*3/2	=C96/3	=E95+3	=F\$67-(F\$67-F\$105)*(E96-E\$67)/(E\$105-E\$67)
97	12	=B96+3	=(F108+F109)*3/2	=C97/3	=E96+3	=F\$67-(F\$67-F\$105)*(E97-E\$67)/(E\$105-E\$67)
98	13	=B97+3	=(F109+F110)*3/2	=C98/3	=E97+3	=F\$67-(F\$67-F\$105)*(E98-E\$67)/(E\$105-E\$67)
99	13	=B98+3	=(F110+F111)*3/2	=C99/3	=E98+3	=F\$67-(F\$67-F\$105)*(E99-E\$67)/(E\$105-E\$67)
100	13	=B99+3	=(F111+F112)*3/2	=C100/3	=E99+3	=F\$67-(F\$67-F\$105)*(E100-E\$67)/(E\$105-E\$67)
101	13	=B100+3	=(F112+F113)*3/2	=C101/3	=E100+3	=F\$67-(F\$67-F\$105)*(E101-E\$67)/(E\$105-E\$67)
102	13	=B101+3	=(F113+F114)*3/2	=C102/3	=E101+3	=F\$67-(F\$67-F\$105)*(E102-E\$67)/(E\$105-E\$67)
103	13	=B102+3	=(F114+F115)*3/2	=C103/3	=E102+3	=F\$67-(F\$67-F\$105)*(E103-E\$67)/(E\$105-E\$67)
104	13	=B103+3	=(F115+F116)*3/2	=C104/3	=E103+3	=F\$67-(F\$67-F\$105)*(E104-E\$67)/(E\$105-E\$67)
105	14	=B104+3	=(F116+F117)*3/2	=C105/3	277.7777778	181
106	14	=B105+3	=(F117+F118)*3/2	=C106/3	=E104+3	=F\$105-(F\$105-F\$199)*(E106-E\$105)/(E\$199-E\$105)
107	14	=B106+3	=(F118+F119)*3/2	=C107/3	=E106+3	=F\$105-(F\$105-F\$199)*(E107-E\$105)/(E\$199-E\$105)
108	14	=B107+3	=(F119+F120)*3/2	=C108/3	=E107+3	=F\$105-(F\$105-F\$199)*(E108-E\$105)/(E\$199-E\$105)
109	14	=B108+3	=(F120+F121)*3/2	=C109/3	=E108+3	=F\$105-(F\$105-F\$199)*(E109-E\$105)/(E\$199-E\$105)
110	14	=B109+3	=(F121+F122)*3/2	=C110/3	=E109+3	=F\$105-(F\$105-F\$199)*(E110-E\$105)/(E\$199-E\$105)
111	14	=B110+3	=(F122+F123)*3/2	=C111/3	=E110+3	=F\$105-(F\$105-F\$199)*(E111-E\$105)/(E\$199-E\$105)
112	14	=B111+3	=(F123+F124)*3/2	=C112/3	=E111+3	=F\$105-(F\$105-F\$199)*(E112-E\$105)/(E\$199-E\$105)
113	14	=B112+3	=(F124+F125)*3/2	=C113/3	=E112+3	=F\$105-(F\$105-F\$199)*(E113-E\$105)/(E\$199-E\$105)
114	15	=B113+3	=(F125+F126)*3/2	=C114/3	=E113+3	=F\$105-(F\$105-F\$199)*(E114-E\$105)/(E\$199-E\$105)
115	15	=B114+3	=(F126+F127)*3/2	=C115/3	=E114+3	=F\$105-(F\$105-F\$199)*(E115-E\$105)/(E\$199-E\$105)
116	15	=B115+3	=(F127+F128)*3/2	=C116/3	=E115+3	=F\$105-(F\$105-F\$199)*(E116-E\$105)/(E\$199-E\$105)
117	15	=B116+3	=(F128+F129)*3/2	=C117/3	=E116+3	=F\$105-(F\$105-F\$199)*(E117-E\$105)/(E\$199-E\$105)
118	15	=B117+3	=(F129+F130)*3/2	=C118/3	=E117+3	=F\$105-(F\$105-F\$199)*(E118-E\$105)/(E\$199-E\$105)
119	15	=B118+3	=(F130+F131)*3/2	=C119/3	=E118+3	=F\$105-(F\$105-F\$199)*(E119-E\$105)/(E\$199-E\$105)
120	15	=B119+3	=(F131+F132)*3/2	=C120/3	=E119+3	=F\$105-(F\$105-F\$199)*(E120-E\$105)/(E\$199-E\$105)
121	15	=B120+3	=(F132+F133)*3/2	=C121/3	=E120+3	=F\$105-(F\$105-F\$199)*(E121-E\$105)/(E\$199-E\$105)
122	16	=B121+3	=(F133+F134)*3/2	=C122/3	=E121+3	=F\$105-(F\$105-F\$199)*(E122-E\$105)/(E\$199-E\$105)
123	16	=B122+3	=(F134+F135)*3/2	=C123/3	=E122+3	=F\$105-(F\$105-F\$199)*(E123-E\$105)/(E\$199-E\$105)
124	16	=B123+3	=(F135+F136)*3/2	=C124/3	=E123+3	=F\$105-(F\$105-F\$199)*(E124-E\$105)/(E\$199-E\$105)
125	16	=B124+3	=(F136+F137)*3/2	=C125/3	=E124+3	=F\$105-(F\$105-F\$199)*(E125-E\$105)/(E\$199-E\$105)
126	16	=B125+3	=(F137+F138)*3/2	=C126/3	=E125+3	=F\$105-(F\$105-F\$199)*(E126-E\$105)/(E\$199-E\$105)
127	16	=B126+3	=(F138+F139)*3/2	=C127/3	=E126+3	=F\$105-(F\$105-F\$199)*(E127-E\$105)/(E\$199-E\$105)
128	16	=B127+3	=(F139+F140)*3/2	=C128/3	=E127+3	=F\$105-(F\$105-F\$199)*(E128-E\$105)/(E\$199-E\$105)
129	16	=B128+3	=(F140+F141)*3/2	=C129/3	=E128+3	=F\$105-(F\$105-F\$199)*(E129-E\$105)/(E\$199-E\$105)
130	17	=B129+3	=(F141+F142)*3/2	=C130/3	=E129+3	=F\$105-(F\$105-F\$199)*(E130-E\$105)/(E\$199-E\$105)
131	17	=B130+3	=(F142+F143)*3/2	=C131/3	=E130+3	=F\$105-(F\$105-F\$199)*(E131-E\$105)/(E\$199-E\$105)
132	17	=B131+3	=(F143+F144)*3/2	=C132/3	=E131+3	=F\$105-(F\$105-F\$199)*(E132-E\$105)/(E\$199-E\$105)
133	17	=B132+3	=(F144+F145)*3/2	=C133/3	=E132+3	=F\$105-(F\$105-F\$199)*(E133-E\$105)/(E\$199-E\$105)
134	17	=B133+3	=(F145+F146)*3/2	=C134/3	=E133+3	=F\$105-(F\$105-F\$199)*(E134-E\$105)/(E\$199-E\$105)
135	17	=B134+3	=(F146+F147)*3/2	=C135/3	=E134+3	=F\$105-(F\$105-F\$199)*(E135-E\$105)/(E\$199-E\$105)
136	17	=B135+3	=(F147+F148)*3/2	=C136/3	=E135+3	=F\$105-(F\$105-F\$199)*(E136-E\$105)/(E\$199-E\$105)
137	17	=B136+3	=(F148+F149)*3/2	=C137/3	=E136+3	=F\$105-(F\$105-F\$199)*(E137-E\$105)/(E\$199-E\$105)
138	18	=B137+3	=(F149+F150)*3/2	=C138/3	=E137+3	=F\$105-(F\$105-F\$199)*(E138-E\$105)/(E\$199-E\$105)
139	18	=B138+3	=(F150+F151)*3/2	=C139/3	=E138+3	=F\$105-(F\$105-F\$199)*(E139-E\$105)/(E\$199-E\$105)
140	18	=B139+3	=(F151+F152)*3/2	=C140/3	=E139+3	=F\$105-(F\$105-F\$199)*(E140-E\$105)/(E\$199-E\$105)
141	18	=B140+3	=(F152+F153)*3/2	=C141/3	=E140+3	=F\$105-(F\$105-F\$199)*(E141-E\$105)/(E\$199-E\$105)
142	18	=B141+3	=(F153+F154)*3/2	=C142/3	=E141+3	=F\$105-(F\$105-F\$199)*(E142-E\$105)/(E\$199-E\$105)
143	18	=B142+3	=(F154+F155)*3/2	=C143/3	=E142+3	=F\$105-(F\$105-F\$199)*(E143-E\$105)/(E\$199-E\$105)
144	18	=B143+3	=(F155+F156)*3/2	=C144/3	=E143+3	=F\$105-(F\$105-F\$199)*(E144-E\$105)/(E\$199-E\$105)
145	18	=B144+3	=(F156+F157)*3/2	=C145/3	=E144+3	=F\$105-(F\$105-F\$199)*(E145-E\$105)/(E\$199-E\$105)
146	19	=B145+3	=(F157+F158)*3/2	=C146/3	=E145+3	=F\$105-(F\$105-F\$199)*(E146-E\$105)/(E\$199-E\$105)
147	19	=B146+3	=(F158+F159)*3/2	=C147/3	=E146+3	=F\$105-(F\$105-F\$199)*(E147-E\$105)/(E\$199-E\$105)
148	19	=B147+3	=(F159+F160)*3/2	=C148/3	=E147+3	=F\$105-(F\$105-F\$199)*(E148-E\$105)/(E\$199-E\$105)
149	19	=B148+3	=(F160+F161)*3/2	=C149/3	=E148+3	=F\$105-(F\$105-F\$199)*(E149-E\$105)/(E\$199-E\$105)
150	19	=B149+3	=(F161+F162)*3/2	=C150/3	=E149+3	=F\$105-(F\$105-F\$199)*(E150-E\$105)/(E\$199-E\$105)
151	19	=B150+3	=(F162+F163)*3/2	=C151/3	=E150+3	=F\$105-(F\$105-F\$199)*(E151-E\$105)/(E\$199-E\$105)
152	19	=B151+3	=(F163+F164)*3/2	=C152/3	=E151+3	=F\$105-(F\$105-F\$199)*(E152-E\$105)/(E\$199-E\$105)
153	19	=B152+3	=(F164+F165)*3/2	=C153/3	=E152+3	=F\$105-(F\$105-F\$199)*(E153-E\$105)/(E\$199-E\$105)
154	20	=B153+3	=(F165+F166)*3/2	=C154/3	=E153+3	=F\$105-(F\$105-F\$199)*(E154-E\$105)/(E\$199-E\$105)
155	20	=B154+3	=(F166+F167)*3/2	=C155/3	=E154+3	=F\$105-(F\$105-F\$199)*(E155-E\$105)/(E\$199-E\$105)
156	20	=B155+3	=(F167+F168)*3/2	=C156/3	=E155+3	=F\$105-(F\$105-F\$199)*(E156-E\$105)/(E\$199-E\$105)



Equations for UHS Heat Load Plot

	A	B	C	D	E	F
157	20	=B156+3	=(F168+F169)*3/2	=C157/3	=E156+3	=F\$105-(F\$105-F\$199)*(E157-E\$105)/(E\$199-E\$105)
158	20	=B157+3	=(F169+F170)*3/2	=C158/3	=E157+3	=F\$105-(F\$105-F\$199)*(E158-E\$105)/(E\$199-E\$105)
159	20	=B158+3	=(F170+F171)*3/2	=C159/3	=E158+3	=F\$105-(F\$105-F\$199)*(E159-E\$105)/(E\$199-E\$105)
160	20	=B159+3	=(F171+F172)*3/2	=C160/3	=E159+3	=F\$105-(F\$105-F\$199)*(E160-E\$105)/(E\$199-E\$105)
161	20	=B160+3	=(F172+F173)*3/2	=C161/3	=E160+3	=F\$105-(F\$105-F\$199)*(E161-E\$105)/(E\$199-E\$105)
162	21	=B161+3	=(F173+F174)*3/2	=C162/3	=E161+3	=F\$105-(F\$105-F\$199)*(E162-E\$105)/(E\$199-E\$105)
163	21	=B162+3	=(F174+F175)*3/2	=C163/3	=E162+3	=F\$105-(F\$105-F\$199)*(E163-E\$105)/(E\$199-E\$105)
164	21	=B163+3	=(F175+F176)*3/2	=C164/3	=E163+3	=F\$105-(F\$105-F\$199)*(E164-E\$105)/(E\$199-E\$105)
165	21	=B164+3	=(F176+F177)*3/2	=C165/3	=E164+3	=F\$105-(F\$105-F\$199)*(E165-E\$105)/(E\$199-E\$105)
166	21	=B165+3	=(F177+F178)*3/2	=C166/3	=E165+3	=F\$105-(F\$105-F\$199)*(E166-E\$105)/(E\$199-E\$105)
167	21	=B166+3	=(F178+F179)*3/2	=C167/3	=E166+3	=F\$105-(F\$105-F\$199)*(E167-E\$105)/(E\$199-E\$105)
168	21	=B167+3	=(F179+F180)*3/2	=C168/3	=E167+3	=F\$105-(F\$105-F\$199)*(E168-E\$105)/(E\$199-E\$105)
169	21	=B168+3	=(F180+F181)*3/2	=C169/3	=E168+3	=F\$105-(F\$105-F\$199)*(E169-E\$105)/(E\$199-E\$105)
170	22	=B169+3	=(F181+F182)*3/2	=C170/3	=E169+3	=F\$105-(F\$105-F\$199)*(E170-E\$105)/(E\$199-E\$105)
171	22	=B170+3	=(F182+F183)*3/2	=C171/3	=E170+3	=F\$105-(F\$105-F\$199)*(E171-E\$105)/(E\$199-E\$105)
172	22	=B171+3	=(F183+F184)*3/2	=C172/3	=E171+3	=F\$105-(F\$105-F\$199)*(E172-E\$105)/(E\$199-E\$105)
173	22	=B172+3	=(F184+F185)*3/2	=C173/3	=E172+3	=F\$105-(F\$105-F\$199)*(E173-E\$105)/(E\$199-E\$105)
174	22	=B173+3	=(F185+F186)*3/2	=C174/3	=E173+3	=F\$105-(F\$105-F\$199)*(E174-E\$105)/(E\$199-E\$105)
175	22	=B174+3	=(F186+F187)*3/2	=C175/3	=E174+3	=F\$105-(F\$105-F\$199)*(E175-E\$105)/(E\$199-E\$105)
176	22	=B175+3	=(F187+F188)*3/2	=C176/3	=E175+3	=F\$105-(F\$105-F\$199)*(E176-E\$105)/(E\$199-E\$105)
177	22	=B176+3	=(F188+F189)*3/2	=C177/3	=E176+3	=F\$105-(F\$105-F\$199)*(E177-E\$105)/(E\$199-E\$105)
178	23	=B177+3	=(F189+F190)*3/2	=C178/3	=E177+3	=F\$105-(F\$105-F\$199)*(E178-E\$105)/(E\$199-E\$105)
179	23	=B178+3	=(F190+F191)*3/2	=C179/3	=E178+3	=F\$105-(F\$105-F\$199)*(E179-E\$105)/(E\$199-E\$105)
180	23	=B179+3	=(F191+F192)*3/2	=C180/3	=E179+3	=F\$105-(F\$105-F\$199)*(E180-E\$105)/(E\$199-E\$105)
181	23	=B180+3	=(F192+F193)*3/2	=C181/3	=E180+3	=F\$105-(F\$105-F\$199)*(E181-E\$105)/(E\$199-E\$105)
182	23	=B181+3	=(F193+F194)*3/2	=C182/3	=E181+3	=F\$105-(F\$105-F\$199)*(E182-E\$105)/(E\$199-E\$105)
183	23	=B182+3	=(F194+F195)*3/2	=C183/3	=E182+3	=F\$105-(F\$105-F\$199)*(E183-E\$105)/(E\$199-E\$105)
184	23	=B183+3	=(F195+F196)*3/2	=C184/3	=E183+3	=F\$105-(F\$105-F\$199)*(E184-E\$105)/(E\$199-E\$105)
185	23	=B184+3	=(F196+F197)*3/2	=C185/3	=E184+3	=F\$105-(F\$105-F\$199)*(E185-E\$105)/(E\$199-E\$105)
186	24	=B185+3	=(F197+F198)*3/2	=C186/3	=E185+3	=F\$105-(F\$105-F\$199)*(E186-E\$105)/(E\$199-E\$105)
187	24	=B186+3	=(F198+F199)*(E199-E198) + (F199+F200)*(E200-E199)/2	=C187/3	=E186+3	=F\$105-(F\$105-F\$199)*(E187-E\$105)/(E\$199-E\$105)
188	24	=B187+3	=(F200+F201)*3/2	=C188/3	=E187+3	=F\$105-(F\$105-F\$199)*(E188-E\$105)/(E\$199-E\$105)
189	24	=B188+3	=(F201+F202)*3/2	=C189/3	=E188+3	=F\$105-(F\$105-F\$199)*(E189-E\$105)/(E\$199-E\$105)
190	24	=B189+3	=(F202+F203)*3/2	=C190/3	=E189+3	=F\$105-(F\$105-F\$199)*(E190-E\$105)/(E\$199-E\$105)
191	24	=B190+3	=(F203+F204)*3/2	=C191/3	=E190+3	=F\$105-(F\$105-F\$199)*(E191-E\$105)/(E\$199-E\$105)
192	24	=B191+3	=(F204+F205)*3/2	=C192/3	=E191+3	=F\$105-(F\$105-F\$199)*(E192-E\$105)/(E\$199-E\$105)
193	24	=B192+3	=(F205+F206)*3/2	=C193/3	=E192+3	=F\$105-(F\$105-F\$199)*(E193-E\$105)/(E\$199-E\$105)
194	25	=B193+3	=(F206+F207)*3/2	=C194/3	=E193+3	=F\$105-(F\$105-F\$199)*(E194-E\$105)/(E\$199-E\$105)
195	25	=B194+3	=(F207+F208)*3/2	=C195/3	=E194+3	=F\$105-(F\$105-F\$199)*(E195-E\$105)/(E\$199-E\$105)
196	25	=B195+3	=(F208+F209)*3/2	=C196/3	=E195+3	=F\$105-(F\$105-F\$199)*(E196-E\$105)/(E\$199-E\$105)
197	25	=B196+3	=(F209+F210)*3/2	=C197/3	=E196+3	=F\$105-(F\$105-F\$199)*(E197-E\$105)/(E\$199-E\$105)
198	25	=B197+3	=(F210+F211)*3/2	=C198/3	=E197+3	=F\$105-(F\$105-F\$199)*(E198-E\$105)/(E\$199-E\$105)
199	25	=B198+3	=(F211+F212)*3/2	=C199/3	555.55555556	165
200	25	=B199+3	=(F212+F213)*3/2	=C200/3	=E198+3	=F\$199-(F\$199-F\$304)*(E200-E\$199)/(E\$304-E\$199)
201	25	=B200+3	=(F213+F214)*3/2	=C201/3	=E200+3	=F\$199-(F\$199-F\$304)*(E201-E\$199)/(E\$304-E\$199)
202	26	=B201+3	=(F214+F215)*3/2	=C202/3	=E201+3	=F\$199-(F\$199-F\$304)*(E202-E\$199)/(E\$304-E\$199)
203	26	=B202+3	=(F215+F216)*3/2	=C203/3	=E202+3	=F\$199-(F\$199-F\$304)*(E203-E\$199)/(E\$304-E\$199)
204	26	=B203+3	=(F216+F217)*3/2	=C204/3	=E203+3	=F\$199-(F\$199-F\$304)*(E204-E\$199)/(E\$304-E\$199)
205	26	=B204+3	=(F217+F218)*3/2	=C205/3	=E204+3	=F\$199-(F\$199-F\$304)*(E205-E\$199)/(E\$304-E\$199)
206	26	=B205+3	=(F218+F219)*3/2	=C206/3	=E205+3	=F\$199-(F\$199-F\$304)*(E206-E\$199)/(E\$304-E\$199)
207	26	=B206+3	=(F219+F220)*3/2	=C207/3	=E206+3	=F\$199-(F\$199-F\$304)*(E207-E\$199)/(E\$304-E\$199)
208	26	=B207+3	=(F220+F221)*3/2	=C208/3	=E207+3	=F\$199-(F\$199-F\$304)*(E208-E\$199)/(E\$304-E\$199)
209	26	=B208+3	=(F221+F222)*3/2	=C209/3	=E208+3	=F\$199-(F\$199-F\$304)*(E209-E\$199)/(E\$304-E\$199)
210	27	=B209+3	=(F222+F223)*3/2	=C210/3	=E209+3	=F\$199-(F\$199-F\$304)*(E210-E\$199)/(E\$304-E\$199)
211	27	=B210+3	=(F223+F224)*3/2	=C211/3	=E210+3	=F\$199-(F\$199-F\$304)*(E211-E\$199)/(E\$304-E\$199)
212	27	=B211+3	=(F224+F225)*3/2	=C212/3	=E211+3	=F\$199-(F\$199-F\$304)*(E212-E\$199)/(E\$304-E\$199)
213	27	=B212+3	=(F225+F226)*3/2	=C213/3	=E212+3	=F\$199-(F\$199-F\$304)*(E213-E\$199)/(E\$304-E\$199)
214	27	=B213+3	=(F226+F227)*3/2	=C214/3	=E213+3	=F\$199-(F\$199-F\$304)*(E214-E\$199)/(E\$304-E\$199)
215	27	=B214+3	=(F227+F228)*3/2	=C215/3	=E214+3	=F\$199-(F\$199-F\$304)*(E215-E\$199)/(E\$304-E\$199)
216	27	=B215+3	=(F228+F229)*3/2	=C216/3	=E215+3	=F\$199-(F\$199-F\$304)*(E216-E\$199)/(E\$304-E\$199)
217	27	=B216+3	=(F229+F230)*3/2	=C217/3	=E216+3	=F\$199-(F\$199-F\$304)*(E217-E\$199)/(E\$304-E\$199)
218	28	=B217+3	=(F230+F231)*3/2	=C218/3	=E217+3	=F\$199-(F\$199-F\$304)*(E218-E\$199)/(E\$304-E\$199)
219	28	=B218+3	=(F231+F232)*3/2	=C219/3	=E218+3	=F\$199-(F\$199-F\$304)*(E219-E\$199)/(E\$304-E\$199)
220	28	=B219+3	=(F232+F233)*3/2	=C220/3	=E219+3	=F\$199-(F\$199-F\$304)*(E220-E\$199)/(E\$304-E\$199)
221	28	=B220+3	=(F233+F234)*3/2	=C221/3	=E220+3	=F\$199-(F\$199-F\$304)*(E221-E\$199)/(E\$304-E\$199)
222	28	=B221+3	=(F234+F235)*3/2	=C222/3	=E221+3	=F\$199-(F\$199-F\$304)*(E222-E\$199)/(E\$304-E\$199)
223	28	=B222+3	=(F235+F236)*3/2	=C223/3	=E222+3	=F\$199-(F\$199-F\$304)*(E223-E\$199)/(E\$304-E\$199)
224	28	=B223+3	=(F236+F237)*3/2	=C224/3	=E223+3	=F\$199-(F\$199-F\$304)*(E224-E\$199)/(E\$304-E\$199)
225	28	=B224+3	=(F237+F238)*3/2	=C225/3	=E224+3	=F\$199-(F\$199-F\$304)*(E225-E\$199)/(E\$304-E\$199)
226	29	=B225+3	=(F238+F239)*3/2	=C226/3	=E225+3	=F\$199-(F\$199-F\$304)*(E226-E\$199)/(E\$304-E\$199)
227	29	=B226+3	=(F239+F240)*3/2	=C227/3	=E226+3	=F\$199-(F\$199-F\$304)*(E227-E\$199)/(E\$304-E\$199)
228	29	=B227+3	=(F240+F241)*3/2	=C228/3	=E227+3	=F\$199-(F\$199-F\$304)*(E228-E\$199)/(E\$304-E\$199)
229	29	=B228+3	=(F241+F242)*3/2	=C229/3	=E228+3	=F\$199-(F\$199-F\$304)*(E229-E\$199)/(E\$304-E\$199)
230	29	=B229+3	=(F242+F243)*3/2	=C230/3	=E229+3	=F\$199-(F\$199-F\$304)*(E230-E\$199)/(E\$304-E\$199)
231	29	=B230+3	=(F243+F244)*3/2	=C231/3	=E230+3	=F\$199-(F\$199-F\$304)*(E231-E\$199)/(E\$304-E\$199)
232	29	=B231+3	=(F244+F245)*3/2	=C232/3	=E231+3	=F\$199-(F\$199-F\$304)*(E232-E\$199)/(E\$304-E\$199)
233	29	=B232+3	=(F245+F246)*3/2	=C233/3	=E232+3	=F\$199-(F\$199-F\$304)*(E233-E\$199)/(E\$304-E\$199)
234	30	=B233+3	=(F246+F247)*3/2	=C234/3	=E233+3	=F\$199-(F\$199-F\$304)*(E234-E\$199)/(E\$304-E\$199)
235	30	=B234+3	=(F247+F248)*3/2	=C235/3	=E234+3	=F\$199-(F\$199-F\$304)*(E235-E\$199)/(E\$304-E\$199)

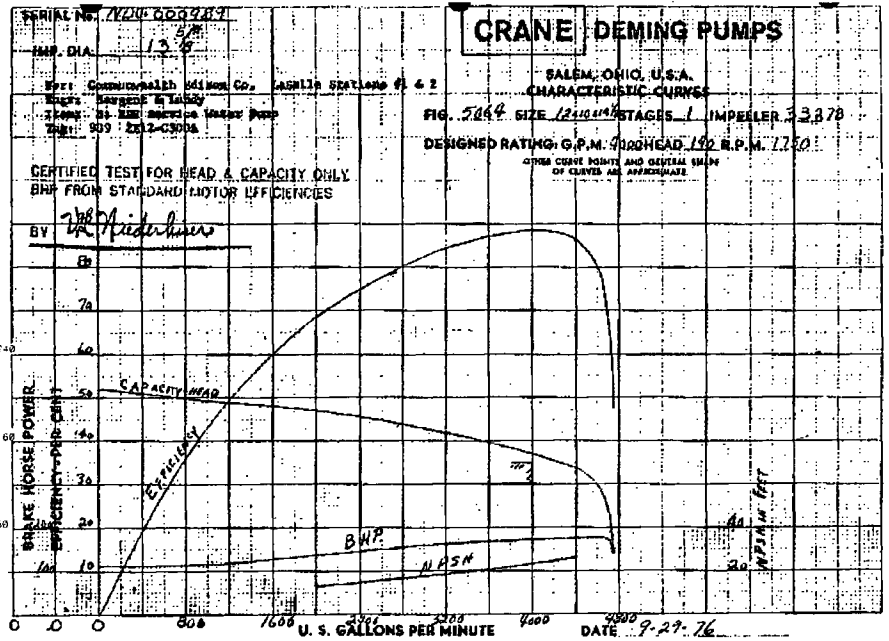
Equations for UHS Heat Load Plot

	A	B	C	D	E	F
236	30	=B235+3	=(F248+F249)*3/2	=C236/3	=E235+3	=F\$199-(F\$199-F\$304)*(E236-E\$199)/(E\$304-E\$199)
237	30	=B236+3	=(F249+F250)*3/2	=C237/3	=E236+3	=F\$199-(F\$199-F\$304)*(E237-E\$199)/(E\$304-E\$199)
238	30	=B237+3	=(F250+F251)*3/2	=C238/3	=E237+3	=F\$199-(F\$199-F\$304)*(E238-E\$199)/(E\$304-E\$199)
239	30	=B238+3	=(F251+F252)*3/2	=C239/3	=E238+3	=F\$199-(F\$199-F\$304)*(E239-E\$199)/(E\$304-E\$199)
240	30	=B239+3	=(F252+F253)*3/2	=C240/3	=E239+3	=F\$199-(F\$199-F\$304)*(E240-E\$199)/(E\$304-E\$199)
241	30	=B240+3	=(F253+F254)*3/2	=C241/3	=E240+3	=F\$199-(F\$199-F\$304)*(E241-E\$199)/(E\$304-E\$199)
242	31	=B241+3	=(F254+F255)*3/2	=C242/3	=E241+3	=F\$199-(F\$199-F\$304)*(E242-E\$199)/(E\$304-E\$199)
243	31	=B242+3	=(F255+F256)*3/2	=C243/3	=E242+3	=F\$199-(F\$199-F\$304)*(E243-E\$199)/(E\$304-E\$199)
244	31	=B243+3	=(F256+F257)*3/2	=C244/3	=E243+3	=F\$199-(F\$199-F\$304)*(E244-E\$199)/(E\$304-E\$199)
245	31	=B244+3	=(F257+F258)*3/2	=C245/3	=E244+3	=F\$199-(F\$199-F\$304)*(E245-E\$199)/(E\$304-E\$199)
246	31	=B245+3	=(F258+F259)*3/2	=C246/3	=E245+3	=F\$199-(F\$199-F\$304)*(E246-E\$199)/(E\$304-E\$199)
247	31	=B246+3	=(F259+F260)*3/2	=C247/3	=E246+3	=F\$199-(F\$199-F\$304)*(E247-E\$199)/(E\$304-E\$199)
248	31	=B247+3	=(F260+F261)*3/2	=C248/3	=E247+3	=F\$199-(F\$199-F\$304)*(E248-E\$199)/(E\$304-E\$199)
249	31	=B248+3	=(F261+F262)*3/2	=C249/3	=E248+3	=F\$199-(F\$199-F\$304)*(E249-E\$199)/(E\$304-E\$199)
250	32	=B249+3	=(F262+F263)*3/2	=C250/3	=E249+3	=F\$199-(F\$199-F\$304)*(E250-E\$199)/(E\$304-E\$199)
251	32	=B250+3	=(F263+F264)*3/2	=C251/3	=E250+3	=F\$199-(F\$199-F\$304)*(E251-E\$199)/(E\$304-E\$199)
252	32	=B251+3	=(F264+F265)*3/2	=C252/3	=E251+3	=F\$199-(F\$199-F\$304)*(E252-E\$199)/(E\$304-E\$199)
253	32	=B252+3	=(F265+F266)*3/2	=C253/3	=E252+3	=F\$199-(F\$199-F\$304)*(E253-E\$199)/(E\$304-E\$199)
254	32	=B253+3	=(F266+F267)*3/2	=C254/3	=E253+3	=F\$199-(F\$199-F\$304)*(E254-E\$199)/(E\$304-E\$199)
255	32	=B254+3	=(F267+F268)*3/2	=C255/3	=E254+3	=F\$199-(F\$199-F\$304)*(E255-E\$199)/(E\$304-E\$199)
256	32	=B255+3	=(F268+F269)*3/2	=C256/3	=E255+3	=F\$199-(F\$199-F\$304)*(E256-E\$199)/(E\$304-E\$199)
257	32	=B256+3	=(F269+F270)*3/2	=C257/3	=E256+3	=F\$199-(F\$199-F\$304)*(E257-E\$199)/(E\$304-E\$199)
258	33	=B257+3	=(F270+F271)*3/2	=C258/3	=E257+3	=F\$199-(F\$199-F\$304)*(E258-E\$199)/(E\$304-E\$199)
259	33	=B258+3	=(F271+F272)*3/2	=C259/3	=E258+3	=F\$199-(F\$199-F\$304)*(E259-E\$199)/(E\$304-E\$199)
260	33	=B259+3	=(F272+F273)*3/2	=C260/3	=E259+3	=F\$199-(F\$199-F\$304)*(E260-E\$199)/(E\$304-E\$199)
261	33	=B260+3	=(F273+F274)*3/2	=C261/3	=E260+3	=F\$199-(F\$199-F\$304)*(E261-E\$199)/(E\$304-E\$199)
262	33	=B261+3	=(F274+F275)*3/2	=C262/3	=E261+3	=F\$199-(F\$199-F\$304)*(E262-E\$199)/(E\$304-E\$199)
263	33	=B262+3	=(F275+F276)*3/2	=C263/3	=E262+3	=F\$199-(F\$199-F\$304)*(E263-E\$199)/(E\$304-E\$199)
264	33	=B263+3	=(F276+F277)*3/2	=C264/3	=E263+3	=F\$199-(F\$199-F\$304)*(E264-E\$199)/(E\$304-E\$199)
265	33	=B264+3	=(F277+F278)*3/2	=C265/3	=E264+3	=F\$199-(F\$199-F\$304)*(E265-E\$199)/(E\$304-E\$199)
266	34	=B265+3	=(F278+F279)*3/2	=C266/3	=E265+3	=F\$199-(F\$199-F\$304)*(E266-E\$199)/(E\$304-E\$199)
267	34	=B266+3	=(F279+F280)*3/2	=C267/3	=E266+3	=F\$199-(F\$199-F\$304)*(E267-E\$199)/(E\$304-E\$199)
268	34	=B267+3	=(F280+F281)*3/2	=C268/3	=E267+3	=F\$199-(F\$199-F\$304)*(E268-E\$199)/(E\$304-E\$199)
269	34	=B268+3	=(F281+F282)*3/2	=C269/3	=E268+3	=F\$199-(F\$199-F\$304)*(E269-E\$199)/(E\$304-E\$199)
270	34	=B269+3	=(F282+F283)*3/2	=C270/3	=E269+3	=F\$199-(F\$199-F\$304)*(E270-E\$199)/(E\$304-E\$199)
271	34	=B270+3	=(F283+F284)*3/2	=C271/3	=E270+3	=F\$199-(F\$199-F\$304)*(E271-E\$199)/(E\$304-E\$199)
272	34	=B271+3	=(F284+F285)*3/2	=C272/3	=E271+3	=F\$199-(F\$199-F\$304)*(E272-E\$199)/(E\$304-E\$199)
273	34	=B272+3	=(F285+F286)*3/2	=C273/3	=E272+3	=F\$199-(F\$199-F\$304)*(E273-E\$199)/(E\$304-E\$199)
274	35	=B273+3	=(F286+F287)*3/2	=C274/3	=E273+3	=F\$199-(F\$199-F\$304)*(E274-E\$199)/(E\$304-E\$199)
275	35	=B274+3	=(F287+F288)*3/2	=C275/3	=E274+3	=F\$199-(F\$199-F\$304)*(E275-E\$199)/(E\$304-E\$199)
276	35	=B275+3	=(F288+F289)*3/2	=C276/3	=E275+3	=F\$199-(F\$199-F\$304)*(E276-E\$199)/(E\$304-E\$199)
277	35	=B276+3	=(F289+F290)*3/2	=C277/3	=E276+3	=F\$199-(F\$199-F\$304)*(E277-E\$199)/(E\$304-E\$199)
278	35	=B277+3	=(F290+F291)*3/2	=C278/3	=E277+3	=F\$199-(F\$199-F\$304)*(E278-E\$199)/(E\$304-E\$199)
279	35	=B278+3	=(F291+F292)*3/2	=C279/3	=E278+3	=F\$199-(F\$199-F\$304)*(E279-E\$199)/(E\$304-E\$199)
280	35	=B279+3	=(F292+F293)*3/2	=C280/3	=E279+3	=F\$199-(F\$199-F\$304)*(E280-E\$199)/(E\$304-E\$199)
281	35	=B280+3	=(F293+F294)*3/2	=C281/3	=E280+3	=F\$199-(F\$199-F\$304)*(E281-E\$199)/(E\$304-E\$199)
282	36	=B281+3	=(F294+F295)*3/2	=C282/3	=E281+3	=F\$199-(F\$199-F\$304)*(E282-E\$199)/(E\$304-E\$199)
283	36	=B282+3	=(F295+F296)*3/2	=C283/3	=E282+3	=F\$199-(F\$199-F\$304)*(E283-E\$199)/(E\$304-E\$199)
284	36	=B283+3	=(F296+F297)*3/2	=C284/3	=E283+3	=F\$199-(F\$199-F\$304)*(E284-E\$199)/(E\$304-E\$199)
285	36	=B284+3	=(F297+F298)*3/2	=C285/3	=E284+3	=F\$199-(F\$199-F\$304)*(E285-E\$199)/(E\$304-E\$199)
286	36	=B285+3	=(F298+F299)*3/2	=C286/3	=E285+3	=F\$199-(F\$199-F\$304)*(E286-E\$199)/(E\$304-E\$199)
287	36	=B286+3	=(F299+F300)*3/2	=C287/3	=E286+3	=F\$199-(F\$199-F\$304)*(E287-E\$199)/(E\$304-E\$199)
288	36	=B287+3	=(F300+F301)*3/2	=C288/3	=E287+3	=F\$199-(F\$199-F\$304)*(E288-E\$199)/(E\$304-E\$199)
289	36	=B288+3	=(F301+F302)*3/2	=C289/3	=E288+3	=F\$199-(F\$199-F\$304)*(E289-E\$199)/(E\$304-E\$199)
290					=E289+3	=F\$199-(F\$199-F\$304)*(E290-E\$199)/(E\$304-E\$199)
291					=E290+3	=F\$199-(F\$199-F\$304)*(E291-E\$199)/(E\$304-E\$199)
292					=E291+3	=F\$199-(F\$199-F\$304)*(E292-E\$199)/(E\$304-E\$199)
293					=E292+3	=F\$199-(F\$199-F\$304)*(E293-E\$199)/(E\$304-E\$199)
294					=E293+3	=F\$199-(F\$199-F\$304)*(E294-E\$199)/(E\$304-E\$199)
295					=E294+3	=F\$199-(F\$199-F\$304)*(E295-E\$199)/(E\$304-E\$199)
296					=E295+3	=F\$199-(F\$199-F\$304)*(E296-E\$199)/(E\$304-E\$199)
297					=E296+3	=F\$199-(F\$199-F\$304)*(E297-E\$199)/(E\$304-E\$199)
298					=E297+3	=F\$199-(F\$199-F\$304)*(E298-E\$199)/(E\$304-E\$199)
299					=E298+3	=F\$199-(F\$199-F\$304)*(E299-E\$199)/(E\$304-E\$199)
300					=E299+3	=F\$199-(F\$199-F\$304)*(E300-E\$199)/(E\$304-E\$199)
301					=E300+3	=F\$199-(F\$199-F\$304)*(E301-E\$199)/(E\$304-E\$199)
302					=E301+3	=F\$199-(F\$199-F\$304)*(E302-E\$199)/(E\$304-E\$199)
303					=E302+3	=F\$199-(F\$199-F\$304)*(E303-E\$199)/(E\$304-E\$199)
304					<b>1666.666667</b>	<b>147</b>
305					<b>2777.777778</b>	<b>140</b>
306						
307						
308						

**Attachment D**

**Attached References**

6995-1



SERIAL No. 7V2UP 000989  
 IMP. DIA. 13 1/2"  
 MFG. COMMERCIAL PUMPS CO. LANSING STATION #1 & 2  
 MODEL 2E12-C300A  
 TYPE DI. REC. ROTARY PUMP  
 PART 909 2E12-C300A

**CRANE DEMING PUMPS**  
 SALEM, OHIO, U.S.A.  
 CHARACTERISTIC CURVES  
 FIG. 5064 SIZE 12 1/2" STAGES 1 IMPELLER 3378  
 DESIGNED RATING G.P.M. 3378 HEAD 172 R.P.M. 1780  
 OTHER CURVE POINTS AND GENERAL SHAPES OF CURVES ARE APPROXIMATE

CERTIFIED TEST FOR HEAD & CAPACITY ONLY.  
 BHP FROM STANDARD MOTOR EFFICIENCIES  
 BY J.R. Hinderhiner

TOTAL HEAD, FEET

BRAKE HORSE POWER  
 EFFICIENCY PER CENT

U.S. GALLONS PER MINUTE

DATE 9-27-76

No. 7-5669

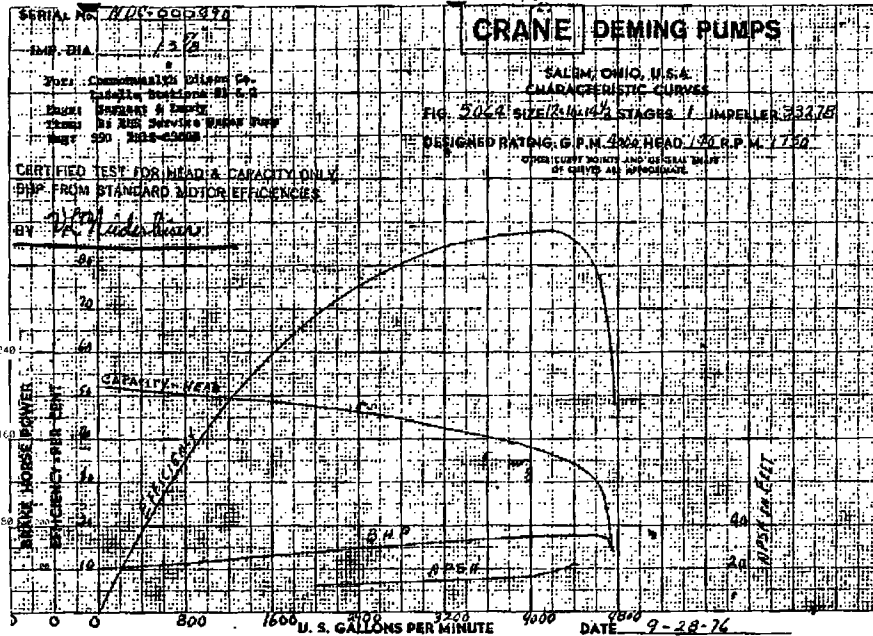
SPEC. NO. J-2944

REV.	DATE	DESCRIPTION	APP.	REV.	APP.
1	04-04-83	FOR RECORD PER EC 342180	TPS	DJS	WSP
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---

PUMP PERFORMANCE CURVE  
FOR 2E12-C300A

<b>Exelon</b> Nuclear Safety Related Equipment is Shown on this Drawing		SCALE: NONE	T-5669
DATE	DATE	DESIGNED BY	CHECKED BY
SHEET NO:		SIZE:	C (N03)

079C-1



SPEC. NO. J-2944

REV.	DATE	DESCRIPTION	DRW.	CHKD.	APP'D.
1	04-04-80	FOR RECORD PER CC 342188.	TPG	DJS	WBN
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---	---	---	---	---	---

PUMP PERFORMANCE CURVE  
FOR 2E12-C300B

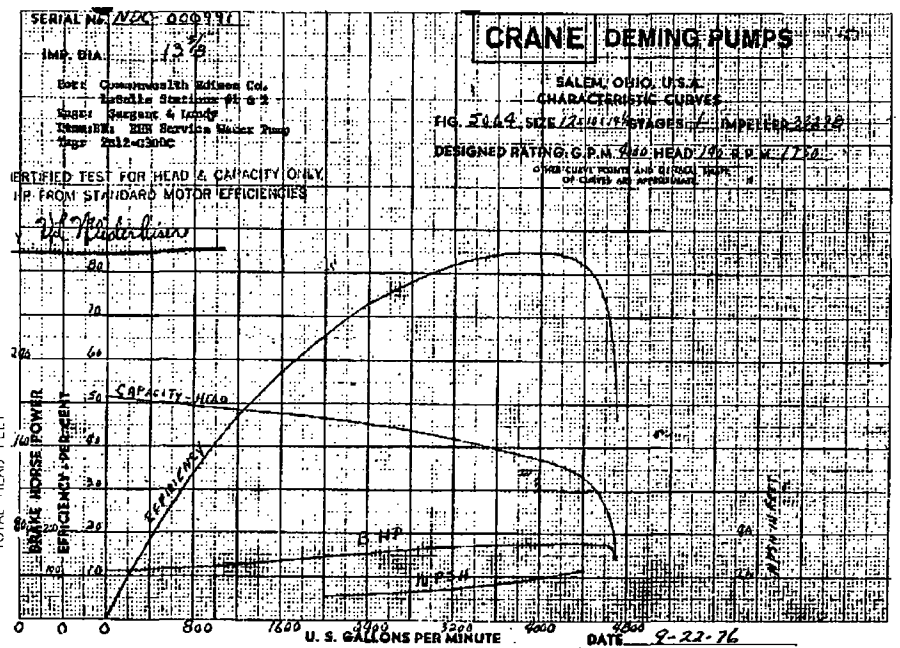
**Exelon**  
LaSalle Station, Ill.

NUCLEAR SAFETY RELATED  
EQUIPMENT IS SHOWN  
ON THIS DRAWING

SCALE: NONE  
DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
ORG. BY: C663

T-5670  
SHEET NO: \_\_\_\_\_ SIZE: C 1/08

1/90-1



SPEC. NO. J-2924

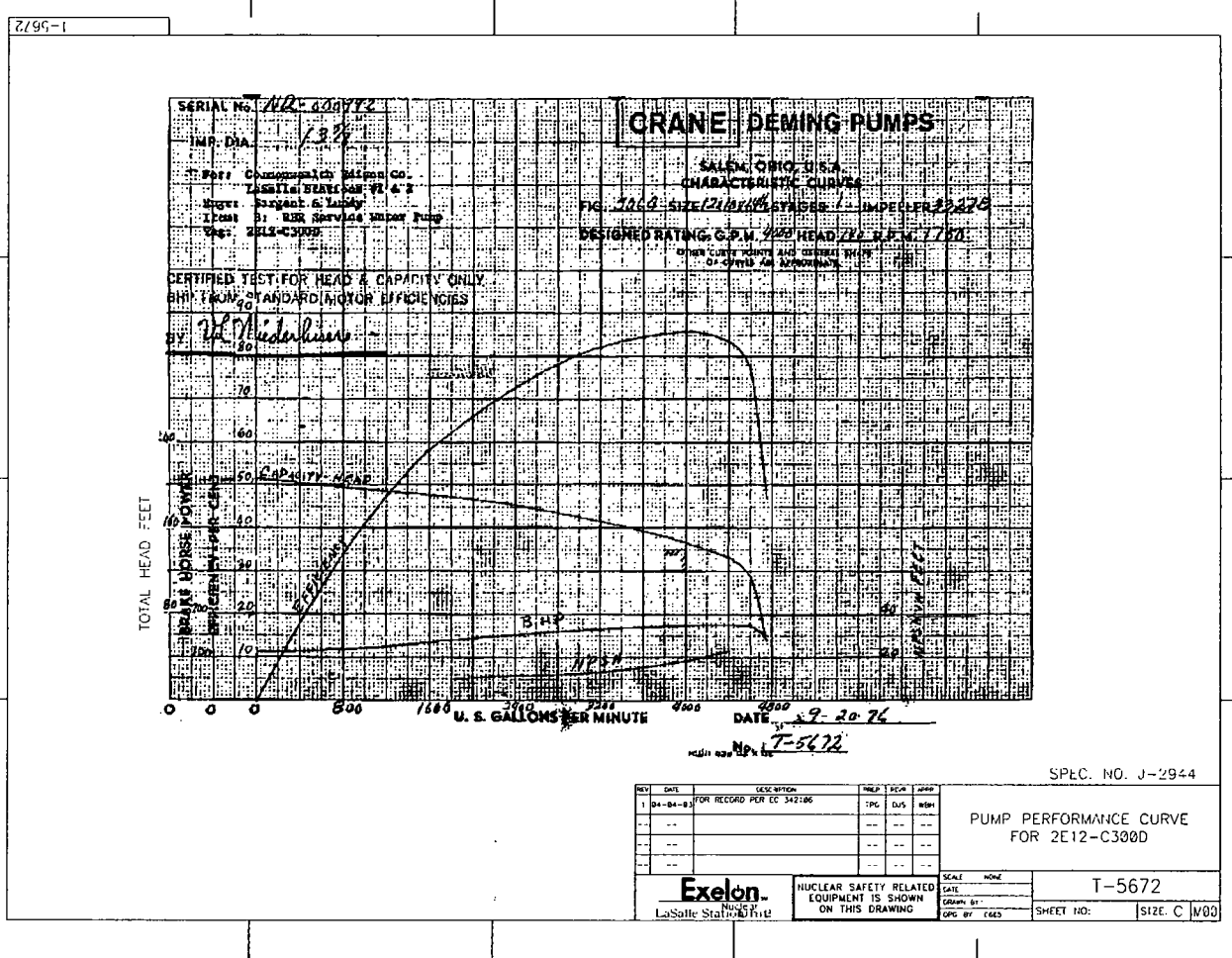
REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
1	04-04-83	FOR RECORD PER EC 342186	TPC	DUS	WBI
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---	---	---	---	---	---

PUMP PERFORMANCE CURVE  
FOR 2E12-C300C

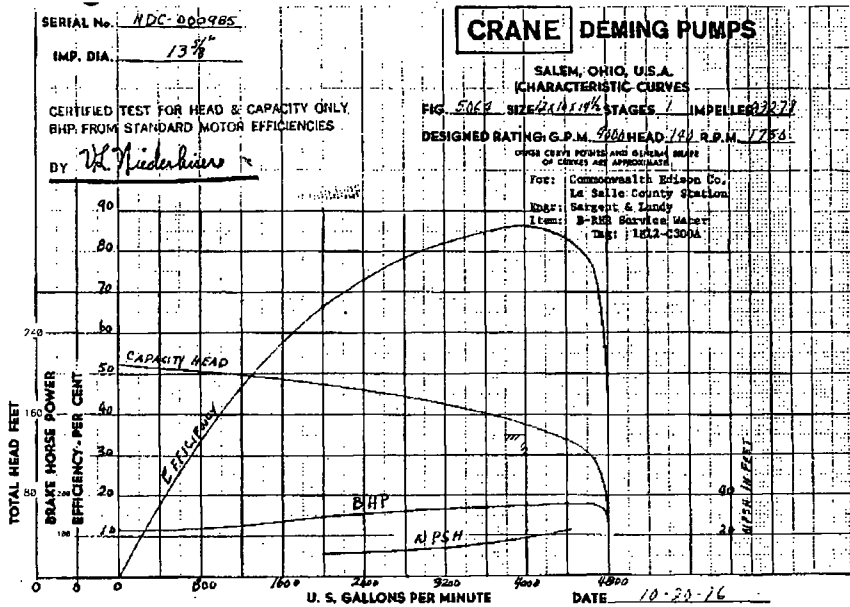
**Exelon**  
Nuclear  
LaSalle Station

NUCLEAR SAFETY RELATED  
EQUIPMENT IS SHOWN  
ON THIS DRAWING

SCALE: NONE  
DATE: T-5671  
DRAWN BY: [blank]  
CHKD. BY: CEEB  
SHEET NO: [blank]  
SIZE: C M03



9695-1



PLANT No. T-5695

SPLC. NO. J-2944

REV.	DATE	DESCRIPTION	PREP.	CHKD.	APP'D.
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PUMP PERFORMANCE CURVE  
FOR 1E12-C300A

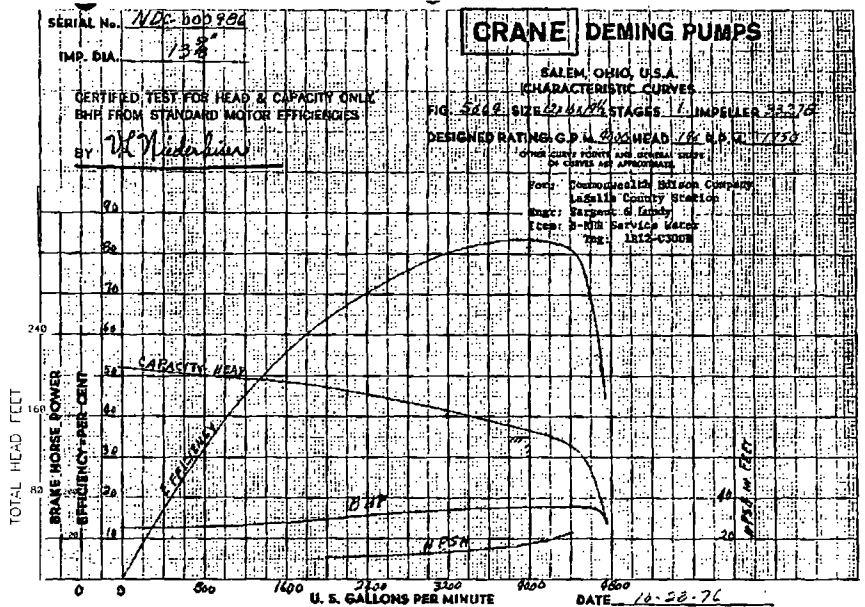
**Exelon**  
Nuclear Safety Related  
Equipment is Shown  
on this Drawing

SCALE: NONE  
DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHKD BY: CEES

T-5695  
SHEET NO: \_\_\_\_\_  
SIZE: C (N08)



90/C-1



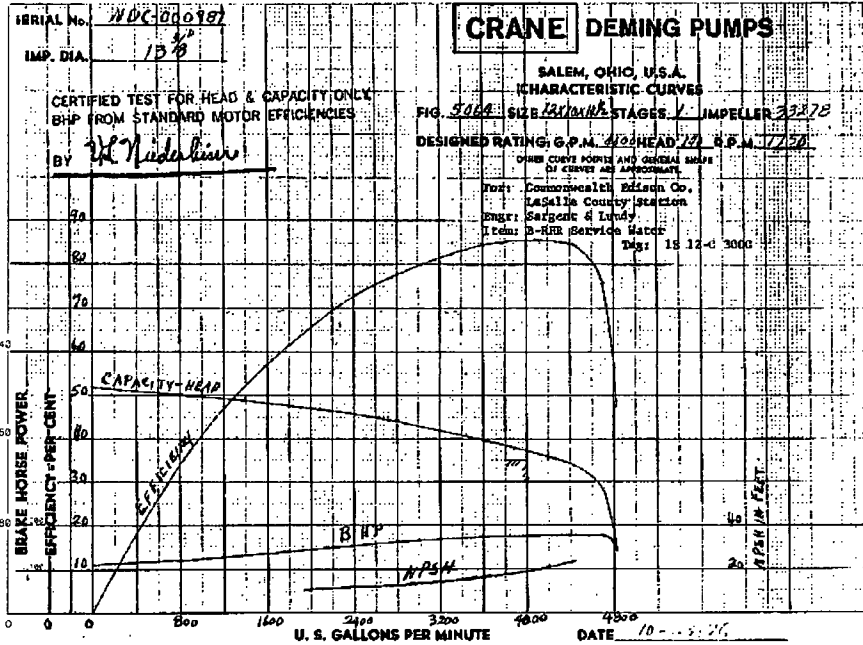
SPEC. NO J-2944

REV	DATE	DESCRIPTION	PREP	REV'D	APPR
1	04-04-83	FOR RECORD PER EC 342 '86	TPG	DJS	WBT
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PUMP PERFORMANCE CURVE  
FOR 1E12-C300B

<b>Exelon</b> LaSalle Station	NUCLEAR SAFETY RELATED EQUIPMENT IS SHOWN ON THIS DRAWING	SCALE: NONE	T-5706
		DATE: _____	
		DESIGNED BY: _____	SHEET NO: _____
		CHECKED BY: _____	

2025-1



DATE: 10-2-76

FIG. NO. T-5707

SPEC. NO. J-2944

REV.	DATE	DESCRIPTION	APP'D.	CHK'D.	APP'D.
1	04-04-83	FOR RECORD PER LC 342186	TFC	DJS	WDB
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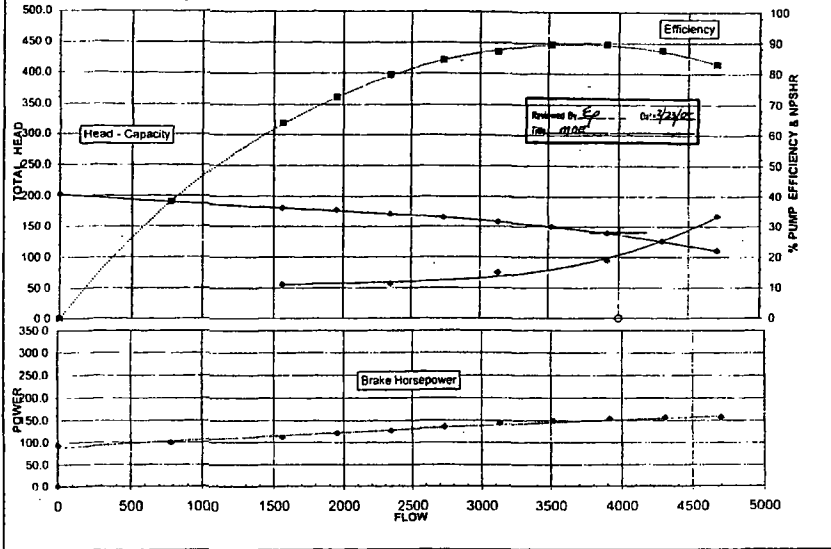
PUMP PERFORMANCE CURVE FOR 1E12-C300C

SCALE: NONE	T-5707
DATE:	
DESIGNED BY:	
CHK'D BY: C.G.S.	SHEET NO. SIZE: C 1/00

**Exelon**  
LaSalle Station

NUCLEAR SAFETY RELATED EQUIPMENT IS SHOWN ON THIS DRAWING

<b>CURVE</b>	CURVE TC #	1821-2	<b>PUMP</b>	Model #	12 x 10 x 14.5	<b>MOTOR</b>	Motor	250.0 hp	<b>SULZER</b>
	Test Date	2/22/2005		Impeller trim	13.63 in		Volts	460	
	Customer	J.P. Chattanooga		Rated Capacity	4000.0 GPM		Phase	3	
	Invoice #	78586-1.1		Rated Head	140.0 ft		Hertz	60	
Certified By	E. J. ... 2-23-05		Efficiency	88.0%	Curve RPM	1750	Sulzer Pumps Houston Inc.		



Sulzer Pumps Houston Inc. TEST CURVE WORKSHEET **SULZER**

ORDER: 78586-1.1 TESTED BY: L. Cotton  
 CUSTOMER: J.P. Chattanooga FILE NAME: TC# 1821-2  
 MODEL: 12 x 10 x 14 Crane Casing Pump 108662 TEST DATE: 02/22/05

IMP TEST DIA.	13.63 in	Suction Multiplier	2.310	MOTOR HP	250.0
Max IMPELLER DIA.	14.50 in	MOTOR NAMEPLATE RPM	1780	CURVE RPM	1750
SUCTION Tap DIA.	11.938 in	Suction Gauge/Transducer	30kg, 30 Psi	VOLTS	460
Suct. Dist. Flange to Tap	29.750 in	Discharge Gauge/Transducer	0-200 Psi	PHASE	3
DISCHARGE Tap DIA.	10.020 in	Test @	1787 Rpm	HERTZ	60
Disch. Dist. Flange to Tap	22.000 in	Test Capacity:	4000.00	WATT Meter MULT	1000
RATED CAPACITY:	4000.00	Test Head:	140.00	Motor EFF:	93.0%
RATED HEAD	140.00	Design Point #	9	Motor NO	Test Lab Motor
BOOK EFFICIENCY	88.0%	Flow Range	528 - 10375 GPM	Motor MFG	Lincoln
ORFICE NAME / MAG METER	12" Mag Flow	Book NPSHR		Water Temp. (F)	72.30
Orifice K Value	0.001	Elevation Corr.			

TEST POINT #	PSI / NCHES MULT.	SUCT HEAD	DISCH HEAD Hdg	CALC GPM	DELTA P CALC DELTA P	ACTUAL DELTA P or GPM	MOTOR EFF. %	WATTS	RPM	VOLTS (Ref. Only)	AMPS (Ref. Only)
1	2	2.05	64.0	0	N/A	0	93.0%	80.10	1794	475	120.1
2	2	3.25	89.0	800	N/A	800	93.0%	84.90	1794	475	123.6
3	2	1.85	83.5	1600	N/A	1600	93.0%	96.60	1782	474	139.1
4	2	4.80	84.5	2000	N/A	2000	93.0%	104.20	1791	473	148.6
5	2	3.05	80.0	2400	N/A	2400	93.0%	109.70	1792	473	155.1
6	2	2.85	77.0	2800	N/A	2800	93.0%	116.60	1791	473	164.4
7	2	1.80	72.5	3200	N/A	3200	93.0%	123.10	1789	472	173.1
8	2	2.10	66.0	3600	N/A	3600	93.0%	128.00	1789	471	179.0
9	2	2.40	64.0	4000	N/A	4000	93.0%	131.40	1787	471	184.4
10	2	3.55	59.0	4400	N/A	4400	93.0%	133.70	1786	470	187.3
11	2	2.90	51.0	4800	N/A	4800	93.0%	134.40	1787	471	188.4
12	2	2.90	51.0	4800	N/A	4800	93.0%	134.40	1787	471	188.4

Test Setup Notes: \_\_\_\_\_  
 Witnessed By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Witnessed For: \_\_\_\_\_ Date: \_\_\_\_\_

**Test Results**  
 Pump Head as Tested: 138.05 Rated Capacity as Tested: 3917.18 Brake Horsepower as Tested: 153.51  
 Designated RPM: 1750 Pump Efficiency as Tested: 89.47 Impeller Vendor: \_\_\_\_\_  
 Cat. Flow @ BEP: 4000 Catalog Head: 140 Catalog Efficiency: 88 Case Vendor: \_\_\_\_\_

SPEC NO. J-2944

REV	DATE	DESCRIPTION	PREP	REV.	APP
1	EDSF	FOR RECORD PER EC 378951.	EDSF	EDSF	EDSF
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**PUMP PERFORMANCE CURVE FOR 1E12-C300D**

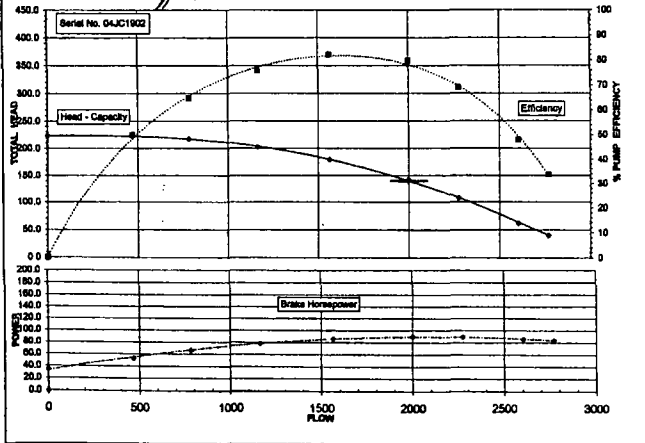
<b>Exelon</b> Nuclear LaSalle Station Unit: 1	NUCLEAR SAFETY RELATED EQUIPMENT IS SHOWN ON THIS DRAWING	SCALE: NCHES	1821-2
		DATE: _____	
DRAWN BY: _____		SHEET NO: _____	SIZE: C M00
ORC. BY: J105			

1940-2

<b>CURVE TC #</b> 1940-2	<b>Model #</b> Sbc017	<b>MOTOR</b> Motor 200.0 hp
<b>Test Date</b> 08/22/06	<b>Impeller DTH</b> 14.00	<b>Volts</b> 480
<b>Customer</b> Sulzer Pumps - Chatternong	<b>Rated Capacity</b> 2000.0 GPM	<b>Phase</b> 3
<b>Invoice #</b> 017322-1	<b>Rated Head</b> 140.0 ft	<b>Hertz</b> 60
<b>Curve No.</b> 04JC1902	<b>Efficiency</b> 81.8%	<b>Curve RPM</b> 1750

**SULZER**

Sulzer Pumps Houston Inc.



**TEST CURVE WORKSHEET**

**SULZER**

<b>SALES ORDER #</b> 017322-1	<b>TESTED BY</b> L. Collins
<b>CUSTOMER</b> Sulzer Pumps - Chatternong	<b>FILE NAME</b> TCR 1940-2
<b>MODEL</b> Sbc017	<b>TEST DATE</b> 08/22/06

<b>SAP TEST DIA.</b> 18.00 in	<b>Bucket Multiplier</b> 2.50	<b>MOTOR HP</b> 200.0
<b>Max IMPELLER DIA.</b> 17.00 in		<b>MOTOR NAMEPLATE RPM</b> 1750
<b>RECUCTION Top DIA.</b> 7.881 in	<b>Bucket Output/Year/Block</b> 380 g - 85 Pas	<b>CURVE RPM</b> 1750
<b>Check Dist. Flange to Top</b> 4.780 in		<b>VOLTS</b> 480
<b>DISCHARGE Top DIA.</b> 6.289 in	<b>Discharge Output/Year/Block</b> 0 - 380 Pas	<b>PHASE</b> 3
<b>Check Dist. Flange to Top</b> 31.000 in	<b>Test @</b> 1750 RPM	<b>HERTZ</b> 60
<b>RATED CAPACITY:</b> 2000.00	<b>Test Capacity:</b> 2000.00	<b>WATT Meter N/A</b> 1000
<b>RATED HEAD:</b> 140.00	<b>Test Head:</b> 140.00	<b>Motor RPT</b> 02/06
<b>BECH EFFICIENCY:</b> 81.8%	<b>Design Point #</b> 6	<b>Motor No. Test Test Motor</b>
<b>ORANGE HANDLE BRAC METER</b> 12" Max Flow	<b>Flow Range</b>	<b>Motor MFC</b> 1.000
<b>Orifice Value</b> 0	<b>60 - 180% GPM</b>	<b>Brush RPM/Min</b> 14
<b>Shut-off Head</b> 0.000		<b>Water Temp (F)</b> 67.25

**TEST DATA**

TEST POINT #	PSI / INCHES N/A	SUCT HEAD	DISCH HEAD	CALC GPM	DELTA P CALC DELTA P	ACTUAL DELTA P AT GPM	MOTOR EFF. %	WATTS	RPM	VOLTS (PHI OMP)	AMPS (PHI OMP)
1	2	2.80	104.8	0	N/A	0	78.0%	24.00	1707	459	71.8
2	2	2.80	104.8	400	N/A	462	80.0%	46.40	1750	459	85.8
3	2	2.80	104.8	800	N/A	804	80.0%	89.20	1750	457	88.2
4	2	2.80	85.8	1200	N/A	1198	80.0%	139.20	1754	457	102.7
5	2	2.80	82.0	1600	N/A	1602	80.0%	178.40	1762	457	117.8
6	2	2.80	84.5	2000	N/A	2000	80.0%	228.00	1753	459	121.9
7	2	2.80	48.0	2300	N/A	2324	80.0%	278.40	1754	459	121.3
8	2	2.80	28.0	2600	N/A	2670	80.0%	318.40	1754	459	117.4
9	2	4.85	17.0	3000	N/A	3040	80.0%	344.00	1754	459	115.3
10	2	4.85	17.0	3200	N/A	3240	80.0%	344.00	1754	459	118.3
11	2	4.85	17.0	3200	N/A	3240	80.0%	344.00	1754	459	118.3
12	2	4.85	17.0	3000	N/A	3040	80.0%	344.00	1754	459	115.3

P.O. # 00063377

REV	DATE	DESCRIPTION	PREP	SEV	APPR
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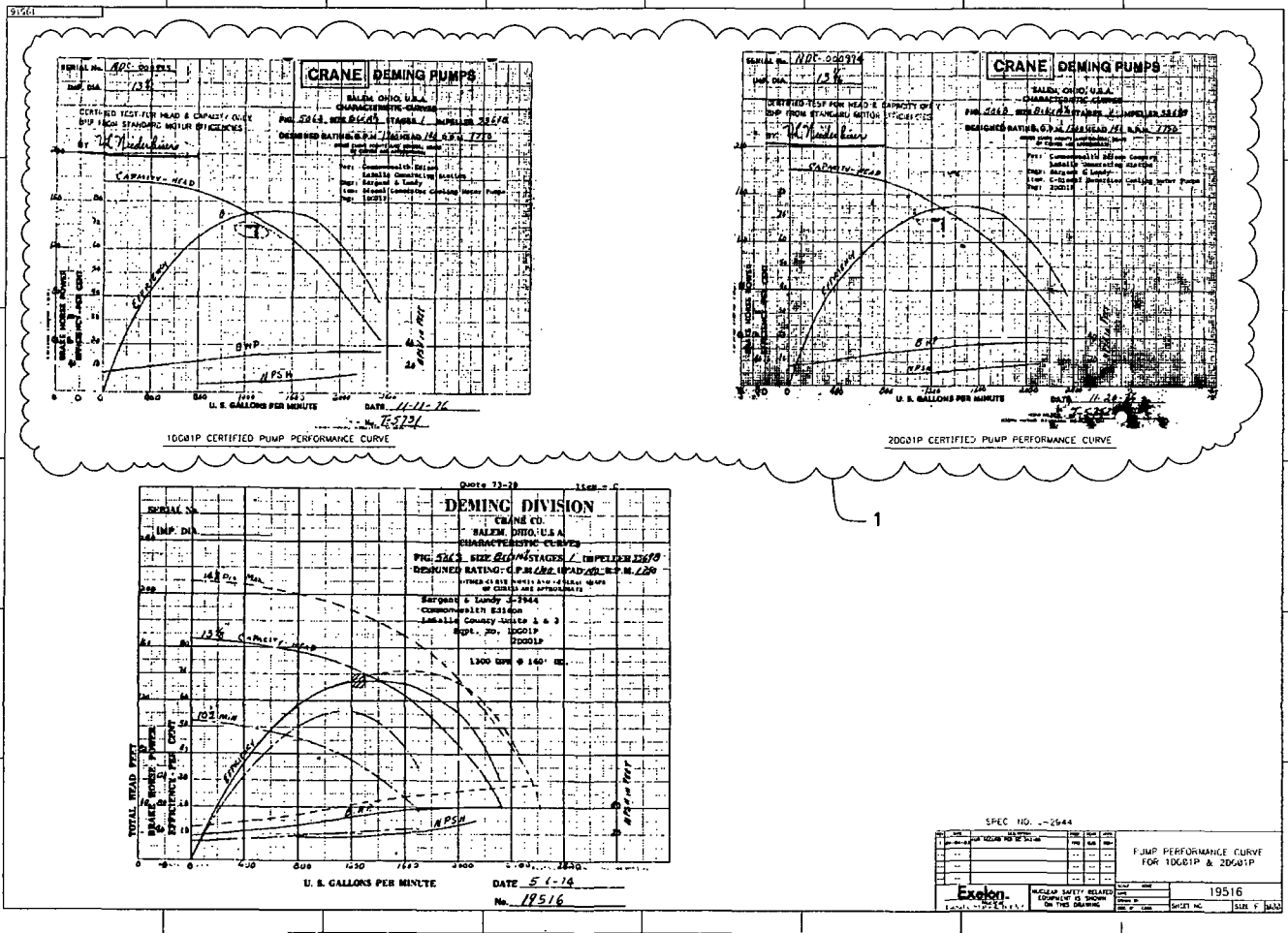
PUMP PERFORMANCE CURVE FOR 0D01P

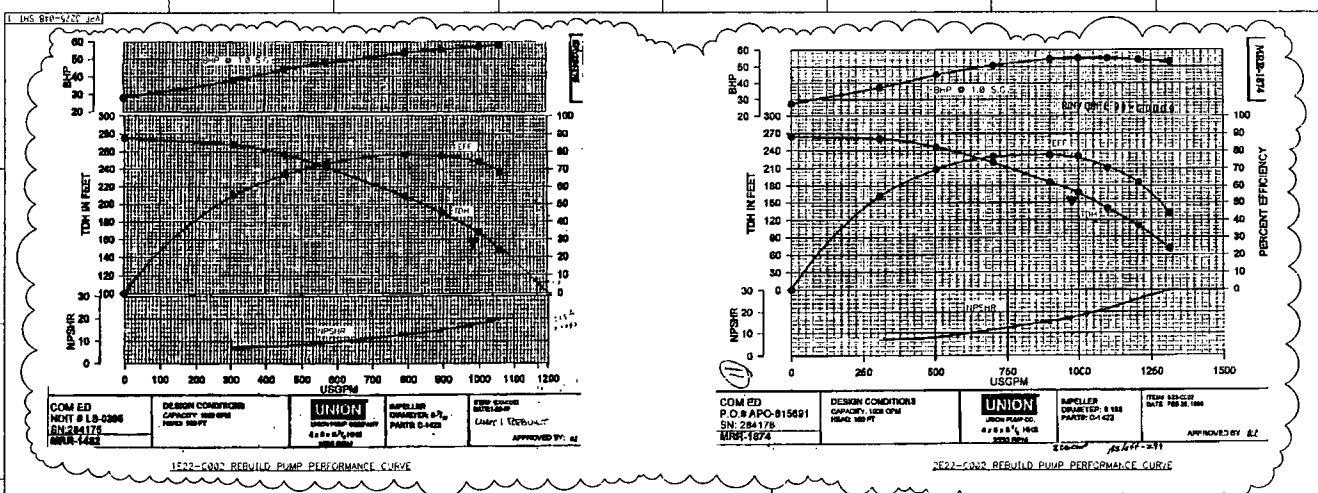
<b>Exelon</b> Nuclear LaSalle Station Unit 182	<b>NUCLEAR SAFETY RELATED EQUIPMENT IS SHOWN ON THIS DRAWING</b>	<b>SCALE</b> NONE <b>DATE</b> <b>DRAWN BY:</b> <b>CRC BY:</b> 0840	<b>1940-2</b>	<b>SHEET NO.:</b> <b>SIZE:</b> C <b>M00</b>
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CALCULATION NO. L-002457

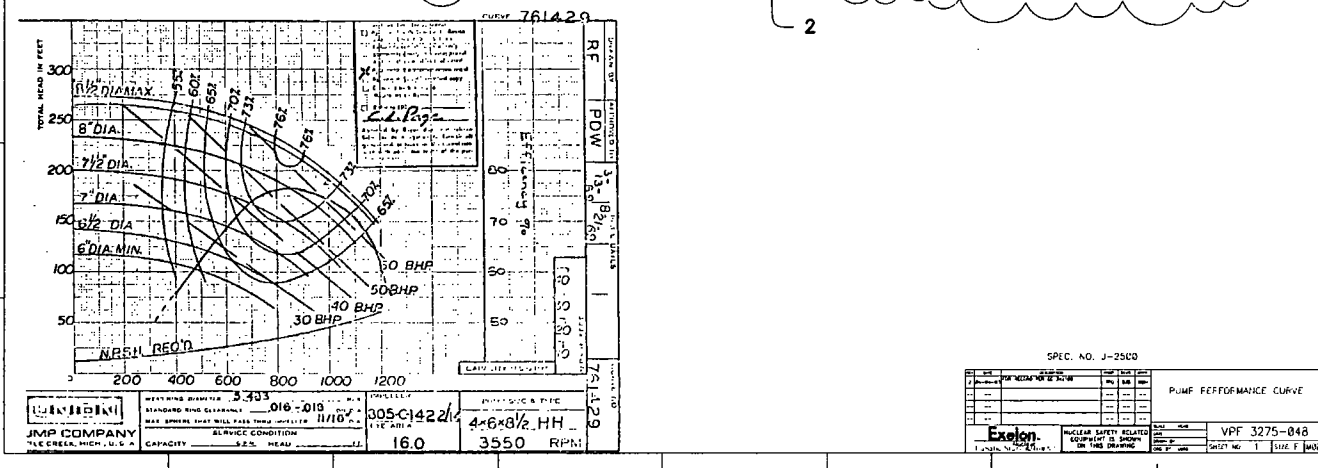
REVISION NO. 7

ATTACHMENT D  
PAGE D10 OF D12





2



## Attachment E

## UHS Operability Determinations

LAKET10 Version 1.0 - Sargent & Lundy Program No. 03.7.292-1.0  
 User 0J2069 on PC5407 Tuesday, January 11, 2000 Time : 1:14:54  
 Controlled Files:

Drive V: = SNL1\SYS3: \

Volume in drive V is SYS3

[Base]\LAKET\$.BAT	07-02-1996 11:49
[Base]\LAKETRUN.BAT	10-24-1997 13:27
[Base]\LPRINT.EXE	08-03-1995 11:42
[Base]\PIA8586.BAT	03-31-1992 16:04
[Base]\BRAUHS3A.BAT	08-01-1995 21:06
[Base]\BRAUHS3A.DAT	08-02-1995 16:57
[Base]\TEST.DAT	11-23-1992 14:00
[Base]\LAKET.EXE	10-27-1997 08:45

## Directory of C:\UHS\L-002457\LAKET-PC

case-10	dat	2,644	01-11-00	10:54a
case-11	dat	2,297	01-11-00	1:03p
case-12	dat	2,020	01-11-00	11:08a
case-13	dat	2,299	01-11-00	1:13p

## Directory of c:\UHS\L-002457\LAKET-PC

pslsevp	bin	44,642	12-16-97	3:27p
e30	bin	44,642	05-19-99	4:44p
pslsw-2	bin	46,130	12-15-97	3:21p
tcom	bin	53,570	05-19-99	4:44p

**E.1 Purpose**

This attachment provides two analyses of the LaSalle County Station Ultimate Heat Sink. These analyses are outside the power uprate design basis. The first analysis corresponds to conditions identified in a July 1999 UFSAR update. The second analysis may be used to demonstrate future UHS operability.

**E.2 Methodology and Acceptance Criteria**

The Methodology is the same as Sec. 2.0 of this calculation. There are no acceptance criteria.

**E.3 Assumptions**

Same as Sec. 3.0 of this calculation.

**E.4 Design Input**

Same as Sec. 4.0 of this calculation, except for initial lake temperature as indicated.

**E.5 References**

Same as Sec. 5.0 of this calculation.

**E.6 Calculations**

The two UHS analyses provided in this attachment are:

1. For the pre-power uprate configuration, determine the post-accident peak temperature and UHS drawdown for 1.5 ft of postulated siltation, assuming an initial lake temperature of 97°F. In calculating drawdown and the associated post-LOCA temperature transient, Case 10 uses the worst composite 31-day period for heat up in the original design basis weather history. Case 11 uses the worst 30-day period for evaporation in the original design basis weather history. Both Cases 10 and 11 use the UHS heat loads developed for power uprate. The new heat loads are used even though they are less than the original design basis UHS heat loads because the new heat loads are more accurate.
2. For the post-power uprate configuration, determine the peak UHS temperature and maximum UHS drawdown with no postulated siltation, assuming initial lake temperature of 100°F. Case 12 uses the worst composite 36-day period for heat up in the 48-year weather history, ending June 1996. Case 13 uses the worst 30-day period for evaporation in this post-power uprate design basis weather history.

The 1.5-foot-siltation, pre-power uprate scenario may be used to evaluate the pre-power uprate UHS design basis.

The elevated-initial lake temperature scenarios may be used to evaluate UHS operability were the lake to exceed the 97.2°F maximum allowable intake temperature in the future.



**E.7 Conclusions**

**Summary of UHS LAKET-PC Runs:**

Case	Initial Temperature (°F)	Accumulated Siltation (ft)	Weather Data	Peak Intake Temperature (°F)	Maximum 30 Day Drawdown (ft)
10	97	1.5	31-Day Historical Data Worst Temperature	97.86	0.84
11	97	1.5	30-Day Updated Data Worst Evaporation	97.00	1.28
12	100	0.0	36-Day Updated Data Worst Temperature	101.36	1.32
13	100	0.0	30-Day Updated Data Worst Evaporation	101.46	1.47

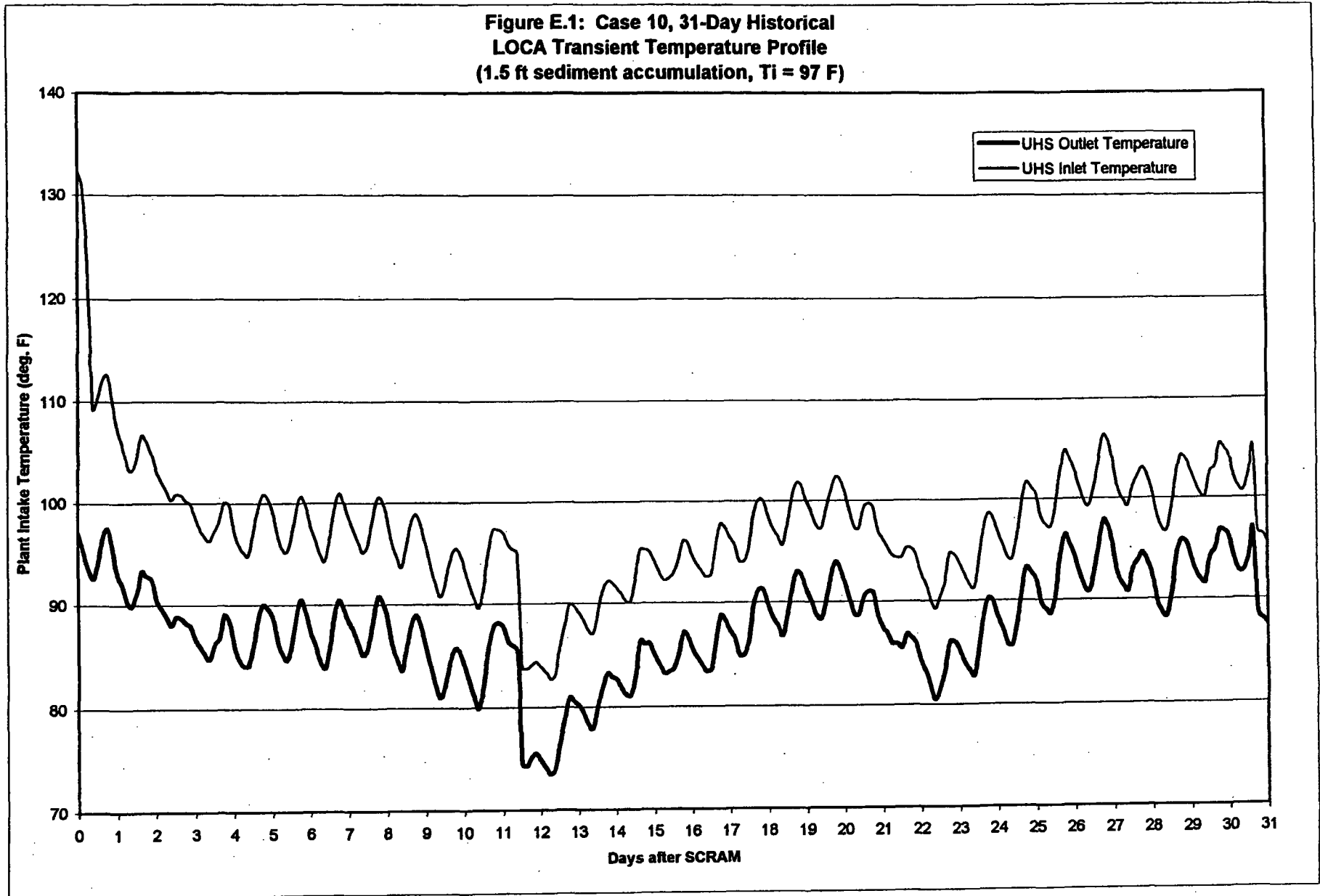
**Figures**

Plots of the UHS temperature response for Cases 10 through 13 are provided on pp. E4-E8:

- Figure E.1: Case 10, 31-Day Historical, LOCA Transient Plant Intake Temperature Profile (1.5 ft sediment accumulation,  $T_i=97^\circ\text{F}$ ) ..... E4
- Figure E.2: Case 11, 30-Day Historical Worst Evaporation Period, LOCA Transient Temperature (1.5 ft sediment accumulation,  $T_i = 97^\circ\text{F}$ ) ..... E5
- Figure E.3: Case 11, 30-Day Historical Worst Evaporation Period Post-LOCA Drawdown (1.5 ft sediment accumulation,  $T_i = 97^\circ\text{F}$ ) ..... E6
- Figure E.4: Case 12, 36-Day LOCA Transient Plant Intake Temperature Profile (no sediment accumulation,  $T_i = 100^\circ\text{F}$ ) ..... E7
- Figure E.5: Case 13, 30-Day Worst Evaporation Period, LOCA Transient Temperature Profile (no sediment accumulation,  $T_i = 100^\circ\text{F}$ ) ..... E8
- Figure E.6: Case 13, 30-Day Worst Post-LOCA Drawdown (no sediment accumulation,  $T_i = 100^\circ\text{F}$ ) ..... E9

**Data**

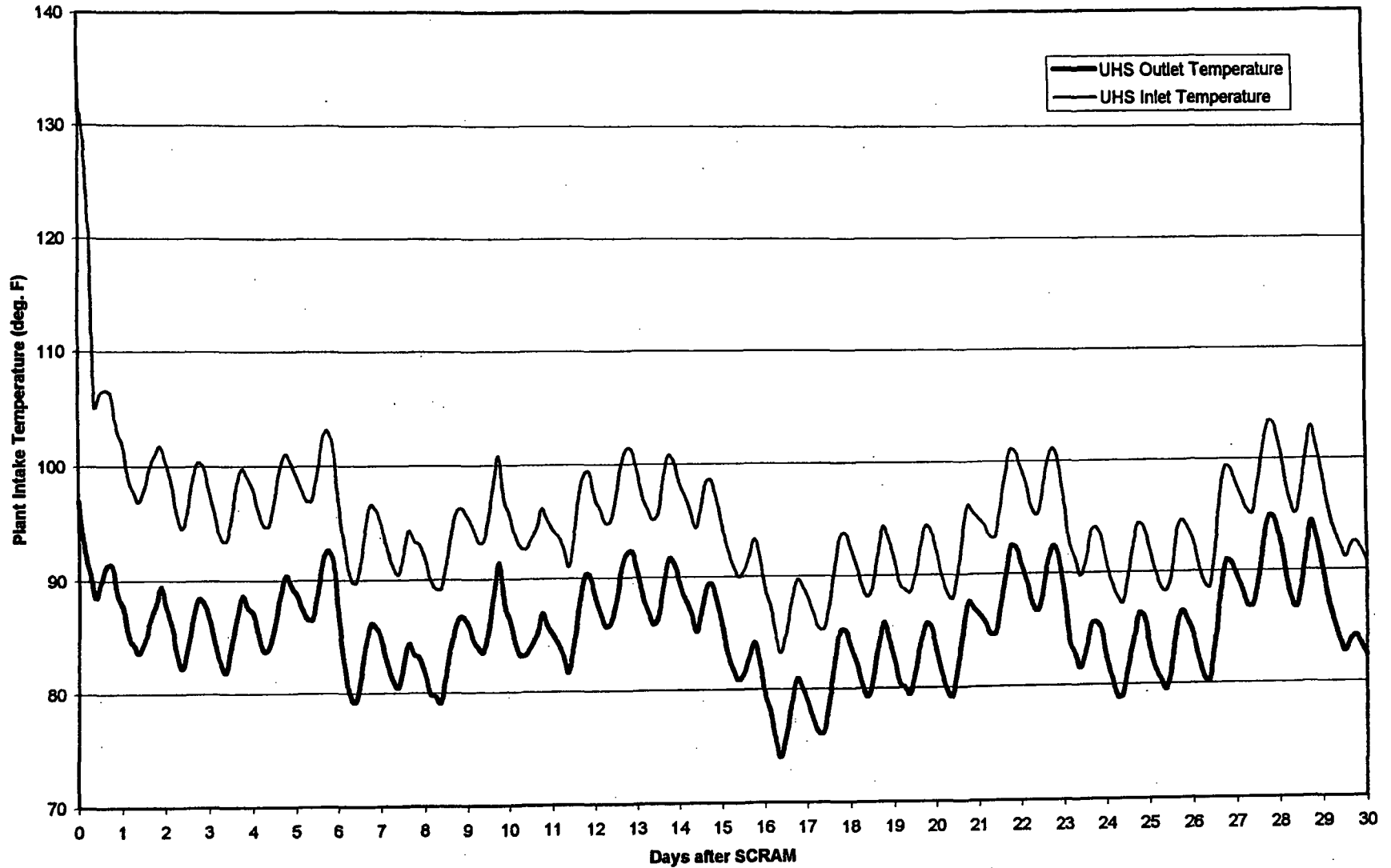
Output data (with input echo) for the LAKET-PC runs made for the pre-power uprate, 1.5-foot siltation scenario (Cases 10 and 11), and the elevated-initial lake temperature scenario (Cases 12 and 13) are provided on pp. E10-E57.



FOR INFORMATION ONLY

PROJECT NO. 11333-246

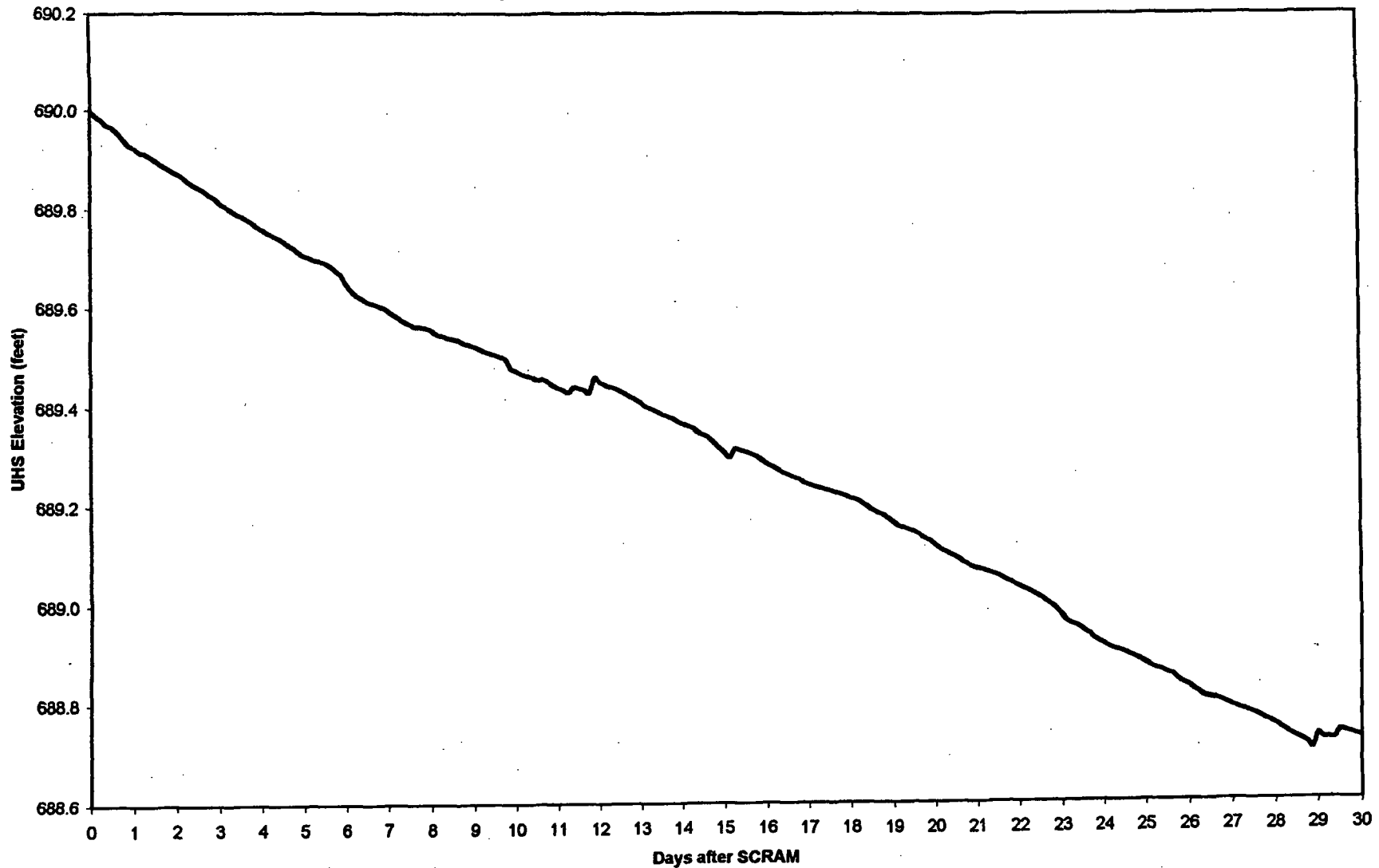
**Figure E.2: Case 11, 30-Day Historical Worst Evaporation Period  
LOCA Transient Temperature  
(0 ft. sediment accumulation  $T_i = 97$  F)**



FOR INFORMATION ONLY

PROJECT NO. 11333-246

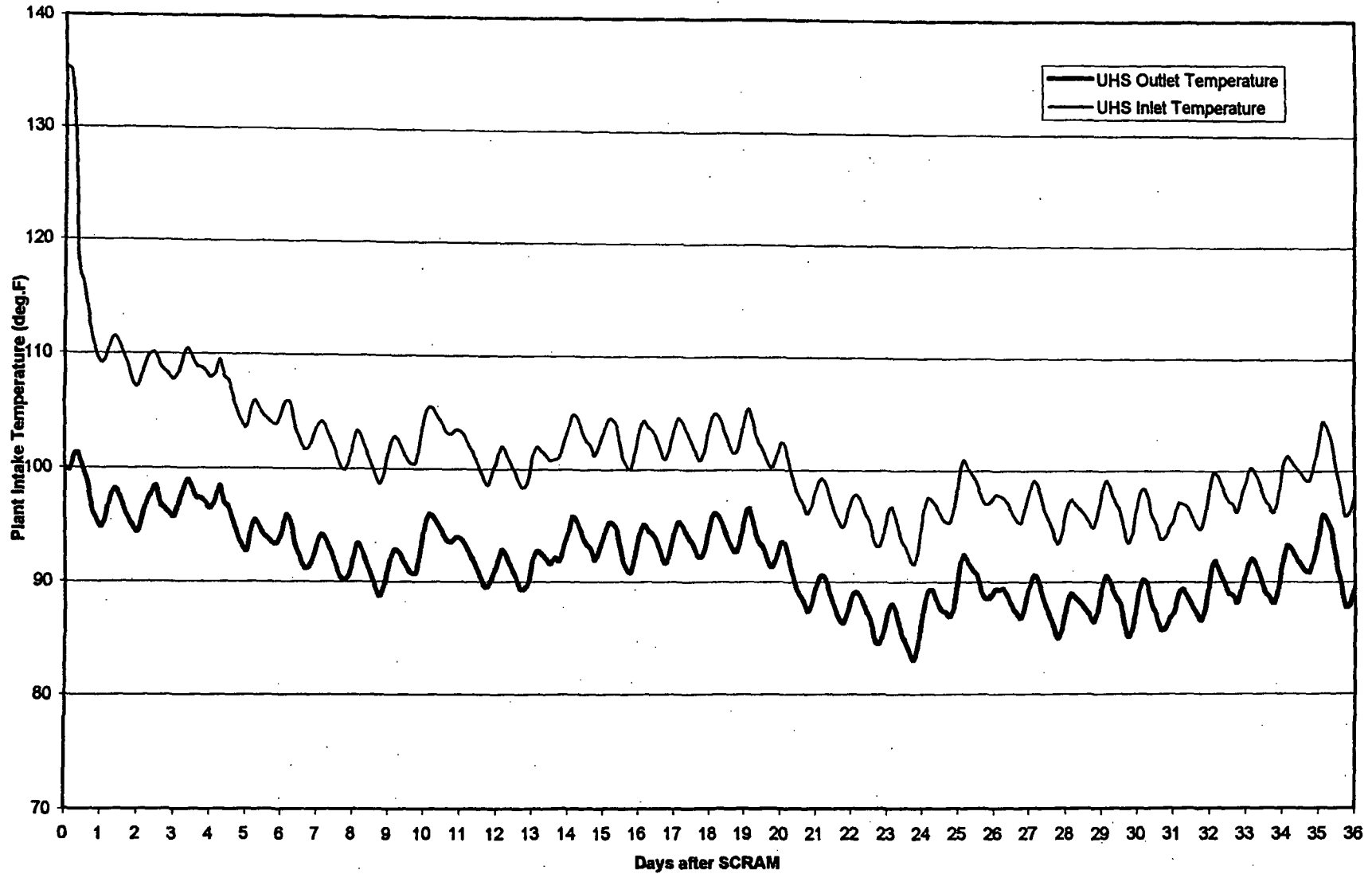
**Figure E.3: Case 11, 30-Day Historical Worst Evaporation Period  
Post LOCA Drawdown  
(1.5 ft sediment accumulation,  $T_i = 97$  F)**



FOR INFORMATION ONLY

PROJECT NO. 11333-246

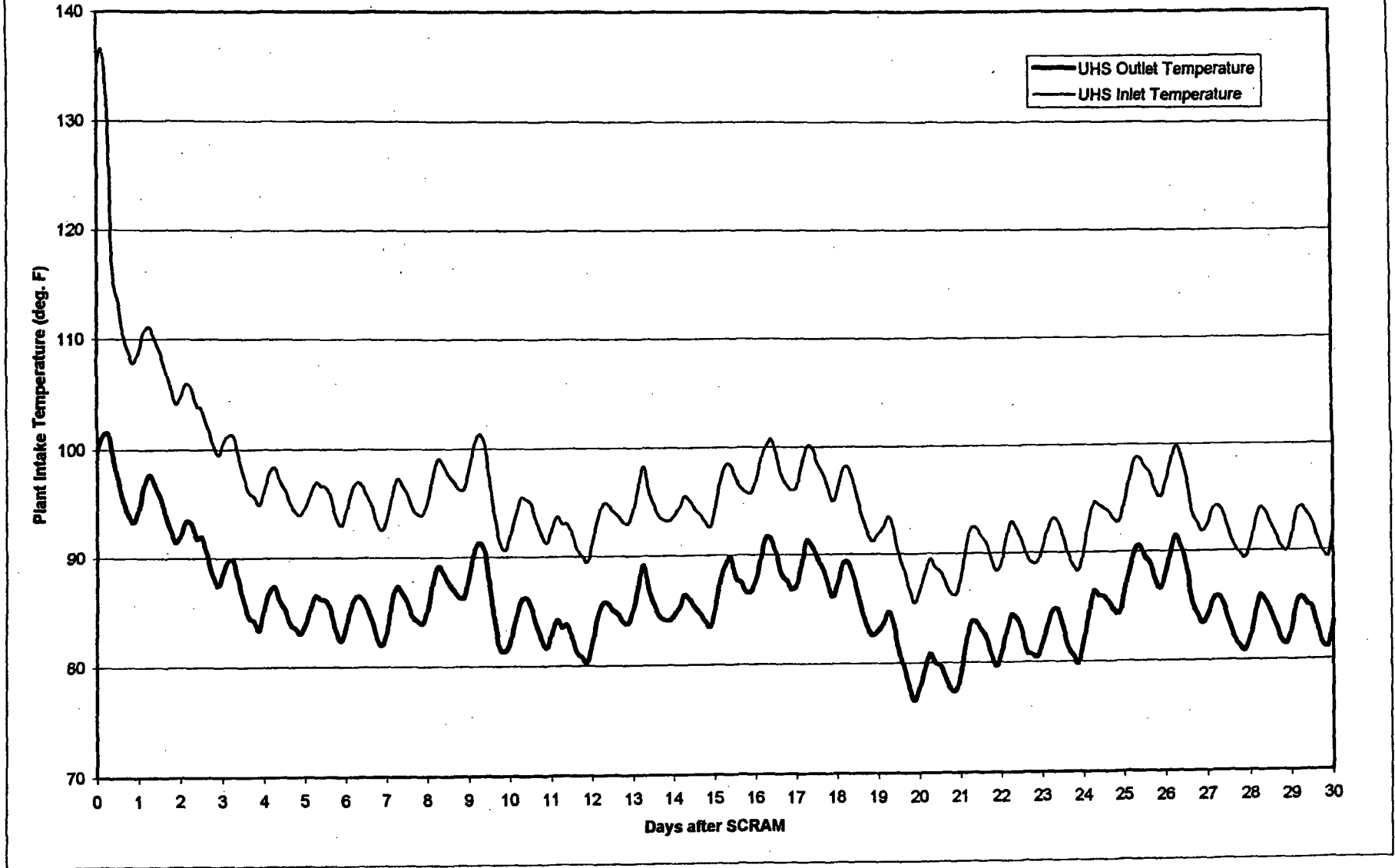
**Figure E.4: Case 12, 36-Day LOCA Transient Temperature Profile  
(0 ft. sediment accumulation  $T_i = 100$  F)**



FOR INFORMATION ONLY

PROJECT NO. 11333-246

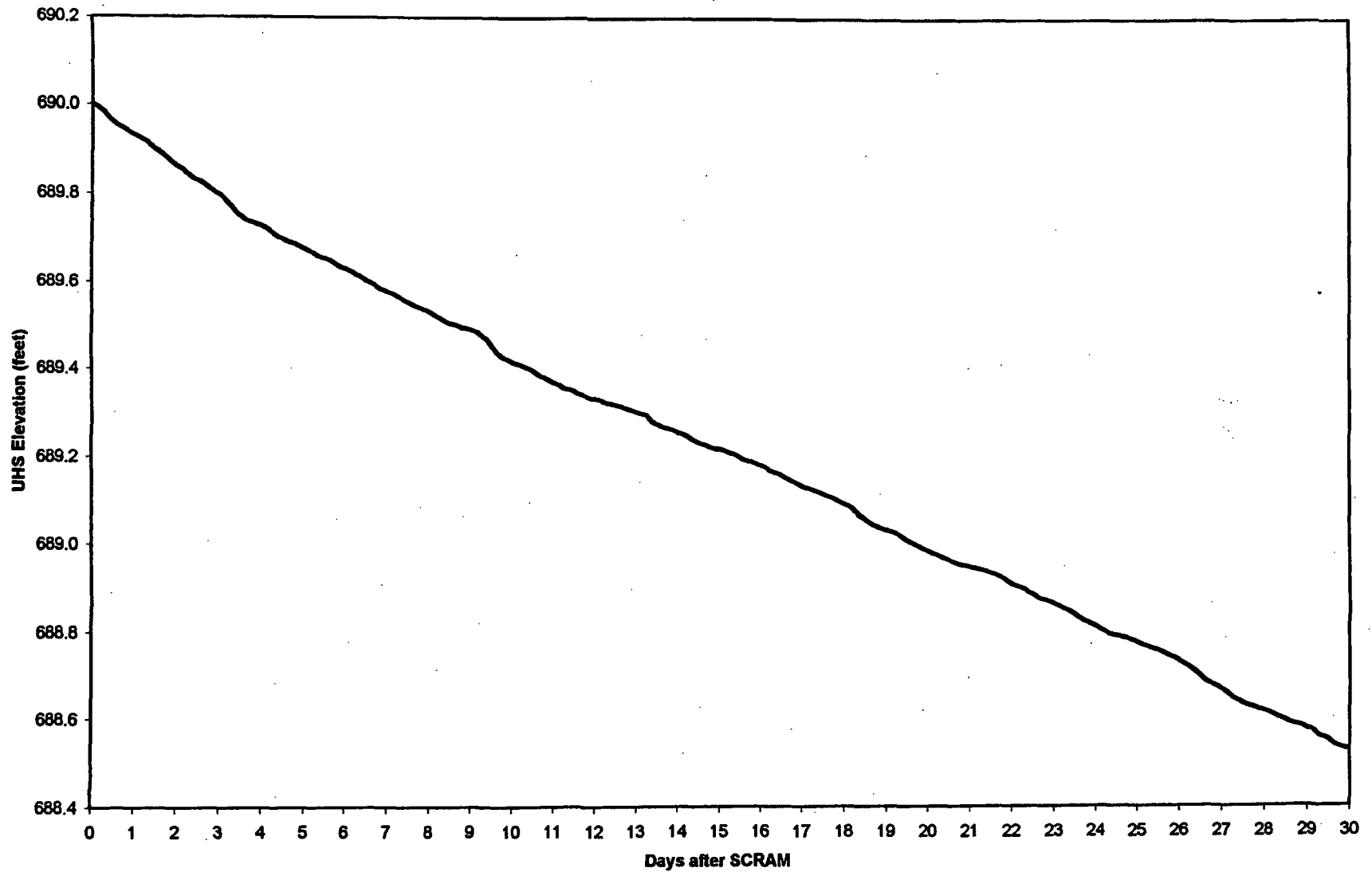
**Figure E.5: Case 13, 30-Day Historical Worst Evaporation Period  
LOCA Transient Temperature  
(0 ft. sediment accumulation  $T_i = 100$  F)**



FOR INFORMATION ONLY

PROJECT NO. 11333-246

**Figure E.6: Case 13, 30-Day Post LOCA Drawdown  
(no sediment accumulation,  $T_i = 100$  F)**



FOR INFORMATION ONLY

PROJECT NO. 11333-246

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 1  
Date : 01/11/2000  
Time : 12:05:51.79

Case 10: LaSalle UHS (Historical Worst 31-Day Temp; Ti=97.0 F; power uprate; 1.5 ft)

1				
2	070100	073100	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	97	92.3		
999				
FPLANT	R/I	86.0		
TPIRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
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12.02				
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12.01				
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11.07				



Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

Page : 2  
Date : 01/11/2000  
Time : 12:05:51.79

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Time : 12:05:51.79

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Time : 12:05:52.18

Case 10: LaSalle UHS (Historical Worst 31-Day Temp; Ti=97.0 F; power uprate; 1.5 ft)

RUN 31 DAYS FROM 70100 TO 73100  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.00 92.30

WEATHER STATION ID 14842.

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 01/11/2000  
Time : 12:05:52.23

Case 10: LaSalle UHS (Historical Worst 31-Day Temp; Ti=97.0 F; power uprate; 1.5 ft)

FPLANT

70100 - 73100 R/I 86.000

TPRISE

70100 - 73100 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220



Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 12:05:52.51

Case 10: LaSalle UHS (Historical Worst 31-Day Temp; T1=97.0 F; power uprate; 1.5 ft)

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	.00	-.18
TOTAL EVAP (CFS)	.00	-1.41	.00	-1.41
NATURAL EVAP (CFS)	.00	-.79	.00	-.79
FORCED EVAP (CFS)	.00	-.62	.00	-.62
PRECIPITATION (CFS)	.00	.56	.00	.56
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.57	.00	689.57
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	86.51	.00	86.51
LAKE INLET TEMP (F)	.00	97.44	.00	97.44
LAKE OUTLET TEMP (F)	.00	87.72	.00	87.72

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.5	94.4	86.8
LAKE INLET TEMP (F)	122.0	105.8	97.3
LAKE OUTLET TEMP (F)	97.3	95.5	88.0

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Time : 12:05:52.51

Case 10: LaSalle UHS (Historical Worst 31-Day Temp; Ti=97.0 F; power uprate; 1.5 ft)

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-1.18	.00	-1.18
TOTAL EVAP (CFS)	.00	-1.41	.00	-1.41
NATURAL EVAP (CFS)	.00	-.79	.00	-.79
FORCED EVAP (CFS)	.00	-.62	.00	-.62
PRECIPITATION (CFS)	.00	.56	.00	.56
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.57	.00	689.57
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	86.51	.00	86.51
LAKE INLET TEMP (F)	.00	97.44	.00	97.44
LAKE OUTLET TEMP (F)	.00	87.72	.00	87.72

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.5	94.4	86.8
LAKE INLET TEMP (F)	122.0	105.8	97.3
LAKE OUTLET TEMP (F)	97.3	95.5	88.0

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 01/11/2000  
 Time : 12:05:52.51

Case 10: LaSalle UHS (Historical Worst 31-Day Temp; Ti=97.0 F; power uprate; 1.5 ft)

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.16 ( 7311900)	-.20 ( 7011900)	-.18	-1.11450E+01
TOTAL EVAP (CFS)	-.35 ( 7121900)	-5.11 ( 7311900)	-1.41	-8.68302E+01
NATURAL EVAP (CFS)	.00 ( 7141900)	-4.08 ( 7311900)	-.79	-4.85341E+01
FORCED EVAP (CFS)	-.24 ( 7301900)	-1.63 ( 7011900)	-.62	-3.82961E+01
PRECIPITATION (CFS)	84.46 ( 7121900)	.00 ( 7011900)	.56	3.42071E+01
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	690.00 ( 7011900)	689.14 ( 7311900)	689.57	4.24001E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	96.94 ( 7271900)	71.80 ( 7131900)	86.51	5.31907E+03
LAKE INLET TEMP (F)	130.65 ( 7011900)	82.68 ( 7131900)	97.44	5.99149E+03
LAKE OUTLET TEMP (F)	97.86 ( 7271900)	73.49 ( 7131900)	87.72	5.39394E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	96.5	94.4	86.8
LAKE INLET TEMP (F)	122.0	105.8	97.3
LAKE OUTLET TEMP (F)	97.3	95.5	88.0

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Time : 12:07:25.82

Case 11: LaSalle UHS (Historical Worst 30-Day Evap; Ti=97.0 F; power uprate; 1.5 ft)

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3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.22	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	97	92.3		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
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14.29				
13.88				
13.45				
13.30				
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
Created : Mon Oct 27 08:45:58 1997

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Date : 01/11/2000  
Time : 12:07:25.88

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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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8.49  
8.44  
END

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
Created : Mon Oct 27 08:45:58 1997

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Date : 01/11/2000  
Time : 12:07:26.32

Case 11: LaSalle UHS (Historical Worst 30-Day Evap; Ti=97.0 F; power uprate; 1.5 ft)

RUN 30 DAYS FROM 70100 TO 73000  
PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.220	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.00 92.30

WEATHER STATION ID 93822.



8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.440

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 12:07:26.59

Case 11: LaSalle UHS (Historical Worst 30-Day Evap; T1=97.0 F; power uprate; 1.5 ft)

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.76	.00	-1.76
NATURAL EVAP (CFS)	.00	-1.13	.00	-1.13
FORCED EVAP (CFS)	.00	-.62	.00	-.62
PRECIPITATION (CFS)	.00	.21	.00	.21
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.30	.00	689.30
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.23	.00	84.23
LAKE INLET TEMP (F)	.00	95.09	.00	95.09
LAKE OUTLET TEMP (F)	.00	85.34	.00	85.34

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	93.3	90.6	84.1
LAKE INLET TEMP (F)	119.0	102.0	94.8
LAKE OUTLET TEMP (F)	94.3	92.2	85.4

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 01/11/2000  
 Time : 12:07:26.59

Case 11: LaSalle UHS (Historical Worst 30-Day Evap; Ti=97.0 F; power uprate; 1.5 ft)

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.76	.00	-1.76
NATURAL EVAP (CFS)	.00	-1.13	.00	-1.13
FORCED EVAP (CFS)	.00	-.62	.00	-.62
PRECIPITATION (CFS)	.00	.21	.00	.21
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.30	.00	689.30
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.23	.00	84.23
LAKE INLET TEMP (F)	.00	95.09	.00	95.09
LAKE OUTLET TEMP (F)	.00	85.34	.00	85.34

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	93.3	90.6	84.1
LAKE INLET TEMP (F)	119.0	102.0	94.8
LAKE OUTLET TEMP (F)	94.3	92.2	85.4

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 11: LaSalle UHS (Historical Worst 30-Day Evap; Ti=97.0 F; power uprate; 1.5 ft)

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.14 ( 7291900)	-.20 ( 7011900)	-.17	-1.00805E+01
TOTAL EVAP (CFS)	-.51 ( 7301900)	-5.47 ( 7061900)	-1.76	-1.04618E+02
NATURAL EVAP (CFS)	-.24 ( 7091900)	-4.15 ( 7061900)	-1.13	-6.74350E+01
FORCED EVAP (CFS)	-.15 ( 7271900)	-1.52 ( 7011900)	-.62	-3.71835E+01
PRECIPITATION (CFS)	10.92 ( 7291900)	.00 ( 7011900)	.21	1.22595E+01
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.70 ( 7291900)	689.30	4.10164E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	93.92 ( 7291900)	73.98 ( 7171900)	84.23	5.01232E+03
LAKE INLET TEMP (F)	128.10 ( 7011900)	83.11 ( 7171900)	95.09	5.65827E+03
LAKE OUTLET TEMP (F)	94.91 ( 7281900)	73.98 ( 7171900)	85.34	5.07837E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	93.3	90.6	84.1
LAKE INLET TEMP (F)	119.0	102.0	94.8
LAKE OUTLET TEMP (F)	94.3	92.2	85.4

Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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Case 12: LaSalle UHS (Updated Worst 36-Day Temp.; T1=100.0 F; power uprate, 0 ft

1				
2	070100	080500	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	100.0	95.3		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
13.30				
13.30				
13.24				
12.73				
12.73				
12.57				
12.43				
12.24				
12.02				
12.02				
12.02				
12.02				
12.01				
11.49				
11.49				
11.49				
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11.49				
11.49				
11.49				
11.09				
11.07				



Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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11.07  
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9.54









Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
 Created : Mon Oct 27 08:45:58 1997

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Case 12: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0 F; power uprate, 0 ft

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.30

WEATHER STATION ID 0.

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
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Case 12: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0 F; power uprate, 0 ft

FPLANT

70100 - 80500 R/I 86.000

TPRISE

70100 - 80500 S/I 35.260 28.790 16.680 16.280

15.320	14.970	14.530	14.290
13.880	13.450	13.300	13.300
13.300	13.240	12.730	12.730
12.570	12.430	12.240	12.020
12.020	12.020	12.020	12.010
11.490	11.490	11.490	11.490
11.490	11.490	11.490	11.490
11.090	11.070	11.070	11.070
11.070	10.870	10.860	10.860
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.500
10.500	10.500	10.500	10.270
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.990	9.990
9.990	9.990	9.720	9.700
9.700	9.700	9.700	9.700
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.540	9.540	9.540	9.540
9.400	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.190	9.190
9.190	9.190	9.150	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700

8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.220	8.490	8.490	8.490
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220
8.220	8.220	8.220	8.220



Program : LAKET-PC  
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Case 12: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0 F; power uprate, 0 ft

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.64	-1.32	-1.60
NATURAL EVAP (CFS)	.00	-1.00	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.98	89.49	90.77
LAKE INLET TEMP (F)	.00	101.66	98.70	101.25
LAKE OUTLET TEMP (F)	.00	91.89	90.51	91.70

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.9	96.5	90.8
LAKE INLET TEMP (F)	129.0	109.7	100.8
LAKE OUTLET TEMP (F)	101.0	97.6	91.7

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 11:55:12.07

Case 12: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0 F; power uprate, 0 ft

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.18	-.15	-.17
TOTAL EVAP (CFS)	.00	-1.64	-1.32	-1.60
NATURAL EVAP (CFS)	.00	-1.00	-.77	-.96
FORCED EVAP (CFS)	.00	-.65	-.55	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.29	688.56	689.19
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	90.98	89.49	90.77
LAKE INLET TEMP (F)	.00	101.66	98.70	101.25
LAKE OUTLET TEMP (F)	.00	91.89	90.51	91.70
TEMPERATURE	FREQUENCY OF OCCURENCES			
	1%	5%	50%	
NATURAL LAKE TEMP (F)	97.9	96.5	90.8	
LAKE INLET TEMP (F)	129.0	109.7	100.8	
LAKE OUTLET TEMP (F)	101.0	97.6	91.7	

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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Case 12: LaSalle UHS (Updated Worst 36-Day Temp.; Ti=100.0 F; power uprate, 0 ft

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 8051900)	-.20 ( 7011900)	-.17	-1.24016E+01
TOTAL EVAP (CFS)	-.28 ( 8051900)	-4.00 ( 7051900)	-1.60	-1.14179E+02
NATURAL EVAP (CFS)	.00 ( 7031900)	-2.71 ( 7051900)	-.96	-6.88598E+01
FORCED EVAP (CFS)	-.26 ( 7311900)	-1.63 ( 7011900)	-.63	-4.53194E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.46 ( 8051900)	689.19	4.92113E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.39 ( 7011900)	82.24 ( 7241900)	90.77	6.48137E+03
LAKE INLET TEMP (F)	135.14 ( 7011900)	91.64 ( 7241900)	101.25	7.22951E+03
LAKE OUTLET TEMP (F)	101.36 ( 7011900)	83.15 ( 7241900)	91.70	6.54786E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.9	96.5	90.8
LAKE INLET TEMP (F)	129.0	109.7	100.8
LAKE OUTLET TEMP (F)	101.0	97.6	91.7

Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Time : 12:04:09.96

Case 13: LaSalle UHS (Updated Worst 30-Day Evap; Ti=100.0 F; power uprate; 0 ft

1				
2	070100	073000	1	1
3	1	20		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	83.83	464.9	75.45	418.4
	82.15	381.9	73.94	343.7
	80.55	300.5	72.50	270.5
	78.96	220.8	71.06	198.7
	77.33	142.6	69.60	128.4
	29.70	71.7	26.73	65.6
7	1	0		
8	100.0	95.3		
999				
FPLANT	R/I	86.0		
TPRISE	S/I			
35.26				
28.79				
16.68				
16.28				
15.32				
14.97				
14.53				
14.29				
13.88				
13.45				
13.30				
13.30				
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13.24				
12.73				
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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Program : LAKET-PC  
Number : 03.7.292-1.0 O  
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CALCULATION NO. L-002457

REVISION NO. 7

ATTACHMENT E  
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Program : LAKET-PC  
Number : 03.7.292-1.0 0  
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8.49  
8.44  
END

PROJECT NO. 11333-246

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
 Created : Mon Oct 27 08:45:58 1997

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Case 13: LaSalle UHS (Updated Worst 30-Day Evap; Ti=100.0 F; power uprate; 0 ft

RUN 30 DAYS FROM 70100 TO 73000  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: .20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.30

WEATHER STATION ID 0.





Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 12:04:10.56

Case 13: LaSalle UHS (Updated Worst 30-Day Evap; Ti=100.0 F; power uprate; 0 ft

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.86	.00	-1.86
NATURAL EVAP (CFS)	.00	-1.24	.00	-1.24
FORCED EVAP (CFS)	.00	-.63	.00	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.22	.00	689.22
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.68	.00	84.68
LAKE INLET TEMP (F)	.00	95.58	.00	95.58
LAKE OUTLET TEMP (F)	.00	85.79	.00	85.79

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	93.0	84.1
LAKE INLET TEMP (F)	130.0	107.5	94.5
LAKE OUTLET TEMP (F)	101.0	93.8	85.3

Program : LAKET-PC  
 Number : 03.7.292-1.0 O  
 Created : Mon Oct 27 08:45:58 1997

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 Date : 01/11/2000  
 Time : 12:04:10.56

Case 13: LaSalle UHS (Updated Worst 30-Day Evap; Ti=100.0 F; power uprate; 0 ft

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	.00	-.17	.00	-.17
TOTAL EVAP (CFS)	.00	-1.86	.00	-1.86
NATURAL EVAP (CFS)	.00	-1.24	.00	-1.24
FORCED EVAP (CFS)	.00	-.63	.00	-.63
PRECIPITATION (CFS)	.00	.00	.00	.00
MAKEUP (CFS)	.00	.00	.00	.00
BLOWDOWN (CFS)	.00	.00	.00	.00
RUNOFF (CFS)	.00	.00	.00	.00
DAM SPILL (CFS)	.00	.00	.00	.00
LAKE ELEVATION (FEET)	.00	689.22	.00	689.22
DISSOLVED SOLIDS (PPM)	.00	.00	.00	.00
NATURAL LAKE TEMP (F)	.00	84.68	.00	84.68
LAKE INLET TEMP (F)	.00	95.58	.00	95.58
LAKE OUTLET TEMP (F)	.00	85.79	.00	85.79

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	93.0	84.1
LAKE INLET TEMP (F)	130.0	107.5	94.5
LAKE OUTLET TEMP (F)	101.0	93.8	85.3

Program : LAKET-PC  
 Number : 03.7.292-1.0 0  
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 Time : 12:04:10.56

Case 13: LaSalle UHS (Updated Worst 30-Day Evap; T1=100.0 F; power uprate; 0 ft

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE	TOTAL FLOW (ACRE-FEET)
LAKE SEEPAGE (CFS)	-.15 ( 7301900)	-.20 ( 7011900)	-.17	-1.04013E+01
TOTAL EVAP (CFS)	-.55 ( 7121900)	-5.33 ( 7101900)	-1.86	-1.10934E+02
NATURAL EVAP (CFS)	-.28 ( 7051900)	-4.08 ( 7101900)	-1.24	-7.35814E+01
FORCED EVAP (CFS)	-.15 ( 7301900)	-2.00 ( 7011900)	-.63	-3.73526E+01
PRECIPITATION (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
MAKEUP (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
BLOWDOWN (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
RUNOFF (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
DAM SPILL (CFS)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.53 ( 7301900)	689.22	4.10114E+04
DISSOLVED SOLIDS (PPM)	.00 ( 7011900)	.00 ( 7011900)	.00	0.00000E+00
NATURAL LAKE TEMP (F)	98.31 ( 7011900)	76.26 ( 7201900)	84.68	5.03876E+03
LAKE INLET TEMP (F)	136.49 ( 7011900)	85.42 ( 7201900)	95.58	5.68754E+03
LAKE OUTLET TEMP (F)	101.45 ( 7011900)	76.57 ( 7201900)	85.79	5.10465E+03

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
NATURAL LAKE TEMP (F)	97.5	93.0	84.1
LAKE INLET TEMP (F)	130.0	107.5	94.5
LAKE OUTLET TEMP (F)	101.0	93.8	85.3

**Attachment F**  
**LAKE-T Plot Data**



## Case 0009

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
0	12.375	690	93.5	133.26	98
0.125	12.5	689.993	94.337	133.379	98.119
0.25	12.625	689.986	96	128.291	99.501
0.375	12.75	689.977	96.967	116.617	99.937
0.5	12.875	689.968	96.347	115.053	98.773
0.625	13	689.961	95.626	112.792	97.472
0.75	13.125	689.951	94.165	110.46	95.49
0.875	13.25	689.945	93.187	108.966	94.436
1	13.375	689.94	92.827	108.306	94.016
1.125	13.5	689.933	93.834	108.809	94.929
1.25	13.625	689.927	95.587	110.054	96.604
1.375	13.75	689.919	96.572	110.805	97.505
1.5	13.875	689.912	96.087	110.256	96.956
1.625	14	689.906	95.261	109.385	96.085
1.75	14.125	689.9	94.382	108.405	95.165
1.875	14.25	689.894	93.619	107.099	94.369
2	14.375	689.889	93.21	106.653	93.923
2.125	14.5	689.883	94.397	107.635	95.065
2.25	14.625	689.876	95.88	108.919	96.489
2.375	14.75	689.868	96.773	109.576	97.336
2.5	14.875	689.86	96.261	109.511	97.937
2.625	15	689.853	95.363	108.506	96.486
2.75	15.125	689.849	94.673	107.777	95.757
2.875	15.25	689.846	94.289	107.382	95.362
3	15.375	689.842	94.026	107.072	95.062
3.125	15.5	689.837	95.296	108.159	96.812
3.25	15.625	689.83	96.837	109.854	98.364
3.375	15.75	689.821	97.568	110.466	98.976
3.5	15.875	689.813	96.87	109.68	98.19
3.625	16	689.808	96.148	108.91	97.42
3.75	16.125	689.805	95.772	108.521	97.031
3.875	16.25	689.802	95.379	108.216	96.726
4	16.375	689.797	95.016	107.806	96.316
4.125	16.5	689.791	95.86	108.162	97.072
4.25	16.625	689.783	97.16	109.349	98.279
4.375	16.75	689.771	95.869	107.94	96.87
4.5	16.875	689.765	95.494	107.521	96.451
4.625	17	689.76	94.594	106.579	95.362
4.75	17.125	689.753	93.361	104.96	94.09
4.875	17.25	689.748	92.421	103.901	93.041
5	15.5	689.743	91.859	103.313	92.453
5.125	15.625	689.738	93.676	104.794	94.294
5.25	15.75	689.732	94.658	105.731	95.231
5.375	15.875	689.725	94.126	105.165	94.665
5.5	16	689.721	93.49	104.511	94.011
5.625	16.125	689.719	93.136	104.151	93.651
5.75	16.25	689.717	92.765	103.775	93.275
5.875	16.375	689.713	92.486	103.479	92.979
6	10.625	689.707	93.51	104.563	94.382
6.125	10.75	689.701	94.392	105.714	95.214
6.25	10.875	689.694	93.862	105.321	95.32
6.375	11	689.686	92.579	103.848	93.348
6.5	11.125	689.68	91.53	102.767	92.267
6.625	11.25	689.675	90.605	101.817	91.317
6.75	11.375	689.673	90.657	101.926	91.426
6.875	11.5	689.668	91.622	102.88	92.38
7	11.625	689.66	92.903	103.859	93.589
7.125	11.75	689.651	93.555	104.17	94.18
7.25	11.875	689.646	93.048	103.626	93.636
7.375	12	689.64	92.038	102.586	92.596
7.5	12.125	689.634	91.036	101.557	91.567
7.625	12.25	689.629	89.989	100.484	90.494

Case 0009

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
7.75	12.375	689.622	89.186	99.896	90.161
7.875	12.5	689.615	89.667	100.551	90.561
8	12.625	689.609	91.338	102.265	92.275
8.125	12.75	689.604	92.536	103.417	93.427
8.25	12.875	689.598	92.016	102.852	92.862
8.375	13	689.591	90.92	101.714	91.724
8.5	13.125	689.585	89.8	100.599	90.609
8.625	13.25	689.58	88.69	99.45	89.46
8.75	13.375	689.574	88.1	98.944	88.954
8.875	13.5	689.567	88.863	99.641	89.651
9	13.625	689.562	90.732	101.462	91.472
9.125	13.75	689.557	91.975	102.663	92.673
9.25	13.875	689.553	91.939	102.598	92.608
9.375	14	689.549	91.42	101.78	92.06
9.5	14.125	689.544	90.669	101.239	91.539
9.625	14.25	689.54	90.098	100.639	90.939
9.75	14.375	689.538	90.167	100.699	90.999
9.875	14.5	689.534	91.602	102.1	92.4
10	14.625	689.53	93.49	104.512	94.812
10.125	14.75	689.525	94.716	105.509	95.969
10.25	14.875	689.52	94.633	105.381	95.841
10.375	15	689.514	93.954	104.637	95.097
10.5	15.125	689.509	93.342	104.073	94.533
10.625	15.25	689.504	92.697	103.379	93.839
10.75	15.375	689.5	92.251	102.884	93.344
10.875	15.5	689.494	92.727	103.356	93.816
11	15.625	689.487	92.741	103.278	93.738
11.125	15.75	689.479	92.413	102.858	93.318
11.25	15.875	689.472	91.609	101.986	92.446
11.375	16	689.466	90.834	101.168	91.628
11.5	16.125	689.461	89.834	100.128	90.588
11.625	16.25	689.456	88.842	98.999	89.962
11.75	16.375	689.452	88.513	98.778	89.588
11.875	16.5	689.446	89.552	99.739	90.585
12	16.625	689.44	90.629	100.769	91.579
12.125	16.75	689.436	92.009	102.102	92.912
12.25	16.875	689.43	91.445	101.477	92.287
12.375	17	689.425	90.634	100.63	91.44
12.5	17.125	689.42	89.731	99.693	90.503
12.625	17.25	689.416	88.69	98.614	89.424
12.75	17.375	689.412	88.435	98.496	89.755
12.875	17.5	689.405	89.354	99.741	90.551
13	17.625	689.4	91.179	101.355	92.165
13.125	17.75	689.392	92.092	102.178	92.988
13.25	17.875	689.387	91.737	101.776	92.586
13.375	18	689.385	91.404	101.434	92.244
13.5	18.125	689.383	91	101.021	91.831
13.625	18.25	689.38	90.73	100.904	91.959
13.75	18.375	689.377	90.53	100.906	91.716
13.875	18.5	689.373	91.96	102.519	93.627
14	18.625	689.369	93.189	103.96	94.77
14.125	18.75	689.363	94.254	104.9	95.71
14.25	18.875	689.357	93.992	104.558	95.368
14.375	19	689.351	93.024	103.516	94.326
14.5	19.125	689.346	92.134	102.483	93.293
14.625	19.25	689.344	91.726	102.086	92.896
14.75	19.375	689.338	90.954	101.221	92.031
14.875	19.5	689.332	92.076	102.253	93.063
15	19.625	689.326	93.224	103.308	94.118
15.125	19.75	689.32	94.456	104.469	95.279
15.25	19.875	689.315	94.276	104.251	95.061

## Case 0009

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
15.375	20	689.311	93.717	103.663	94.473
15.5	20.125	689.302	92.002	101.673	92.483
15.625	20.25	689.296	90.917	100.563	91.373
15.75	20.375	689.292	90.583	100.213	91.023
15.875	20.5	689.288	91.75	101.68	92.638
16	20.625	689.28	93.426	103.407	94.217
16.125	20.75	689.273	94.429	104.333	95.143
16.25	20.875	689.267	93.94	103.792	94.602
16.375	21	689.265	93.644	103.489	94.299
16.5	21.125	689.258	92.554	102.357	93.167
16.625	21.25	689.253	91.535	101.699	92.606
16.75	21.375	689.247	90.735	100.922	91.732
16.875	21.5	689.242	91.944	102.054	92.864
17	21.625	689.235	93.644	103.727	94.537
17.125	21.75	689.227	94.514	104.509	95.319
17.25	21.875	689.221	94.054	103.996	94.806
17.375	22	689.217	93.329	103.203	94.053
17.5	22.125	689.213	92.558	102.106	93.256
17.625	22.25	689.208	91.579	101.498	92.665
17.75	22.375	689.204	91.201	101.098	92.248
17.875	22.5	689.198	92.274	102.229	93.379
18	22.625	689.193	94.267	104.09	95.24
18.125	22.75	689.185	95.283	105.058	96.208
18.25	22.875	689.181	95.085	104.815	95.965
18.375	23	689.175	94.202	103.891	95.041
18.5	23.125	689.169	93.149	102.79	93.94
18.625	23.25	689.162	91.986	101.599	92.749
18.75	23.375	689.159	91.729	101.313	92.463
18.875	23.5	689.155	93.097	102.641	93.791
19	23.625	689.148	94.851	104.328	95.478
19.125	23.75	689.141	95.867	105.285	96.435
19.25	23.875	689.131	94.389	103.799	95.158
19.375	24	689.123	93.122	102.683	93.833
19.5	24.125	689.118	92.316	101.844	92.994
19.625	24.25	689.113	91.329	100.876	92.165
19.75	24.375	689.108	90.666	100.307	91.457
19.875	24.5	689.103	91.647	101.233	92.383
20	24.625	689.097	92.872	102.413	93.563
20.125	24.75	689.088	92.876	102.365	93.894
20.25	24.875	689.078	91.225	100.386	91.686
20.375	25	689.07	89.608	98.828	90.27
20.5	25.125	689.065	88.597	97.924	89.224
20.625	25.25	689.061	87.764	96.942	88.242
20.75	25.375	689.056	86.954	96.104	87.404
20.875	25.5	689.051	87.93	97.047	88.347
21	25.625	689.044	89.426	98.505	89.805
21.125	25.75	689.037	90.246	99.47	90.916
21.25	25.875	689.031	89.557	98.885	90.185
21.375	26	689.026	88.375	97.67	88.97
21.5	26.125	689.021	87.187	96.451	87.751
21.625	26.25	689.017	86.241	95.486	86.786
21.75	26.375	689.012	85.483	94.953	86.385
21.875	26.5	689.009	86.818	96.375	87.675
22	26.625	689.003	88.084	97.565	88.865
22.125	26.75	688.996	88.538	97.953	89.253
22.25	26.875	688.991	88.026	97.34	88.64
22.375	27	688.986	87.007	96.448	87.748
22.5	27.125	688.981	85.903	95.306	86.606
22.625	27.25	688.973	84.312	93.479	84.779
22.75	27.375	688.969	83.863	93.011	84.311
22.875	27.5	688.964	85.037	94.15	85.45

## Case 0009

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
23	27.625	688.958	86.875	96.127	87.459
23.125	27.75	688.95	87.607	96.825	88.125
23.25	27.875	688.942	86.578	95.56	87.04
23.375	28	688.934	85.002	94.044	85.554
23.5	28.125	688.928	83.801	92.795	84.305
23.625	28.25	688.923	82.708	92.139	83.677
23.75	28.375	688.919	82.246	91.651	83.161
23.875	28.5	688.916	83.963	93.306	84.816
24	28.625	688.913	86.741	96.016	87.526
24.125	28.75	688.907	88.395	97.588	89.423
24.25	28.875	688.902	88.178	97.599	89.109
24.375	29	688.896	87.31	96.657	88.409
24.5	29.125	688.892	86.491	96.005	87.515
24.625	29.25	688.888	85.926	95.431	87.323
24.75	29.375	688.884	85.606	95.422	86.932
24.875	29.5	688.882	87.31	97.058	88.568
25	29.625	688.878	89.684	99.385	91.134
25.125	29.75	688.872	91.146	100.957	92.467
25.25	29.875	688.866	90.396	100.192	91.931
25.375	30	688.862	89.802	99.643	91.153
25.5	30.125	688.858	89.032	98.895	90.677
25.625	30.25	688.852	88.095	97.668	89.178
25.75	30.375	688.848	87.53	97.048	88.558
25.875	30.5	688.845	87.79	97.262	88.772
26	30.625	688.842	88.451	97.878	89.388
26.125	30.75	688.838	88.455	97.808	89.318
26.25	30.875	688.835	88.168	97.612	89.387
26.375	31	688.831	87.454	97.108	88.618
26.5	31.125	688.827	86.598	96.19	87.7
26.625	31.25	688.824	85.86	95.489	87.144
26.75	31.375	688.821	85.601	95.33	86.84
26.875	31.5	688.818	87.168	96.813	88.323
27	31.625	688.813	88.63	98.167	89.677
27.125	31.75	688.805	89.593	99.26	90.77
27.25	31.875	688.798	88.806	98.367	89.877
27.375	1	688.79	87.377	96.378	87.888
27.5	1.125	688.785	86.3	95.549	87.367
27.625	1.25	688.781	85.199	94.709	86.219
27.75	1.375	688.775	84.098	93.539	85.049
27.875	1.5	688.77	85.234	94.663	86.173
28	1.625	688.765	87.101	96.459	87.969
28.125	1.75	688.759	88.15	97.441	88.951
28.25	1.875	688.754	87.65	96.977	88.549
28.375	2	688.752	87.241	96.619	88.129
28.5	2.125	688.75	86.767	96.135	87.645
28.625	2.25	688.745	85.822	95.435	87.119
28.75	2.375	688.741	85.157	94.887	86.397
28.875	2.5	688.737	86.449	96.105	87.615
29	2.625	688.734	88.796	98.39	89.9
29.125	2.75	688.727	89.873	99.176	90.593
29.25	2.875	688.721	89.18	98.342	89.852
29.375	3	688.716	88.094	97.219	88.729
29.5	3.125	688.711	87.059	96.455	88.076
29.625	3.25	688.705	85.508	94.48	85.99
29.75	3.375	688.7	84.669	93.612	85.122
29.875	3.5	688.695	85.976	94.885	86.395
30	3.625	688.69	88.147	97.223	88.85
30.125	3.75	688.684	89.508	98.356	90.136
30.25	3.875	688.68	89.129	97.994	89.774
30.375	4	688.672	87.489	96.273	88.053
30.5	4.125	688.667	86.509	95.36	87.14

Case 0009

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
30.625	4.25	688.661	85.209	93.995	85.775
30.75	4.375	688.658	84.885	94.064	85.893
30.875	4.5	688.656	85.92	95.095	86.875
31	4.625	688.652	86.506	95.615	87.395
31.125	4.75	688.648	88.152	97.19	88.97
31.25	4.875	688.644	87.943	97.078	88.858
31.375	5	688.641	87.253	96.802	88.591
31.5	5.125	688.637	86.506	95.99	87.77
31.625	5.25	688.633	85.71	95.114	87.211
31.75	5.375	688.63	85.2	94.84	86.62
31.875	5.5	688.627	86.818	96.37	88.15
32	5.625	688.624	89.433	98.912	90.692
32.125	5.75	688.62	90.52	99.924	91.908
32.25	5.875	688.614	89.833	99.321	91.101
32.375	6	688.609	88.761	98.251	90.031
32.5	6.125	688.605	87.806	97.341	89.121
32.625	6.25	688.603	87.56	97.079	88.859
32.75	6.375	688.599	86.897	96.366	88.212
32.875	6.5	688.596	88.481	97.937	89.717
33	6.625	688.592	89.784	99.17	90.95
33.125	6.75	688.586	91.013	100.299	92.079
33.25	6.875	688.581	90.476	99.741	91.688
33.375	7	688.576	89.502	98.873	90.653
33.5	7.125	688.571	88.351	97.618	89.272
33.625	7.25	688.569	87.859	96.989	88.769
33.75	7.375	688.565	87.217	96.314	88.094
33.875	7.5	688.562	88.734	97.782	89.562
34	7.625	688.558	90.991	99.977	91.757
34.125	7.75	688.552	92.328	101.336	93.306
34.25	7.875	688.547	91.73	100.867	92.647
34.375	8	688.543	90.904	100.077	92.007
34.5	8.125	688.54	90.405	99.713	91.493
34.625	8.25	688.538	89.884	99.306	91.316
34.75	8.375	688.536	89.678	99.312	91.092
34.875	8.5	688.532	91.049	100.587	92.367
35	8.625	688.525	92.894	102.302	94.082
35.125	8.75	688.524	95.05	104.344	95.983
35.25	8.875	688.519	94.682	103.92	95.869
35.375	9	688.513	93.561	102.717	94.497
35.5	9.125	688.505	91.589	100.253	92.193
35.625	9.25	688.496	89.468	97.81	89.652
35.75	9.375	688.487	87.675	96.06	87.84
35.875	9.5	688.479	88.038	96.405	88.185
36	9.625	688.472	89.607	97.89	89.607
Max		689.993	97.568	133.379	99.937
Min		688.472	82.246	91.651	83.161

## Case 00e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
0	18.375	690	93.1	132.86	97.6
0.125	18.5	689.997	95.197	134.806	99.546
0.25	18.625	689.988	96.308	128.743	99.953
0.375	18.75	689.975	95.151	114.708	98.028
0.5	18.875	689.965	93.903	112.331	96.051
0.625	19	689.956	92.763	109.564	94.244
0.75	19.125	689.948	91.607	107.451	92.481
0.875	19.25	689.941	91.098	106.448	91.918
1	19.375	689.936	92.503	107.569	93.279
1.125	19.5	689.931	94.78	109.411	95.531
1.25	19.625	689.923	95.8	109.951	96.501
1.375	19.75	689.914	95.088	109.043	95.743
1.5	19.875	689.906	93.983	107.9	94.6
1.625	20	689.897	92.569	106.441	93.141
1.75	20.125	689.889	91.16	104.932	91.692
1.875	20.25	689.879	90.147	103.361	90.631
2	20.375	689.87	90.886	104.046	91.316
2.125	20.5	689.863	92.283	105.254	92.684
2.25	20.625	689.852	92.213	105.003	92.573
2.375	20.75	689.843	90.883	103.449	91.209
2.5	20.875	689.838	90.213	103.29	91.693
2.625	21	689.83	88.862	101.953	89.933
2.75	21.125	689.822	87.327	100.083	88.063
2.875	21.25	689.814	86.473	99.157	87.137
3	21.375	689.807	87.715	100.329	88.319
3.125	21.5	689.796	88.97	100.987	89.497
3.25	21.625	689.786	89.031	100.987	89.497
3.375	21.75	689.771	87.138	99.019	87.529
3.5	21.875	689.761	85.473	97.307	85.817
3.625	22	689.752	84.09	96.269	84.779
3.75	22.125	689.747	83.325	95.756	84.266
3.875	22.25	689.742	82.596	95.11	83.62
4	22.375	689.738	84.054	96.526	85.036
4.125	22.5	689.731	85.475	97.474	86.384
4.25	22.625	689.722	86.053	97.944	86.874
4.375	22.75	689.712	84.914	96.73	85.66
4.5	22.875	689.708	84.135	95.978	85.276
4.625	23	689.701	82.96	95.178	84.108
4.75	23.125	689.698	82.335	94.397	83.527
4.875	23.25	689.693	81.859	93.847	82.987
5	23.375	689.687	82.81	94.724	83.864
5.125	23.5	689.68	84.366	95.85	85.35
5.25	23.625	689.675	85.465	97.183	86.683
5.375	23.75	689.67	85.237	96.91	86.41
5.5	23.875	689.666	84.565	96.203	85.703
5.625	24	689.661	83.706	95.302	84.802
5.75	24.125	689.653	82.385	93.914	83.414
5.875	24.25	689.646	81.544	92.935	82.435
6	24.375	689.641	82.925	94.262	83.762
6.125	24.5	689.636	84.912	96.204	85.704
6.25	24.625	689.628	85.776	96.997	86.497

## Case 00e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
6.375	24.75	689.622	85.55	96.734	86.234
6.5	24.875	689.614	84.375	95.704	85.39
6.625	25	689.608	83.232	94.684	84.184
6.75	25.125	689.6	81.859	93.238	82.738
6.875	25.25	689.594	81.247	92.616	82.116
7	25.375	689.589	82.615	93.686	83.416
7.125	25.5	689.584	84.816	95.872	86.089
7.25	25.625	689.577	86.056	97.203	87.213
7.375	25.75	689.57	85.499	96.53	86.54
7.5	25.875	689.564	84.733	95.974	85.984
7.625	26	689.557	83.611	94.729	84.739
7.75	26.125	689.552	82.718	94.096	84.24
7.875	26.25	689.548	82.637	94.054	84.064
8	26.375	689.542	84.138	95.42	85.43
8.125	26.5	689.535	86.116	97.264	87.274
8.25	26.625	689.528	87.436	98.879	88.988
8.375	26.75	689.521	87.044	98.434	88.444
8.5	26.875	689.515	86.22	97.667	87.677
8.625	27	689.512	85.677	97.068	87.078
8.75	27.125	689.507	84.895	96.388	86.398
8.875	27.25	689.504	84.943	96.39	86.4
9	27.375	689.5	86.56	97.942	87.952
9.125	27.5	689.495	88.668	100.717	90.762
9.25	27.625	689.487	89.6	101.473	91.483
9.375	27.75	689.48	88.999	100.466	90.746
9.5	27.875	689.463	85.911	96.898	87.199
9.625	28	689.449	83.035	93.578	84.126
9.75	28.125	689.44	81.264	91.603	81.903
9.875	28.25	689.434	80.489	90.792	81.092
10	28.375	689.427	81.402	91.661	81.961
10.125	28.5	689.423	83.591	93.942	84.402
10.25	28.625	689.419	85.142	95.447	85.907
10.375	28.75	689.414	84.931	95.308	86.226
10.5	28.875	689.408	84.088	94.855	85.315
10.625	29	689.399	82.651	93.088	83.548
10.75	29.125	689.393	81.543	91.923	82.383
10.875	29.25	689.386	80.756	91.162	81.84
11	29.375	689.38	82.116	92.66	83.12
11.125	29.5	689.375	83.393	94.023	84.483
11.25	29.625	689.367	82.807	93.306	83.766
11.375	29.75	689.365	82.6	93.071	83.531
11.5	29.875	689.359	81.485	91.89	82.35
11.625	30	689.353	80.187	90.484	81.229
11.75	30.125	689.349	79.574	89.914	80.724
11.875	30.25	689.345	79.204	89.46	80.27
12	30.375	689.343	81.076	91.545	82.598
12.125	30.5	689.34	82.801	93.448	84.258
12.25	30.625	689.334	84.201	94.704	85.514
12.375	30.75	689.331	84.282	94.735	85.545
12.5	1	689.328	83.717	94.113	84.923
12.625	1.125	689.324	83.106	93.736	84.734

## Case 00e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
12.75	1.25	689.32	82.363	93.109	83.919
12.875	1.375	689.316	82.173	92.751	83.561
13	1.5	689.312	83.705	94.213	85.023
13.125	1.625	689.308	85.995	96.871	87.893
13.25	1.75	689.304	87.652	98.65	89.46
13.375	1.875	689.289	85.23	95.934	86.744
13.5	2	689.284	84.323	94.935	85.745
13.625	2.125	689.278	83.196	93.724	84.628
13.75	2.25	689.274	82.517	93.084	83.894
13.875	2.375	689.271	82.417	93.005	83.815
14	2.5	689.265	83.077	93.679	84.489
14.125	2.625	689.261	83.937	94.466	85.276
14.25	2.75	689.255	85.159	95.849	86.659
14.375	2.875	689.248	84.445	94.966	85.776
14.5	3	689.243	83.818	94.248	85.058
14.625	3.125	689.239	83.262	93.627	84.437
14.75	3.25	689.234	82.453	93.09	83.949
14.875	3.375	689.23	81.965	92.553	83.363
15	3.5	689.228	83.81	94.469	85.279
15.125	3.625	689.225	86.361	96.952	87.762
15.25	3.75	689.219	87.889	98.36	89.17
15.375	3.875	689.216	87.972	98.389	89.199
15.5	4	689.207	86.605	97.102	87.912
15.625	4.125	689.203	85.873	96.311	87.347
15.75	4.25	689.198	85.102	95.696	86.506
15.875	4.375	689.195	85.088	95.625	86.435
16	4.5	689.19	86.446	96.876	87.902
16.125	4.625	689.184	88.546	99.066	89.876
16.25	4.75	689.177	89.746	100.178	91.448
16.375	4.875	689.173	89.74	100.543	91.353
16.5	5	689.167	88.574	99.027	89.837
16.625	5.125	689.159	87.149	97.375	88.587
16.75	5.25	689.155	86.248	96.804	87.614
16.875	5.375	689.149	85.596	96.068	86.878
17	5.5	689.143	86.049	96.425	87.235
17.125	5.625	689.139	88.291	98.609	89.419
17.25	5.75	689.135	89.726	99.988	90.798
17.375	5.875	689.129	89.314	99.479	90.329
17.5	6	689.124	88.285	98.118	89.322
17.625	6.125	689.12	87.442	97.293	88.443
17.75	6.25	689.115	86.429	96.238	87.388
17.875	6.375	689.107	85.286	95.011	86.161
18	6.5	689.102	86.447	96.107	87.252
18.125	6.625	689.096	88.215	97.799	88.949
18.25	6.75	689.085	88.533	98.06	89.21
18.375	6.875	689.075	87.264	96.702	87.852
18.5	7	689.066	85.542	94.91	86.06
18.625	7.125	689.057	83.738	93.041	84.191
18.75	7.25	689.05	82.5	91.977	83.367
18.875	7.375	689.045	81.649	91.295	82.445
19	7.5	689.042	82.017	91.611	82.761



## Case 00e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
19.125	7.625	689.038	82.78	92.537	83.868
19.25	7.75	689.034	83.852	93.677	84.827
19.375	7.875	689.026	82.586	92.43	83.58
19.5	8	689.017	80.366	89.963	81.113
19.625	8.125	689.012	79.109	88.667	79.817
19.75	8.25	689.006	77.502	87.033	78.183
19.875	8.375	688.999	76.278	85.754	76.904
20	8.5	688.994	77.436	86.866	78.016
20.125	8.625	688.988	79.114	88.368	79.648
20.25	8.75	688.984	80.429	89.742	81.08
20.375	8.875	688.977	79.679	88.983	80.283
20.5	9	688.973	78.778	88.055	79.355
20.625	9.125	688.968	77.695	87.273	78.651
20.75	9.25	688.964	76.754	86.369	77.669
20.875	9.375	688.962	76.641	86.347	77.647
21	9.5	688.958	78.366	88.197	79.497
21.125	9.625	688.955	80.829	90.611	81.911
21.25	9.75	688.952	82.574	92.314	83.614
21.375	9.875	688.948	82.574	92.272	83.572
21.5	10	688.944	81.882	91.54	82.84
21.625	10.125	688.939	81.014	91.092	82.414
21.75	10.25	688.933	79.722	89.441	80.741
21.875	10.375	688.925	78.772	88.39	79.69
22	10.5	688.918	79.611	89.345	80.645
22.125	10.625	688.913	81.747	91.406	82.706
22.25	10.75	688.908	83.208	92.825	84.586
22.375	10.875	688.9	82.444	92.394	83.694
22.5	11	688.893	81.245	91.111	82.649
22.625	11.125	688.885	79.762	89.619	80.919
22.75	11.25	688.882	79.181	89.054	80.748
22.875	11.375	688.878	78.949	89.145	80.445
23	11.5	688.872	80.318	90.465	81.765
23.125	11.625	688.866	82.085	92.093	83.393
23.25	11.75	688.859	83.495	93.184	84.664
23.375	11.875	688.854	83.185	92.843	84.701
23.5	12	688.845	81.697	91.513	83.023
23.625	12.125	688.837	80.218	89.832	81.342
23.75	12.25	688.831	79.068	88.674	80.428
23.875	12.375	688.825	78.544	88.379	80.185
24	12.5	688.82	80.311	90.245	81.755
24.125	12.625	688.813	82.834	92.587	84.097
24.25	12.75	688.807	84.779	94.554	86.37
24.375	12.875	688.802	84.541	94.441	85.951
24.5	13	688.799	84.148	94.113	85.845
24.625	13.125	688.796	83.681	93.796	85.306
24.75	13.25	688.793	83.049	93.061	84.571
24.875	13.375	688.789	82.852	92.776	84.286
25	13.5	688.784	84.582	94.652	86.458
25.125	13.625	688.778	86.726	96.908	88.418
25.25	13.75	688.774	88.563	98.627	90.137
25.375	13.875	688.769	88.502	98.766	90.541

## Case 00e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
25.5	14	688.765	87.929	97.999	89.509
25.625	14.125	688.76	87.183	97.267	88.843
25.75	14.25	688.754	86.001	95.72	87.23
25.875	14.375	688.749	85.422	95.339	86.849
26	14.5	688.741	86.726	96.442	87.952
26.125	14.625	688.733	88.905	98.713	90.368
26.25	14.75	688.725	90.073	99.843	91.353
26.375	14.875	688.716	89.214	98.784	90.294
26.5	15	688.706	87.211	96.887	88.6
26.625	15.125	688.694	84.325	93.872	85.382
26.75	15.25	688.688	83.195	92.688	84.198
26.875	15.375	688.683	82.367	91.848	83.379
27	15.5	688.675	83.14	92.607	84.117
27.125	15.625	688.668	84.694	94.059	85.569
27.25	15.75	688.658	84.979	94.235	85.745
27.375	15.875	688.652	84.331	93.535	85.045
27.5	16	688.645	82.745	91.849	83.353
27.625	16.125	688.64	81.467	90.529	82.039
27.75	16.25	688.636	80.433	89.721	81.254
27.875	16.375	688.633	80.112	89.541	81.051
28	16.5	688.628	81.393	90.771	82.281
28.125	16.625	688.623	83.496	92.823	84.333
28.25	16.75	688.617	84.901	94.185	85.86
28.375	16.875	688.611	84.341	93.732	85.242
28.5	17	688.606	83.211	92.579	84.37
28.625	17.125	688.6	81.931	91.512	83.022
28.75	17.25	688.596	80.881	90.407	81.857
28.875	17.375	688.593	80.526	89.958	81.468
29	17.5	688.586	81.762	91.194	82.704
29.125	17.625	688.583	84.377	93.761	85.271
29.25	17.75	688.573	84.934	94.173	85.683
29.375	17.875	688.566	84.326	93.501	85.011
29.5	18	688.561	83.419	92.653	84.532
29.625	18.125	688.552	81.721	91.124	82.634
29.75	18.25	688.546	80.498	89.902	81.634
29.875	18.375	688.541	80.069	89.587	81.097
30	18.5	688.539	82.325	91.863	83.712
Max		689.997	96.308	134.806	99.953
Min		688.539	76.278	85.754	76.904

## Case 0609

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
0	12.625	690	93	132.76	97.5
0.125	12.75	689.993	93.948	132.951	97.691
0.25	12.875	689.986	95.785	128.018	99.228
0.375	13	689.978	96.855	116.662	99.982
0.5	13.125	689.969	96.19	114.991	98.711
0.625	13.25	689.962	95.414	112.623	97.303
0.75	13.375	689.952	93.847	110.142	95.172
0.875	13.5	689.946	92.802	108.576	94.046
1	13.625	689.941	92.431	107.9	93.61
1.125	13.75	689.934	93.558	108.518	94.638
1.25	13.875	689.928	95.487	109.932	96.482
1.375	14	689.92	96.567	110.773	97.473
1.5	14.125	689.912	96.04	110.178	96.878
1.625	14.25	689.906	95.143	109.235	95.935
1.75	14.375	689.9	94.194	108.182	94.942
1.875	14.5	689.895	93.372	106.817	94.087
2	14.625	689.889	92.939	106.346	93.616
2.125	14.75	689.884	94.251	107.451	94.881
2.25	14.875	689.876	95.879	109.365	97.91
2.375	15	689.868	96.851	110.952	98.712
2.5	15.125	689.861	96.288	109.802	97.782
2.625	15.25	689.854	95.31	108.738	96.718
2.75	15.375	689.849	94.56	107.988	95.968
2.875	15.5	689.846	94.143	107.556	95.536
3	15.625	689.842	93.861	107.212	95.202
3.125	15.75	689.837	95.254	108.012	96.522
3.25	15.875	689.83	96.935	109.589	98.099
3.375	16	689.822	97.724	110.279	98.789
3.5	16.125	689.814	96.953	109.606	98.116
3.625	16.25	689.808	96.163	108.771	97.281
3.75	16.375	689.805	95.753	108.348	96.858
3.875	16.5	689.802	95.325	108.149	96.659
4	16.625	689.797	94.931	107.759	96.269
4.125	16.75	689.791	95.857	108.187	97.097
4.25	16.875	689.783	97.275	109.481	98.411
4.375	17	689.77	95.854	107.419	96.349
4.5	17.125	689.765	95.446	106.988	95.918
4.625	17.25	689.76	94.466	105.985	94.915
4.75	17.375	689.753	93.128	104.58	93.759
4.875	17.5	689.748	92.112	103.758	92.898
5	15.5	689.744	91.512	103.068	92.208
5.125	15.625	689.739	93.521	104.663	94.163
5.25	15.75	689.732	94.606	105.696	95.196
5.375	15.875	689.726	94.028	105.125	94.625
5.5	16	689.722	93.338	104.412	93.912
5.625	16.125	689.719	92.953	104.021	93.521
5.75	16.25	689.717	92.55	103.611	93.111
5.875	16.375	689.713	92.253	103.294	92.794
6	10.625	689.708	93.387	104.764	94.264
6.125	10.75	689.701	94.358	105.681	95.648
6.25	10.875	689.695	93.782	105.499	94.999
6.375	11	689.686	92.385	103.398	93.28
6.5	11.125	689.681	91.248	102.602	92.102
6.625	11.25	689.676	90.248	101.571	91.071
6.75	11.375	689.674	90.308	101.732	91.232
6.875	11.5	689.668	91.386	102.747	92.247
7	11.625	689.66	92.81	103.771	93.501
7.125	11.75	689.652	93.532	104.146	94.156
7.25	11.875	689.646	92.98	103.553	93.563
7.375	12	689.64	91.879	102.464	92.662
7.5	12.125	689.635	90.793	101.523	91.533
7.625	12.25	689.629	89.66	100.352	90.362

## Case 0609

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
7.75	12.375	689.623	88.805	99.557	89.904
7.875	12.5	689.615	89.366	100.21	90.22
8	12.625	689.61	91.211	102.004	92.014
8.125	12.75	689.605	92.527	103.278	93.288
8.25	12.875	689.598	91.96	102.668	92.678
8.375	13	689.591	90.764	101.519	91.692
8.5	13.125	689.585	89.546	100.415	90.425
8.625	13.25	689.58	88.345	99.167	89.177
8.75	13.375	689.574	87.717	98.336	88.346
8.875	13.5	689.568	88.583	99.15	89.16
9	13.625	689.563	90.648	101.177	91.187
9.125	13.75	689.558	92.014	102.509	92.519
9.25	13.875	689.554	91.973	102.552	92.673
9.375	14	689.549	91.402	101.791	92.071
9.5	14.125	689.544	90.581	100.919	91.219
9.625	14.25	689.54	89.959	100.48	90.949
9.75	14.375	689.538	90.036	100.714	91.014
9.875	14.5	689.535	91.614	102.248	92.548
10	14.625	689.53	93.681	104.264	94.564
10.125	14.75	689.525	95.013	105.385	95.845
10.25	14.875	689.52	94.911	105.578	96.222
10.375	15	689.514	94.15	104.925	95.385
10.5	15.125	689.509	93.473	104.198	94.658
10.625	15.25	689.504	92.76	103.498	93.958
10.75	15.375	689.499	92.269	102.95	93.41
10.875	15.5	689.494	92.789	103.259	93.719
11	15.625	689.486	92.798	103.182	93.642
11.125	15.75	689.478	92.433	102.731	93.191
11.25	15.875	689.471	91.55	101.786	92.246
11.375	16	689.466	90.703	101.059	91.561
11.5	16.125	689.461	89.613	99.964	90.424
11.625	16.25	689.456	88.537	98.966	89.566
11.75	16.375	689.452	88.19	98.364	89.174
11.875	16.5	689.446	89.357	99.447	90.257
12	16.625	689.44	90.555	100.591	91.404
12.125	16.75	689.436	92.074	102.066	92.876
12.25	16.875	689.43	91.45	101.383	92.193
12.375	17	689.425	90.559	100.457	91.267
12.5	17.125	689.42	89.572	99.437	90.247
12.625	17.25	689.415	88.438	98.59	89.408
12.75	17.375	689.412	88.167	98.197	89.007
12.875	17.5	689.405	89.203	99.153	90.117
13	17.625	689.4	91.219	101.251	92.061
13.125	17.75	689.392	92.218	102.165	92.975
13.25	17.875	689.387	91.82	101.725	92.535
13.375	18	689.385	91.453	101.373	92.377
13.5	18.125	689.382	91.009	101.159	92.301
13.625	18.25	689.38	90.713	101.18	91.99
13.75	18.375	689.376	90.494	100.985	92.18
13.875	18.5	689.373	92.066	102.878	93.688
14	18.625	689.369	93.411	104.13	94.94
14.125	18.75	689.362	94.562	105.148	95.958
14.25	18.875	689.357	94.256	104.678	95.21
14.375	19	689.351	93.177	103.346	94.42
14.5	19.125	689.345	92.19	102.563	93.373
14.625	19.25	689.343	91.741	102.099	92.909
14.75	19.375	689.337	90.891	101.131	91.866
14.875	19.5	689.331	92.131	102.206	93.016
15	19.625	689.325	93.388	103.372	94.182
15.125	19.75	689.319	94.729	104.644	95.454
15.25	19.875	689.314	94.517	104.447	95.257
15.375	20	689.31	93.892	103.792	94.602

Case 0609

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
15.5	20.125	689.301	91.988	101.31	92.12
15.625	20.25	689.295	90.794	100.331	91.477
15.75	20.375	689.291	90.432	100.278	91.088
15.875	20.5	689.287	91.727	101.525	92.335
16	20.625	689.279	93.576	103.3	94.11
16.125	20.75	689.272	94.664	104.5	95.499
16.25	20.875	689.266	94.107	104.064	94.874
16.375	21	689.264	93.779	103.727	94.537
16.5	21.125	689.257	92.568	102.755	93.565
16.625	21.25	689.252	91.446	101.573	92.383
16.75	21.375	689.246	90.571	100.627	91.437
16.875	21.5	689.241	91.917	101.961	92.771
17	21.625	689.234	93.793	103.834	94.7
17.125	21.75	689.226	94.736	104.734	95.544
17.25	21.875	689.22	94.212	104.153	94.963
17.375	22	689.215	93.407	103.276	94.126
17.5	22.125	689.211	92.554	102.093	93.243
17.625	22.25	689.206	91.474	101.199	92.441
17.75	22.375	689.202	91.061	101.088	92.333
17.875	22.5	689.196	92.256	102.269	93.419
18	22.625	689.191	94.457	104.378	95.528
18.125	22.75	689.184	95.561	105.383	96.533
18.25	22.875	689.179	95.328	104.938	96.049
18.375	23	689.173	94.341	104.036	95.186
18.5	23.125	689.167	93.17	102.813	93.963
18.625	23.25	689.161	91.884	101.464	92.614
18.75	23.375	689.157	91.604	101.422	92.61
18.875	23.5	689.154	93.121	102.918	94.068
19	23.625	689.147	95.057	104.749	95.899
19.125	23.75	689.139	96.157	105.566	96.703
19.25	23.875	689.129	94.485	103.805	94.955
19.375	24	689.121	93.077	102.422	93.572
19.5	24.125	689.116	92.189	101.514	93.047
19.625	24.25	689.111	91.105	100.666	91.816
19.75	24.375	689.106	90.385	99.905	91.055
19.875	24.5	689.101	91.491	100.97	92.252
20	24.625	689.095	92.857	102.438	93.807
20.125	24.75	689.086	92.863	102.429	93.709
20.25	24.875	689.076	91.038	99.928	91.228
20.375	25	689.068	89.267	98.139	89.439
20.5	25.125	689.063	88.168	97.068	88.54
20.625	25.25	689.059	87.266	96.321	87.621
20.75	25.375	689.055	86.402	95.434	86.734
20.875	25.5	689.049	87.526	96.531	87.831
21	25.625	689.043	89.223	98.255	89.711
21.125	25.75	689.036	90.15	99.384	90.904
21.25	25.875	689.03	89.393	98.795	90.095
21.375	26	689.024	88.093	97.461	88.761
21.5	26.125	689.019	86.793	96.123	87.423
21.625	26.25	689.015	85.761	95.067	86.367
21.75	26.375	689.011	84.948	94.377	85.912
21.875	26.5	689.008	86.455	95.878	86.916
22	26.625	689.002	87.894	97.136	88.595
22.125	26.75	688.995	88.414	97.75	89.05
22.25	26.875	688.99	87.855	97.149	88.449
22.375	27	688.985	86.736	95.996	87.296
22.5	27.125	688.979	85.526	94.852	86.244
22.625	27.25	688.972	83.796	93.15	84.45
22.75	27.375	688.968	83.322	92.563	83.796
22.875	27.5	688.963	84.669	93.803	85.103
23	27.625	688.957	86.745	95.956	87.342
23.125	27.75	688.949	87.574	96.795	88.095

## Case 0609

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
23.25	27.875	688.941	86.436	95.415	86.895
23.375	28	688.933	84.705	93.741	85.332
23.5	28.125	688.927	83.401	92.458	83.968
23.625	28.25	688.923	82.219	91.434	83.038
23.75	28.375	688.919	81.735	90.995	82.505
23.875	28.5	688.916	83.68	93.195	84.705
24	28.625	688.913	86.788	96.213	87.723
24.125	28.75	688.907	88.618	97.915	89.425
24.25	28.875	688.901	88.354	97.833	89.419
24.375	29	688.895	87.37	96.804	88.314
24.5	29.125	688.891	86.456	96.086	87.656
24.625	29.25	688.887	85.831	95.466	86.976
24.75	29.375	688.884	85.481	95.051	86.561
24.875	29.5	688.881	87.38	97.216	88.726
25	29.625	688.877	90.012	99.733	91.243
25.125	29.75	688.871	91.605	101.637	93.193
25.25	29.875	688.865	90.742	100.719	92.229
25.375	30	688.861	90.068	99.862	91.364
25.5	30.125	688.856	89.198	98.917	90.427
25.625	30.25	688.851	88.144	97.628	89.138
25.75	30.375	688.847	87.513	96.938	88.448
25.875	30.5	688.844	87.803	97.273	88.783
26	30.625	688.841	88.537	97.958	89.468
26.125	30.75	688.837	88.534	97.883	89.608
26.25	30.875	688.833	88.212	97.737	89.518
26.375	31	688.83	87.415	97.146	88.656
26.5	31.125	688.826	86.465	96.146	87.911
26.625	31.25	688.823	85.65	95.516	87.026
26.75	31.375	688.82	85.37	95.181	86.691
26.875	31.5	688.817	87.131	96.808	88.076
27	31.625	688.811	88.762	98.165	90.084
27.125	31.75	688.803	89.818	99.474	90.984
27.25	31.875	688.796	88.92	98.459	89.969
27.375	1	688.789	87.319	96.264	87.923
27.5	1.125	688.784	86.122	95.242	86.983
27.625	1.25	688.779	84.904	94.229	85.802
27.75	1.375	688.773	83.699	93.021	84.531
27.875	1.5	688.769	84.995	94.255	85.765
28	1.625	688.764	87.094	96.222	87.535
28.125	1.75	688.757	88.265	97.218	88.888
28.25	1.875	688.752	87.7	96.851	88.361
28.375	2	688.75	87.243	96.385	87.895
28.5	2.125	688.748	86.715	95.976	87.748
28.625	2.25	688.744	85.663	95.253	86.969
28.75	2.375	688.74	84.93	94.454	85.601
28.875	2.5	688.736	86.386	95.711	87.562
29	2.625	688.732	89.007	98.455	89.739
29.125	2.75	688.726	90.19	99.346	90.856
29.25	2.875	688.72	89.393	98.5	90.01
29.375	3	688.714	88.168	97.447	89.223
29.5	3.125	688.71	87.009	96.5	88.01
29.625	3.25	688.703	85.282	94.121	85.565
29.75	3.375	688.698	84.361	93.115	84.625
29.875	3.5	688.694	85.846	94.713	86.355
30	3.625	688.689	88.283	97.179	88.739
30.125	3.75	688.683	89.787	98.409	90.189
30.25	3.875	688.678	89.34	98.117	90.05
30.375	4	688.67	87.479	96.063	87.843
30.5	4.125	688.665	86.384	95.07	86.942
30.625	4.25	688.659	84.946	93.813	85.695
30.75	4.375	688.656	84.594	93.54	85.324
30.875	4.5	688.654	85.768	94.675	86.455

## Case 0609

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
31	4.625	688.65	86.435	95.289	87.069
31.125	4.75	688.647	88.281	97.424	89.371
31.25	4.875	688.643	88.037	97.257	89.037
31.375	5	688.639	87.26	96.695	88.59
31.5	5.125	688.636	86.424	95.901	87.681
31.625	5.25	688.631	85.541	94.918	86.698
31.75	5.375	688.628	84.98	94.365	86.17
31.875	5.5	688.625	86.804	96.133	87.913
32	5.625	688.622	89.73	98.992	90.772
32.125	5.75	688.618	90.922	100.38	92.233
32.25	5.875	688.612	90.115	99.653	91.433
32.375	6	688.607	88.894	97.998	89.804
32.5	6.125	688.603	87.817	96.898	88.678
32.625	6.25	688.601	87.542	96.925	88.762
32.75	6.375	688.597	86.801	96.042	87.8
32.875	6.5	688.594	88.581	97.739	89.519
33	6.625	688.59	90.034	99.495	91.323
33.125	6.75	688.584	91.386	100.512	92.292
33.25	6.875	688.579	90.76	100.117	91.925
33.375	7	688.574	89.652	98.972	90.752
33.5	7.125	688.569	88.353	97.602	89.382
33.625	7.25	688.567	87.802	96.896	88.669
33.75	7.375	688.563	87.085	96.126	87.906
33.875	7.5	688.56	88.794	97.743	89.523
34	7.625	688.556	91.319	100.209	92.208
34.125	7.75	688.55	92.788	101.828	94.053
34.25	7.875	688.544	92.086	101.475	93.053
34.375	8	688.54	91.143	100.285	92.065
34.5	8.125	688.538	90.58	99.738	91.942
34.625	8.25	688.536	89.994	99.553	91.289
34.75	8.375	688.534	89.761	99.258	91.038
34.875	8.5	688.53	91.292	100.728	92.813
35	8.625	688.523	93.336	102.957	94.737
35.125	8.75	688.521	95.749	105.309	96.827
35.25	8.875	688.517	95.302	104.505	96.046
35.375	9	688.51	94.006	102.984	95.081
35.5	9.125	688.502	91.74	100.23	91.74
35.625	9.25	688.493	89.34	97.556	89.34
35.75	9.375	688.485	87.341	95.489	87.341
35.875	9.5	688.477	87.789	95.746	87.789
36	9.625	688.47	89.581	97.743	89.693
Max		689.993	97.724	132.951	99.982
Min		688.47	81.735	90.995	82.505

## Case 06e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
0	18.375	690	92.9	132.66	97.4
0.125	18.5	689.997	95.185	134.782	99.522
0.25	18.625	689.988	96.394	128.758	99.968
0.375	18.75	689.974	95.127	114.553	97.873
0.5	18.875	689.964	93.773	112.022	95.742
0.625	19	689.955	92.541	109.131	93.811
0.75	19.125	689.947	91.297	106.909	91.939
0.875	19.25	689.941	90.763	105.893	91.363
1	19.375	689.935	92.311	107.167	92.877
1.125	19.5	689.931	94.795	109.22	95.34
1.25	19.625	689.922	95.903	109.859	96.409
1.375	19.75	689.913	95.121	108.891	95.591
1.5	19.875	689.905	93.917	107.657	94.357
1.625	20	689.896	92.383	106.088	92.788
1.75	20.125	689.888	90.864	104.478	91.238
1.875	20.25	689.879	89.789	102.857	90.127
2	20.375	689.869	90.637	103.664	90.934
2.125	20.5	689.863	92.176	105.022	92.452
2.25	20.625	689.852	92.111	105.365	93.983
2.375	20.75	689.842	90.673	104.196	91.956
2.5	20.875	689.838	89.951	103.166	91.085
2.625	21	689.83	88.5	101.194	89.174
2.75	21.125	689.822	86.864	99.49	87.47
2.875	21.25	689.814	85.983	98.586	86.566
3	21.375	689.808	87.384	99.92	87.91
3.125	21.5	689.797	88.798	100.741	89.251
3.25	21.625	689.786	88.886	100.772	89.282
3.375	21.75	689.772	86.846	98.664	87.174
3.5	21.875	689.762	85.068	97.13	85.806
3.625	22	689.753	83.611	95.746	84.256
3.75	22.125	689.748	82.804	94.901	83.411
3.875	22.25	689.743	82.053	94.503	83.166
4	22.375	689.74	83.669	96.222	84.732
4.125	22.5	689.732	85.249	97.317	86.227
4.25	22.625	689.724	85.903	97.848	86.778
4.375	22.75	689.714	84.675	96.705	85.668
4.5	22.875	689.709	83.834	95.858	84.788
4.625	23	689.703	82.569	94.536	83.466
4.75	23.125	689.7	81.897	93.756	82.886
4.875	23.25	689.694	81.402	93.194	82.334
5	23.375	689.688	82.473	94.198	83.338
5.125	23.5	689.682	84.197	95.755	85.255
5.25	23.625	689.677	85.406	96.907	86.407
5.375	23.75	689.672	85.159	96.62	86.12
5.5	23.875	689.667	84.428	95.857	85.357
5.625	24	689.662	83.495	94.935	84.782
5.75	24.125	689.655	82.066	93.275	82.775
5.875	24.25	689.647	81.172	92.461	81.961
6	24.375	689.643	82.705	93.943	83.443
6.125	24.5	689.638	84.889	96.083	85.583
6.25	24.625	689.629	85.836	96.962	86.462



## Case 06e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
6.375	24.75	689.624	85.586	97.07	86.57
6.5	24.875	689.616	84.298	95.706	85.206
6.625	25	689.609	83.054	94.458	84.107
6.75	25.125	689.602	81.566	92.744	82.244
6.875	25.25	689.595	80.92	92.217	82.078
7	25.375	689.59	82.444	93.773	83.503
7.125	25.5	689.585	84.866	95.822	85.832
7.25	25.625	689.578	86.219	97.198	87.398
7.375	25.75	689.571	85.591	96.63	86.64
7.5	25.875	689.565	84.747	95.906	86.166
7.625	26	689.558	83.518	94.696	84.706
7.75	26.125	689.553	82.548	93.892	84.198
7.875	26.25	689.549	82.47	93.998	84.008
8	26.375	689.543	84.131	95.5	85.51
8.125	26.5	689.536	86.298	97.509	87.519
8.25	26.625	689.529	87.723	99.077	89.309
8.375	26.75	689.522	87.263	98.668	88.678
8.5	26.875	689.516	86.341	97.927	88.142
8.625	27	689.512	85.741	97.456	87.466
8.75	27.125	689.508	84.88	96.311	86.321
8.875	27.25	689.505	84.933	96.316	86.326
9	27.375	689.501	86.706	98.405	88.415
9.125	27.5	689.496	89.005	100.577	90.587
9.25	27.625	689.488	89.991	101.854	92.043
9.375	27.75	689.48	89.301	100.557	90.837
9.5	27.875	689.463	85.867	96.63	86.93
9.625	28	689.449	82.717	93.015	83.315
9.75	28.125	689.44	80.798	90.962	81.367
9.875	28.25	689.434	79.975	90.21	80.51
10	28.375	689.427	81.017	91.21	81.51
10.125	28.5	689.423	83.44	93.447	83.907
10.25	28.625	689.419	85.153	95.621	86.135
10.375	28.75	689.414	84.92	95.386	85.846
10.5	28.875	689.408	83.996	94.408	84.868
10.625	29	689.4	82.426	92.763	83.223
10.75	29.125	689.393	81.224	91.8	82.261
10.875	29.25	689.386	80.386	90.903	81.363
11	29.375	689.381	81.91	92.348	82.808
11.125	29.5	689.376	83.33	93.693	84.153
11.25	29.625	689.368	82.694	93.2	83.66
11.375	29.75	689.365	82.471	92.945	83.405
11.5	29.875	689.36	81.255	91.716	82.464
11.625	30	689.353	79.852	90.196	80.796
11.75	30.125	689.35	79.198	89.362	80.49
11.875	30.25	689.346	78.821	89.2	80.01
12	30.375	689.344	80.893	91.227	82.037
12.125	30.5	689.341	82.798	93.165	84.207
12.25	30.625	689.335	84.337	94.883	85.693
12.375	30.75	689.332	84.421	94.909	85.719
12.5	1	689.329	83.793	94.491	85.301
12.625	1.125	689.325	83.118	93.835	84.803

## Case 06e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
12.75	1.25	689.321	82.301	92.75	83.56
12.875	1.375	689.316	82.095	92.474	83.284
13	1.5	689.312	83.785	94.283	85.386
13.125	1.625	689.309	86.3	97.09	87.999
13.25	1.75	689.304	88.108	98.908	89.718
13.375	1.875	689.289	85.346	96.022	87.046
13.5	2	689.284	84.341	95.014	86.049
13.625	2.125	689.278	83.099	93.595	84.405
13.75	2.25	689.274	82.355	92.873	83.767
13.875	2.375	689.271	82.252	92.785	83.595
14	2.5	689.264	82.999	93.367	84.177
14.125	2.625	689.261	83.951	94.405	85.352
14.25	2.75	689.255	85.296	95.718	86.528
14.375	2.875	689.248	84.492	95.024	86.037
14.5	3	689.243	83.797	94.417	85.227
14.625	3.125	689.239	83.186	93.722	84.532
14.75	3.25	689.234	82.301	92.738	83.548
14.875	3.375	689.23	81.774	92.264	83.074
15	3.5	689.228	83.815	94.251	85.061
15.125	3.625	689.224	86.626	96.999	87.809
15.25	3.75	689.219	88.285	98.876	89.832
15.375	3.875	689.215	88.358	99.023	89.833
15.5	4	689.207	86.814	97.393	88.372
15.625	4.125	689.202	85.996	96.66	87.47
15.75	4.25	689.198	85.14	95.725	86.535
15.875	4.375	689.194	85.122	95.509	86.28
16	4.5	689.189	86.617	96.848	87.658
16.125	4.625	689.184	88.917	99.378	90.265
16.25	4.75	689.176	90.199	100.889	91.765
16.375	4.875	689.172	90.166	100.833	91.643
16.5	5	689.165	88.836	99.119	89.929
16.625	5.125	689.158	87.23	97.472	88.321
16.75	5.25	689.154	86.231	96.681	87.519
16.875	5.375	689.148	85.512	95.951	86.761
17	5.5	689.142	86.021	96.36	87.17
17.125	5.625	689.138	88.499	98.777	89.587
17.25	5.75	689.134	90.074	100.29	91.1
17.375	5.875	689.128	89.598	99.715	90.926
17.5	6	689.122	88.445	98.543	89.516
17.625	6.125	689.118	87.508	97.388	88.538
17.75	6.25	689.113	86.385	96.205	87.355
17.875	6.375	689.106	85.125	94.852	86.002
18	6.5	689.101	86.422	96.08	87.23
18.125	6.625	689.095	88.379	97.858	89.008
18.25	6.75	689.084	88.704	98.2	89.35
18.375	6.875	689.073	87.275	96.678	87.828
18.5	7	689.064	85.369	94.698	85.848
18.625	7.125	689.055	83.396	92.696	84
18.75	7.25	689.049	82.06	91.526	82.939
18.875	7.375	689.044	81.157	90.808	81.958
19	7.5	689.041	81.601	91.378	82.528

## Case 06e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
19.125	7.625	689.038	82.475	92.184	83.334
19.25	7.75	689.033	83.697	93.422	84.833
19.375	7.875	689.025	82.314	91.976	83.126
19.5	8	689.016	79.893	89.247	80.397
19.625	8.125	689.011	78.528	88.005	79.411
19.75	8.25	689.005	76.787	85.923	77.073
19.875	8.375	688.999	75.494	84.715	76.018
20	8.5	688.994	76.84	86.059	77.209
20.125	8.625	688.988	78.753	87.809	79.089
20.25	8.75	688.983	80.232	89.463	80.99
20.375	8.875	688.977	79.417	88.815	80.115
20.5	9	688.973	78.431	87.795	79.095
20.625	9.125	688.968	77.249	86.859	78.394
20.75	9.25	688.964	76.227	85.871	77.171
20.875	9.375	688.962	76.119	85.732	77.032
21	9.5	688.959	78.056	87.807	79.107
21.125	9.625	688.955	80.803	90.503	81.803
21.25	9.75	688.952	82.739	92.396	83.696
21.375	9.875	688.948	82.731	92.659	84.123
21.5	10	688.944	81.957	92.013	83.326
21.625	10.125	688.939	80.99	91.068	82.368
21.75	10.25	688.933	79.558	89.243	80.543
21.875	10.375	688.925	78.523	88.099	79.399
22	10.5	688.918	79.484	89.3	80.728
22.125	10.625	688.913	81.865	91.709	83.009
22.25	10.75	688.908	83.478	93.234	84.534
22.375	10.875	688.9	82.603	92.598	83.998
22.5	11	688.893	81.256	90.999	82.299
22.625	11.125	688.884	79.607	89.473	80.854
22.75	11.25	688.881	78.968	88.871	80.171
22.875	11.375	688.878	78.72	88.864	80.219
23	11.5	688.872	80.266	90.388	81.688
23.125	11.625	688.866	82.235	92.206	83.506
23.25	11.75	688.859	83.784	93.425	84.905
23.375	11.875	688.854	83.414	93.209	84.744
23.5	12	688.845	81.733	91.361	82.871
23.625	12.125	688.837	80.084	89.726	81.236
23.75	12.25	688.831	78.818	88.614	80.434
23.875	12.375	688.825	78.262	88.187	79.697
24	12.5	688.819	80.265	90.022	82.008
24.125	12.625	688.813	83.079	93.069	84.579
24.25	12.75	688.807	85.212	95.034	86.832
24.375	12.875	688.801	84.893	94.954	86.464
24.5	13	688.798	84.433	94.391	85.901
24.625	13.125	688.795	83.899	93.857	85.767
24.75	13.25	688.792	83.186	93.202	84.712
24.875	13.375	688.787	82.957	92.876	84.386
25	13.5	688.783	84.874	94.745	86.601
25.125	13.625	688.777	87.231	97.258	88.768
25.25	13.75	688.772	89.24	99.316	91.352
25.375	13.875	688.767	89.123	99.574	91.084

## Case 06e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
25.5	14	688.763	88.459	98.5	90.338
25.625	14.125	688.758	87.601	97.414	88.924
25.75	14.25	688.752	86.247	95.734	87.53
25.875	14.375	688.747	85.578	95.23	86.74
26	14.5	688.739	87.008	96.557	88.219
26.125	14.625	688.731	89.398	99.028	90.538
26.25	14.75	688.722	90.634	100.219	91.922
26.375	14.875	688.713	89.578	99.13	90.64
26.5	15	688.703	87.291	96.65	88.431
26.625	15.125	688.691	84.052	93.365	84.875
26.75	15.25	688.686	82.805	92.172	83.801
26.875	15.375	688.68	81.911	91.167	82.516
27	15.5	688.673	82.826	92.019	83.693
27.125	15.625	688.666	84.599	93.985	85.611
27.25	15.75	688.656	84.931	94.292	85.802
27.375	15.875	688.65	84.21	93.504	85.014
27.5	16	688.643	82.448	91.377	82.949
27.625	16.125	688.638	81.038	90.125	81.71
27.75	16.25	688.634	79.901	89.205	80.806
27.875	16.375	688.631	79.562	88.922	80.432
28	16.5	688.626	81.029	90.337	81.847
28.125	16.625	688.621	83.404	92.546	84.013
28.25	16.75	688.616	84.983	94.042	85.552
28.375	16.875	688.61	84.35	93.617	85.199
28.5	17	688.604	83.085	92.616	84.19
28.625	17.125	688.598	81.661	90.64	82.15
28.75	17.25	688.594	80.497	89.794	81.372
28.875	17.375	688.591	80.114	89.222	80.693
29	17.5	688.584	81.545	90.609	82.128
29.125	17.625	688.581	84.485	93.526	85.036
29.25	17.75	688.571	85.093	94.051	85.561
29.375	17.875	688.565	84.397	93.674	85.216
29.5	18	688.559	83.375	92.915	84.445
29.625	18.125	688.55	81.476	90.882	82.392
29.75	18.25	688.544	80.13	89.445	80.955
29.875	18.375	688.539	79.687	89.252	80.764
30	18.5	688.537	82.24	91.711	83.878
Max		689.997	96.394	134.782	99.968
Min		688.537	75.494	84.715	76.018

## Case 1809

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
0	12.875	690	92	131.76	96.5
0.125	13	689.994	93.243	132.14	96.88
0.25	13.125	689.987	95.544	127.622	98.832
0.375	13.25	689.978	96.873	116.475	99.795
0.5	13.375	689.968	96.062	114.557	98.277
0.625	13.5	689.962	95.123	111.932	96.612
0.75	13.625	689.951	93.248	109.102	94.132
0.875	13.75	689.945	92.019	107.367	92.837
1	13.875	689.94	91.614	106.672	92.382
1.125	14	689.934	93.072	107.642	93.762
1.25	14.125	689.928	95.47	109.545	96.095
1.375	14.25	689.92	96.791	110.647	97.347
1.5	14.375	689.912	96.127	109.933	96.633
1.625	14.5	689.906	95.026	108.798	95.498
1.75	14.625	689.899	93.874	107.554	94.314
1.875	14.75	689.894	92.887	106.725	94.213
2	14.875	689.888	92.389	106.36	93.63
2.125	15	689.884	94.038	107.442	94.8
2.25	15.125	689.876	96.054	109.544	97.192
2.375	15.25	689.868	97.226	110.488	98.248
2.5	15.375	689.861	96.507	109.465	97.445
2.625	15.5	689.854	95.294	108.109	96.08
2.75	15.625	689.849	94.376	107.146	95.126
2.875	15.75	689.846	93.869	106.831	94.824
3	15.875	689.841	93.535	106.457	94.447
3.125	16	689.837	95.263	107.481	95.991
3.25	16.125	689.83	97.322	109.477	98.357
3.375	16.25	689.821	98.249	110.665	99.175
3.5	16.375	689.812	97.26	109.619	98.435
3.625	16.5	689.807	96.276	108.885	97.395
3.75	16.625	689.804	95.771	108.33	96.56
3.875	16.75	689.801	95.245	107.592	96.631
4	16.875	689.796	94.765	107.488	95.492
4.125	17	689.79	95.918	107.67	96.58
4.25	17.125	689.782	97.653	109.381	98.587
4.375	17.25	689.769	95.854	107.089	96.019
4.5	17.375	689.764	95.352	106.621	95.696
4.625	17.5	689.759	94.152	105.546	94.476
4.75	17.625	689.752	92.529	103.745	92.999
4.875	17.75	689.748	91.305	102.614	91.754
5	15.5	689.743	90.611	101.896	91.035
5.125	15.625	689.738	93.167	103.915	93.167
5.25	15.75	689.732	94.537	105.177	94.985
5.375	15.875	689.726	93.832	104.667	94.035
5.5	16	689.721	92.99	103.811	93.509
5.625	16.125	689.719	92.521	103.533	93.033
5.75	16.25	689.717	92.03	103.176	92.864
5.875	16.375	689.713	91.688	102.985	92.485
6	10.625	689.708	93.134	104.551	94.266
6.125	10.75	689.701	94.351	105.928	95.463
6.25	10.875	689.694	93.64	105.33	94.982
6.375	11	689.686	91.928	102.873	92.373
6.5	11.125	689.68	90.551	101.498	90.998
6.625	11.25	689.676	89.347	100.274	89.774
6.75	11.375	689.674	89.434	100.264	89.695
6.875	11.5	689.668	90.838	101.865	91.568
7	11.625	689.661	92.665	103.573	93.303
7.125	11.75	689.652	93.574	104.019	93.964
7.25	11.875	689.646	92.888	103.504	93.664
7.375	12	689.64	91.533	102.113	92.123
7.5	12.125	689.635	90.213	101.046	91.197
7.625	12.25	689.629	88.85	99.76	89.77

## Case 1809

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
7.75	12.375	689.623	87.858	98.692	88.702
7.875	12.5	689.616	88.657	99.307	89.317
8	12.625	689.611	90.994	101.383	91.325
8.125	12.75	689.605	92.638	103.174	93.253
8.25	12.875	689.599	91.927	102.49	92.5
8.375	13	689.592	90.448	101.23	91.299
8.5	13.125	689.586	88.959	99.744	89.754
8.625	13.25	689.58	87.507	98.036	88.011
8.75	13.375	689.575	86.781	97.168	87.178
8.875	13.5	689.569	87.948	98.519	88.554
9	13.625	689.564	90.564	100.967	90.965
9.125	13.75	689.559	92.265	102.626	92.636
9.25	13.875	689.555	92.2	102.539	92.549
9.375	14	689.55	91.479	101.928	92.217
9.5	14.125	689.545	90.454	100.857	91.554
9.625	14.25	689.541	89.687	100.437	90.751
9.75	14.375	689.539	89.787	100.535	90.835
9.875	14.5	689.535	91.761	102.456	92.756
10	14.625	689.531	94.32	104.959	95.381
10.125	14.75	689.525	95.931	106.456	96.916
10.25	14.875	689.52	95.759	106.293	97.197
10.375	15	689.513	94.751	105.622	96.082
10.5	15.125	689.508	93.878	104.657	94.965
10.625	15.25	689.504	92.972	103.515	93.822
10.75	15.375	689.499	92.347	102.77	93.606
10.875	15.5	689.493	92.988	103.671	94.131
11	15.625	689.486	92.977	103.433	93.54
11.125	15.75	689.478	92.499	102.643	93.483
11.25	15.875	689.471	91.391	101.759	92.051
11.375	16	689.466	90.345	100.588	91.296
11.5	16.125	689.461	89.009	99.407	89.793
11.625	16.25	689.456	87.706	97.852	88.483
11.75	16.375	689.452	87.318	97.243	88.053
11.875	16.5	689.447	88.866	98.63	89.275
12	16.625	689.441	90.415	99.97	90.78
12.125	16.75	689.437	92.322	101.989	93.024
12.25	16.875	689.43	91.519	101.346	92.156
12.375	17	689.425	90.402	100.385	91.466
12.5	17.125	689.42	89.176	99.412	90.222
12.625	17.25	689.415	87.784	97.707	88.225
12.75	17.375	689.412	87.474	97.086	87.896
12.875	17.5	689.406	88.858	98.488	89.373
13	17.625	689.4	91.416	101.195	92.126
13.125	17.75	689.393	92.641	102.402	93.166
13.25	17.875	689.387	92.113	101.958	92.911
13.375	18	689.385	91.649	101.822	92.788
13.5	18.125	689.382	91.089	101.401	92.211
13.625	18.25	689.38	90.718	101.284	92.28
13.75	18.375	689.376	90.442	101.221	92.095
13.875	18.5	689.373	92.416	102.997	93.698
14	18.625	689.369	94.078	104.605	95.498
14.125	18.75	689.362	95.45	105.722	96.437
14.25	18.875	689.356	94.999	105.338	96.265
14.375	19	689.349	93.588	103.112	93.884
14.5	19.125	689.344	92.323	101.791	92.601
14.625	19.25	689.342	91.757	101.654	92.635
14.75	19.375	689.336	90.687	100.744	91.58
14.875	19.5	689.33	92.269	102.249	93.059
15	19.625	689.324	93.832	103.45	94.179
15.125	19.75	689.318	95.471	105.294	96.197
15.25	19.875	689.313	95.156	104.895	95.672
15.375	20	689.309	94.337	104.015	94.825

Case 1809

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
15.5	20.125	689.299	91.884	101.102	91.964
15.625	20.25	689.293	90.388	100.04	90.92
15.75	20.375	689.29	89.95	99.647	90.457
15.875	20.5	689.285	91.627	101.097	91.883
16	20.625	689.278	93.974	103.645	94.483
16.125	20.75	689.271	95.293	104.68	95.47
16.25	20.875	689.264	94.525	104.213	95.045
16.375	21	689.262	94.105	104.047	94.867
16.5	21.125	689.255	92.548	102.432	93.242
16.625	21.25	689.25	91.131	100.751	91.666
16.75	21.375	689.244	90.055	99.744	90.928
16.875	21.5	689.239	91.81	101.769	92.369
17	21.625	689.232	94.197	103.862	94.547
17.125	21.75	689.224	95.335	104.857	95.961
17.25	21.875	689.218	94.618	104.366	95.094
17.375	22	689.213	93.576	103.233	94.44
17.5	22.125	689.209	92.487	102.217	93.703
17.625	22.25	689.203	91.123	100.319	91.729
17.75	22.375	689.2	90.618	100.098	91.478
17.875	22.5	689.194	92.18	101.698	92.478
18	22.625	689.189	94.978	104.192	95.654
18.125	22.75	689.182	96.318	105.724	96.757
18.25	22.875	689.176	95.971	105.339	96.785
18.375	23	689.17	94.674	104.158	95
18.5	23.125	689.164	93.161	102.312	93.466
18.625	23.25	689.158	91.528	100.708	91.974
18.75	23.375	689.154	91.19	100.568	91.918
18.875	23.5	689.151	93.15	102.558	93.505
19	23.625	689.144	95.607	104.844	96.127
19.125	23.75	689.136	96.935	106.224	97.357
19.25	23.875	689.125	94.67	103.606	94.93
19.375	24	689.117	92.856	102.041	93.323
19.5	24.125	689.113	91.738	101.053	92.236
19.625	24.25	689.108	90.39	99.552	90.541
19.75	24.375	689.103	89.525	98.742	90.118
19.875	24.5	689.098	91.019	100.506	91.748
20	24.625	689.093	92.803	102.075	93.019
20.125	24.75	689.084	92.818	101.917	93.346
20.25	24.875	689.074	90.494	98.927	90.494
20.375	25	689.066	88.296	96.866	88.296
20.5	25.125	689.061	86.961	95.649	86.961
20.625	25.25	689.057	85.88	94.53	85.88
20.75	25.375	689.053	84.887	93.714	85.106
20.875	25.5	689.048	86.477	95.539	86.911
21	25.625	689.042	88.78	97.971	89.316
21.125	25.75	689.035	90.019	99.124	90.4
21.25	25.875	689.029	89.061	98.424	89.827
21.375	26	689.023	87.42	96.77	88.052
21.5	26.125	689.018	85.802	94.614	85.802
21.625	26.25	689.014	84.527	93.791	85.218
21.75	26.375	689.01	83.569	92.866	84.156
21.875	26.5	689.007	85.596	94.578	85.833
22	26.625	689.002	87.549	96.472	87.774
22.125	26.75	688.995	88.257	97.528	88.874
22.25	26.875	688.989	87.553	96.693	87.98
22.375	27	688.984	86.136	95.254	86.555
22.5	27.125	688.979	84.625	94.177	85.505
22.625	27.25	688.972	82.502	91.191	82.502
22.75	27.375	688.968	81.966	90.848	82.153
22.875	27.5	688.964	83.844	92.487	84.195
23	27.625	688.958	86.624	95.641	87.357
23.125	27.75	688.95	87.71	97.034	88.563

Case 1809

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
23.25	27.875	688.941	86.224	95.463	86.924
23.375	28	688.934	84.027	92.967	84.733
23.5	28.125	688.928	82.429	91.549	83.145
23.625	28.25	688.923	81.001	90.142	81.695
23.75	28.375	688.92	80.47	89.639	81.381
23.875	28.5	688.917	83.1	92.444	84.107
24	28.625	688.915	87.174	96.613	88.369
24.125	28.75	688.908	89.467	98.98	90.652
24.25	28.875	688.902	89.011	98.545	90.142
24.375	29	688.896	87.643	97.156	88.867
24.5	29.125	688.891	86.434	96.037	87.574
24.625	29.25	688.887	85.628	95.254	87.013
24.75	29.375	688.884	85.19	95.024	86.683
24.875	29.5	688.881	87.668	97.561	89.111
25	29.625	688.877	91.042	100.911	92.628
25.125	29.75	688.87	92.971	102.912	94.572
25.25	29.875	688.864	91.742	100.841	92.449
25.375	30	688.859	90.812	100.104	91.85
25.5	30.125	688.855	89.635	98.948	90.22
25.625	30.25	688.85	88.229	97.396	89.131
25.75	30.375	688.846	87.404	96.586	87.894
25.875	30.5	688.843	87.787	96.874	88.57
26	30.625	688.84	88.741	97.907	89.346
26.125	30.75	688.836	88.714	97.886	89.573
26.25	30.875	688.832	88.283	97.549	89.03
26.375	31	688.828	87.244	96.71	88.518
26.5	31.125	688.825	86.022	95.495	86.81
26.625	31.25	688.821	84.991	94.267	85.823
26.75	31.375	688.819	84.661	93.905	85.383
26.875	31.5	688.816	87.017	96.235	87.811
27	31.625	688.81	89.154	98.596	90.324
27.125	31.75	688.802	90.468	100.146	91.812
27.25	31.875	688.795	89.214	98.557	90.082
27.375	1	688.787	87.097	95.883	87.556
27.5	1.125	688.782	85.551	94.699	86.36
27.625	1.25	688.778	83.999	92.921	84.23
27.75	1.375	688.772	82.514	91.332	82.91
27.875	1.5	688.768	84.314	93.346	84.954
28	1.625	688.763	87.127	95.931	87.314
28.125	1.75	688.757	88.651	97.49	89.083
28.25	1.875	688.752	87.883	96.737	88.233
28.375	2	688.749	87.283	96.547	88.222
28.5	2.125	688.747	86.593	96.449	88.113
28.625	2.25	688.743	85.224	94.196	85.717
28.75	2.375	688.739	84.293	93.02	84.465
28.875	2.5	688.735	86.252	94.921	86.437
29	2.625	688.732	89.69	98.802	90.422
29.125	2.75	688.725	91.157	100.163	91.645
29.25	2.875	688.719	90.021	99.327	90.913
29.375	3	688.713	88.365	96.948	88.469
29.5	3.125	688.708	86.832	95.455	86.971
29.625	3.25	688.701	84.588	93.159	84.663
29.75	3.375	688.697	83.438	91.955	83.459
29.875	3.5	688.693	85.487	93.813	85.487
30	3.625	688.688	88.735	97.179	88.753
30.125	3.75	688.682	90.639	99.155	90.953
30.25	3.875	688.677	89.959	98.828	90.625
30.375	4	688.668	87.397	95.881	87.663
30.5	4.125	688.663	85.964	94.879	86.732
30.625	4.25	688.657	84.135	92.697	84.633
30.75	4.375	688.655	83.714	92.409	84.25
30.875	4.5	688.653	85.326	94.059	86.104



## Case 1809

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
31	4.625	688.649	86.249	95.19	87.21
31.125	4.75	688.646	88.701	97.804	89.897
31.25	4.875	688.642	88.334	97.63	89.489
31.375	5	688.638	87.286	96.58	88.458
31.5	5.125	688.634	86.182	95.45	87.055
31.625	5.25	688.63	85.042	94.055	85.888
31.75	5.375	688.627	84.341	93.403	85.485
31.875	5.5	688.624	86.805	96.136	88.229
32	5.625	688.621	90.667	100.181	91.898
32.125	5.75	688.617	92.135	101.53	93.639
32.25	5.875	688.61	90.913	100.076	92.179
32.375	6	688.605	89.22	98.039	90.175
32.5	6.125	688.6	87.773	96.794	88.301
32.625	6.25	688.598	87.41	96.16	87.972
32.75	6.375	688.594	86.438	95.301	87.406
32.875	6.5	688.591	88.823	98.015	90.006
33	6.625	688.588	90.726	99.96	91.577
33.125	6.75	688.582	92.429	101.321	92.945
33.25	6.875	688.576	91.506	100.353	92.466
33.375	7	688.571	89.982	99.087	90.861
33.5	7.125	688.566	88.231	96.626	88.768
33.625	7.25	688.564	87.502	96.116	87.667
33.75	7.375	688.56	86.571	94.875	86.571
33.875	7.5	688.557	88.881	97.3	89.433
34	7.625	688.553	92.224	101.149	93.244
34.125	7.75	688.547	94.07	103.095	94.747
34.25	7.875	688.541	93.017	101.866	93.666
34.375	8	688.536	91.706	100.509	92.26
34.5	8.125	688.534	90.945	99.634	91.327
34.625	8.25	688.532	90.158	98.888	90.816
34.75	8.375	688.53	89.845	98.851	90.775
34.875	8.5	688.526	91.875	101.063	92.974
35	8.625	688.519	94.511	103.419	94.967
35.125	8.75	688.518	97.704	106.773	98.912
35.25	8.875	688.512	96.977	106.253	97.975
35.375	9	688.505	95.11	102.959	95.11
35.5	9.125	688.496	91.912	98.96	91.912
35.625	9.25	688.488	88.676	95.813	88.676
35.75	9.375	688.48	86.106	93.518	86.106
35.875	9.5	688.473	86.905	94.692	86.905
36	9.625	688.466	89.437	97.405	89.437
Max		689.994	98.249	132.14	99.795
Min		688.466	80.47	89.639	81.381

**Case 18e**

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
0	18.375	690	92.3	132.06	96.8
0.125	18.5	689.997	95.105	134.668	99.408
0.25	18.625	689.988	96.581	128.757	99.967
0.375	18.75	689.974	95.017	114.098	97.418
0.5	18.875	689.963	93.377	111.168	94.888
0.625	19	689.955	91.904	107.967	92.647
0.75	19.125	689.948	90.434	106.093	91.123
0.875	19.25	689.942	89.852	105.017	90.487
1	19.375	689.936	91.803	106.684	92.394
1.125	19.5	689.932	94.853	109.299	95.419
1.25	19.625	689.923	96.2	110.166	96.716
1.375	19.75	689.913	95.219	108.99	95.69
1.5	19.875	689.905	93.741	107.475	94.175
1.625	20	689.896	91.884	105.576	92.276
1.75	20.125	689.887	90.073	103.669	90.429
1.875	20.25	689.878	88.853	102.301	89.689
2	20.375	689.869	90.024	103.47	90.74
2.125	20.5	689.863	91.963	105.225	92.663
2.25	20.625	689.853	91.912	104.949	92.519
2.375	20.75	689.843	90.175	102.947	90.707
2.5	20.875	689.839	89.312	101.986	89.98
2.625	21	689.832	87.598	100.221	88.201
2.75	21.125	689.823	85.705	98.152	86.128
2.875	21.25	689.816	84.773	97.189	85.169
3	21.375	689.81	86.633	98.993	86.983
3.125	21.5	689.8	88.491	100.388	88.898
3.25	21.625	689.789	88.647	100.527	89.461
3.375	21.75	689.775	86.194	98.454	86.964
3.5	21.875	689.765	84.112	96.293	85.257
3.625	22	689.756	82.466	94.88	83.39
3.75	22.125	689.752	81.557	93.904	82.414
3.875	22.25	689.747	80.762	93.115	81.916
4	22.375	689.744	82.817	95.442	84.069
4.125	22.5	689.737	84.843	97.063	85.973
4.25	22.625	689.728	85.699	97.853	86.783
4.375	22.75	689.718	84.213	96.179	85.109
4.5	22.875	689.714	83.2	95.299	84.524
4.625	23	689.707	81.688	93.478	82.408
4.75	23.125	689.704	80.887	92.477	81.607
4.875	23.25	689.699	80.348	91.879	81.019
5	23.375	689.693	81.757	93.421	82.77
5.125	23.5	689.687	83.945	95.368	84.868
5.25	23.625	689.682	85.452	97.079	86.822
5.375	23.75	689.677	85.145	96.947	86.447
5.5	23.875	689.672	84.244	95.87	85.274
5.625	24	689.667	83.102	94.582	84.082
5.75	24.125	689.659	81.37	92.409	81.994
5.875	24.25	689.652	80.334	91.358	80.858
6	24.375	689.648	82.292	93.275	82.775
6.125	24.5	689.643	85.02	96.307	85.981
6.25	24.625	689.634	86.174	97.518	87.018

## Case 18e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
6.375	24.75	689.629	85.841	97.496	87.156
6.5	24.875	689.62	84.225	95.609	85.109
6.625	25	689.614	82.692	94.096	83.631
6.75	25.125	689.606	80.887	92.09	81.655
6.875	25.25	689.6	80.154	91.347	80.847
7	25.375	689.596	82.12	93.457	83.3
7.125	25.5	689.591	85.154	96.196	86.206
7.25	25.625	689.584	86.793	97.848	87.858
7.375	25.75	689.576	85.937	97.06	87.105
7.5	25.875	689.57	84.863	96.286	86.344
7.625	26	689.563	83.324	94.494	84.504
7.75	26.125	689.557	82.141	93.448	83.479
7.875	26.25	689.553	82.078	93.294	83.304
8	26.375	689.548	84.188	95.669	85.692
8.125	26.5	689.541	86.87	98.449	88.657
8.25	26.625	689.533	88.561	100.098	90.466
8.375	26.75	689.526	87.878	99.766	89.776
8.5	26.875	689.519	86.664	98.195	88.454
8.625	27	689.516	85.901	97.256	87.41
8.75	27.125	689.511	84.819	95.877	86.101
8.875	27.25	689.508	84.887	96.169	86.579
9	27.375	689.504	87.096	98.736	89.083
9.125	27.5	689.499	89.921	101.713	91.723
9.25	27.625	689.49	91.022	102.628	92.923
9.375	27.75	689.482	90.062	101.006	91.286
9.5	27.875	689.465	85.628	96.074	86.599
9.625	28	689.451	81.736	91.93	82.45
9.75	28.125	689.442	79.432	89.168	79.468
9.875	28.25	689.437	78.503	88.351	78.914
10	28.375	689.431	79.948	90.077	80.493
10.125	28.5	689.427	83.045	93.167	83.759
10.25	28.625	689.423	85.215	95.462	86.001
10.375	28.75	689.418	84.92	95.189	85.649
10.5	28.875	689.412	83.764	94.061	84.628
10.625	29	689.403	81.825	91.982	82.61
10.75	29.125	689.397	80.373	90.63	81.09
10.875	29.25	689.39	79.41	89.536	79.939
11	29.375	689.385	81.416	91.641	82.287
11.125	29.5	689.38	83.245	93.765	84.384
11.25	29.625	689.372	82.462	93.112	83.572
11.375	29.75	689.37	82.191	93.002	83.462
11.5	29.875	689.364	80.694	91.385	82.041
11.625	30	689.358	79.008	89.416	80.016
11.75	30.125	689.354	78.249	88.408	79.218
11.875	30.25	689.351	77.87	88.124	79.028
12	30.375	689.349	80.514	91.028	81.937
12.125	30.5	689.346	82.926	93.456	84.266
12.25	30.625	689.34	84.84	95.413	86.307
12.375	30.75	689.337	84.918	95.738	86.632
12.5	1	689.333	84.099	94.823	85.704
12.625	1.125	689.329	83.235	93.734	84.544

## Case 18e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
12.75	1.25	689.325	82.201	92.847	83.718
12.875	1.375	689.32	81.95	92.55	83.36
13	1.5	689.316	84.084	94.926	85.813
13.125	1.625	689.313	87.23	98.117	88.927
13.25	1.75	689.308	89.443	100.466	91.322
13.375	1.875	689.292	85.61	96.469	87.324
13.5	2	689.286	84.32	94.899	85.709
13.625	2.125	689.28	82.757	93.173	84.021
13.75	2.25	689.277	81.838	92.225	83.035
13.875	2.375	689.273	81.739	92.033	82.841
14	2.5	689.268	82.759	93.048	83.869
14.125	2.625	689.264	83.976	94.196	85.006
14.25	2.75	689.258	85.669	96.039	86.856
14.375	2.875	689.251	84.597	95.025	85.836
14.5	3	689.246	83.71	94.03	85.08
14.625	3.125	689.242	82.944	93.406	84.255
14.75	3.25	689.237	81.848	92.229	83.044
14.875	3.375	689.233	81.223	91.527	82.585
15	3.5	689.231	83.83	94.324	85.229
15.125	3.625	689.228	87.382	97.916	88.975
15.25	3.75	689.221	89.389	100.012	91.034
15.375	3.875	689.218	89.417	100.217	91.373
15.5	4	689.209	87.331	97.701	88.712
15.625	4.125	689.204	86.261	96.696	87.331
15.75	4.25	689.199	85.159	95.349	86.166
15.875	4.375	689.196	85.135	95.345	86.398
16	4.5	689.191	87.027	97.383	88.398
16.125	4.625	689.185	89.894	100.37	91.423
16.25	4.75	689.177	91.373	101.855	92.655
16.375	4.875	689.173	91.246	101.69	92.671
16.5	5	689.166	89.418	99.567	90.527
16.625	5.125	689.158	87.286	97.261	88.282
16.75	5.25	689.154	86.012	96.141	86.974
16.875	5.375	689.148	85.121	95.131	85.86
17	5.5	689.142	85.822	95.734	86.684
17.125	5.625	689.139	88.986	99.074	90.026
17.25	5.75	689.134	90.953	101.066	91.815
17.375	5.875	689.128	90.284	100.375	91.414
17.5	6	689.122	88.766	98.065	89.394
17.625	6.125	689.118	87.557	96.956	88.05
17.75	6.25	689.113	86.125	95.537	86.789
17.875	6.375	689.106	84.551	93.844	84.857
18	6.5	689.101	86.259	95.521	86.794
18.125	6.625	689.095	88.774	97.899	88.886
18.25	6.75	689.084	89.107	98.238	89.538
18.375	6.875	689.074	87.209	96.451	87.632
18.5	7	689.065	84.784	94.024	85.271
18.625	7.125	689.056	82.363	91.696	82.932
18.75	7.25	689.05	80.784	90.304	81.548
18.875	7.375	689.046	79.772	89.363	80.544
19	7.5	689.043	80.466	90.131	81.331

## Case 18e

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
19.125	7.625	689.04	81.689	91.453	82.654
19.25	7.75	689.035	83.365	93.083	84.247
19.375	7.875	689.028	81.648	91.155	82.346
19.5	8	689.019	78.663	87.988	79.173
19.625	8.125	689.014	77.001	86.555	77.761
19.75	8.25	689.008	74.904	83.591	74.904
19.875	8.375	689.003	73.455	82.346	73.537
20	8.5	688.998	75.384	84.58	75.771
20.125	8.625	688.993	77.999	87.344	78.659
20.25	8.75	688.988	79.957	89.286	80.588
20.375	8.875	688.982	78.939	88.439	79.758
20.5	9	688.978	77.703	87.423	78.739
20.625	9.125	688.973	76.237	85.523	76.828
20.75	9.25	688.969	74.984	84.274	75.574
20.875	9.375	688.966	74.897	84.617	75.903
21	9.5	688.964	77.458	87.108	78.542
21.125	9.625	688.96	81.025	90.769	82.619
21.25	9.75	688.957	83.501	93.712	85.1
21.375	9.875	688.953	83.448	93.695	85.508
21.5	10	688.948	82.411	92.48	83.835
21.625	10.125	688.943	81.137	90.699	82.559
21.75	10.25	688.937	79.278	88.896	80.562
21.875	10.375	688.929	77.983	87.587	79.04
22	10.5	688.922	79.307	88.935	80.456
22.125	10.625	688.917	82.395	92.189	83.826
22.25	10.75	688.912	84.422	94.455	85.959
22.375	10.875	688.904	83.168	93.007	84.52
22.5	11	688.896	81.361	91.01	82.579
22.625	11.125	688.888	79.214	88.871	80.373
22.75	11.25	688.885	78.405	88.283	79.8
22.875	11.375	688.881	78.121	88.084	79.267
23	11.5	688.876	80.203	89.937	81.354
23.125	11.625	688.87	82.758	92.562	84.109
23.25	11.75	688.863	84.684	94.384	85.942
23.375	11.875	688.857	84.102	93.808	85.514
23.5	12	688.848	81.816	91.607	83.441
23.625	12.125	688.839	79.665	89.556	81.27
23.75	12.25	688.834	78.075	87.889	79.492
23.875	12.375	688.828	77.459	87.336	79.073
24	12.5	688.823	80.195	90.118	81.741
24.125	12.625	688.816	83.861	93.676	85.25
24.25	12.75	688.81	86.501	96.223	87.817
24.375	12.875	688.803	85.873	95.554	87.158
24.5	13	688.8	85.191	94.972	86.585
24.625	13.125	688.797	84.45	94.318	85.885
24.75	13.25	688.793	83.488	93.291	84.776
24.875	13.375	688.789	83.166	93.135	84.846
25	13.5	688.785	85.636	95.696	87.271
25.125	13.625	688.778	88.598	98.682	90.308
25.25	13.75	688.773	91.077	101.271	92.876
25.375	13.875	688.767	90.753	101.052	92.656

## Case 18e

FINAL

Days after Scram	Day in July / August	Elevation (ft)	Natural Temp (F)	UHS Inlet Temp (F)	UHS Outlet Temp (F)
25.5	14	688.763	89.796	99.404	90.926
25.625	14.125	688.758	88.586	97.968	89.408
25.75	14.25	688.751	86.704	95.641	87.227
25.875	14.375	688.746	85.774	94.898	86.474
26	14.5	688.738	87.603	96.812	88.378
26.125	14.625	688.73	90.619	99.929	91.499
26.25	14.75	688.721	92.011	101.246	92.765
26.375	14.875	688.711	90.31	99.71	91.304
26.5	15	688.7	87.173	96.279	87.821
26.625	15.125	688.688	82.951	91.973	83.511
26.75	15.25	688.684	81.394	90.59	82.129
26.875	15.375	688.679	80.368	89.117	80.578
27	15.5	688.672	81.796	90.776	82.313
27.125	15.625	688.665	84.281	93.406	84.927
27.25	15.75	688.656	84.775	94.009	85.526
27.375	15.875	688.65	83.841	92.867	84.556
27.5	16	688.643	81.565	90.219	82.129
27.625	16.125	688.638	79.781	88.796	80.414
27.75	16.25	688.634	78.359	87.423	78.747
27.875	16.375	688.631	77.986	86.888	78.709
28	16.5	688.627	80.046	89.156	80.383
28.125	16.625	688.622	83.259	92.137	84.062
28.25	16.75	688.617	85.354	94.673	86.626
28.375	16.875	688.61	84.486	94.169	85.831
28.5	17	688.604	82.803	91.762	83.342
28.625	17.125	688.598	80.946	89.897	81.304
28.75	17.25	688.594	79.452	88.385	80.221
28.875	17.375	688.591	78.997	88.216	79.72
29	17.5	688.585	81.052	90.087	81.412
29.125	17.625	688.582	84.98	93.948	85.803
29.25	17.75	688.572	85.687	94.947	86.703
29.375	17.875	688.565	84.688	94.106	85.704
29.5	18	688.559	83.298	92.791	84.496
29.625	18.125	688.55	80.792	90.276	81.965
29.75	18.25	688.545	79.093	88.578	80.32
29.875	18.375	688.54	78.647	88.321	80.014
30	18.5	688.538	82.125	91.918	83.612
Max		689.997	96.581	134.668	99.967
Min		688.538	73.455	82.346	73.537

## 1.0 PURPOSE/OBJECTIVE

The purpose of this attachment is to determine the impact of the new decay heat values and of increased initial lake temperature on the maximum plant inlet temperature of the LaSalle County Station Ultimate Heat Sink (UHS). The new decay heat values from Reference 5.2 incorporate contributions for additional actinides and activation products. The initial UHS temperature is increased from 98°F to 100°F, as long as the maximum UHS outlet temperature is equal to or lower than 102°F. In the event that the UHS outlet temperature surpasses 102°F, the initial UHS temperature is adjusted until the maximum outlet temperature is at or less than 102°F.

## 2.0 METHODOLOGY AND ACCEPTANCE CRITERIA

The S&L LAKET-PC computer program is utilized to determine the combined impact of decay heat, initial UHS temperature, and allowable sediment accumulation in the UHS. The maximum allowable UHS temperature is determined for average sediment accumulations of 0, 6 and 18 inches (which correspond to UHS volumes of 464.9, 423.5 and 341.4 acre-ft, respectively).

### 2.1 Methodology

The LAKET program has been updated since the main calculation was performed. This new version uses text weather files as opposed to binary. It was therefore necessary to use the Bin to Txt application included in LAKET-PC program number 03.7.292-2.0 [Ref. 5.1] to convert the previously used binary weather files into text files. Case 0009 from the main body of the calculation was rerun to ensure the results using the updated version of LAKET match the results reported by the older version. For the parameters of interest, both versions of LAKET produce results within 0.03°F of each other. The UHS models run in this attachment were performed on PC no. 6664 via network server SNL1.

According to Figure 7.1 from the main body of the calculation, the most limiting UHS temperatures occur with start times of 09:00. Therefore, selected cases with start times of 09:00 are modified and rerun. A case starting at 06:00 is rerun to ensure that the 09:00 cases are in fact more limiting. The following computer simulations are run in this attachment:

- Case 1 – 0 inch sediment accumulation, 09:00 start time (0009)
- Case 2 – 6 inch sediment accumulation, 09:00 start time (0609)
- Case 3 – 18 inch sediment accumulation, 09:00 start time (1809)
- Case 4 – 18 inch sediment accumulation, 06:00 start time (1806)

All four cases incorporate the revised plant temperature rise resulting from the change in decay heat data and an increase in initial UHS temperature (greater than 98°F). For each case it is required that the maximum UHS outlet temperature not surpass 102°F. If the resulting maximum UHS outlet temperature is greater than 102°F, the case is rerun at lower initial UHS temperatures until an UHS outlet temperature lower than or equal to 102°F is achieved.

Many different weather files were created for the analysis contained in the main body of the calculation. There are two separate weather files for each starting time. One file is the worst day temperature file, which has the worst day in the weather history as day one. The second file is the worst 5/1/30 day temperature file, which has first day being the first of the worst five days in the weather history. For more details see page 13 of the main body of the calculation. Table 7.3 from the main body of the calculation lists the weather files that produce the most restrictive temperature limit. The files listed which correspond to the cases of interest are used for the runs in this attachment. In the case that two separate weather files are listed, the weather file resulting in the highest peak temperature from Table 7.3 (main calculation) is used.

The UHS inlet and outlet temperatures are plotted for every three-hour time step of the 36-day weather period. Figure 7.1 from the main body of the calculation is recreated based on the initial UHS temperatures used for Cases 1 through 4, while maintaining outlet temperatures at or below 102°F.

## **2.2 Acceptance Criteria**

This attachment of Calculation L-002457 requires that the maximum outlet temperature remain at or below 102°F.

## **2.3 Limitations**

Same as main body of calculation

## **3.0 ASSUMPTIONS**

The density and specific heat of water in the UHS is assumed to be 62.0 lb/ft<sup>3</sup> and 0.998 Btu/lb-°F [Ref. 5.3]. This corresponds to a conservative water temperature of 100°F.

All other assumptions are the same as the assumptions in the main body of calculation.

## **4.0 DESIGN INPUT**

All design inputs for this attachment are the same as the design input from the main body of the calculation except for the initial forced temperature and the plant temperature rise. For Case 1, Case 2, and Case 4 the initial forced temperature is 100°F. The initial forced temperature for Case 3 is adjusted until an UHS outlet temperature of 102°F or lower is achieved. The plant temperature rise is determined using the same method as described in the main body of the calculation, but the decay heat ratios have changed, therefore changing the generated heat loads. The new heat loads were determined in Reference 5.2. Table G7.1 contains the revised average temperature rise for each time step. The Excel formulas used in determining the temperature rise are at the end of this attachment.



## 5.0 REFERENCES

- 5.1 LAKET-PC Computer Program, Version 2.0, S&L Program No. 03.7.292-2.0, August 2001.
- 5.2 "UHS Heat Load," Calculation L-002453, Rev. 2, April, 2002.
- 5.3 STMFUNC Computer Program, S&L Program No. STM 03.7.598-2.0, March 2002.

All other references except the ones mentioned above are the same as the references in the main body of the calculation.

## 6.0 CALCULATIONS

The calculations are the same as those described in the main body of the calculation except for the maximum allowable UHS temperature. For Attachment G, the maximum UHS outlet temperature should be at or below 102°F.

## 7.0 SUMMARY AND CONCLUSIONS

### 7.1 Summary

The cumulative results for Cases 1 through 4 are shown in Tables G7.2 through G7.5. The output for all four cases are displayed in pages G19 – G66. The maximum UHS outlet temperatures for Case 1, Case 2, and Case 4 are below 102°F when the initial UHS temperature is 100°F. For Case 1 the maximum UHS outlet temperature is 101.6°F and the maximum UHS inlet temperature is 135.9°F. Case 2 has a maximum UHS outlet temperature of 101.8°F and a maximum inlet temperature of 135.4°F. The maximum UHS outlet and inlet temperatures for Case 4 are 101.8°F and 133.9°F. Running Case 3 with an initial UHS temperature of 100°F results in UHS outlet temperatures greater than 102°F. The initial UHS temperature is therefore decreased to 99.35°F, resulting in a maximum UHS outlet temperature of 102.0°F and a maximum UHS inlet temperature of 135.5°F. Figure G7.1 plots the UHS outlet temperature and Figure G7.2 plots the lake input temperature every three hours over the 36-day weather period. It is apparent that the highest temperatures for both the UHS inlet and outlet occur within the first 24-hours. The temperatures for Case 2 tend to be elevated above the other cases because Case 2 uses the worst 5/1/30 day weather file while all the other cases use the worst day weather file.

Figure G7.3 is a recreation of Figure 7.1 from the main body of the calculation. For Figure G7.3, the limiting UHS temperatures are the initial temperatures used to achieve UHS outlet temperatures less than or equal to 102°F. Figure 7.1 shows that the most limiting UHS temperatures occur at 09:00, regardless of siltation levels. Cases 1 through 3 were rerun with the increased initial UHS temperature (100°F) and only Case 3 produced an UHS outlet temperature greater than 102°F. The initial temperature for Case 3

was therefore decreased to 99.35°F. Since Case 3 produced higher than allowable UHS outlet temperatures, the next most limiting UHS temperature point from Figure 7.1 was run, Case 4. With an initial UHS temperature of 100°F the highest UHS outlet temperature calculated remains below 102°F. Since all of the other points in Figure 7.1 are at initial temperatures of at least 0.3°F greater than the 18 inch siltation at 06:00 (Case 4), and Case 4 is acceptable at 100°F, all other points will be acceptable (maximum UHS outlet temperature less than 102°F) with initial UHS temperatures of 100°F.

**7.2 Tables**

- ♦ Table G7.1: Plant Temperature Rise
- ♦ Table G7.2: Cumulative Summary for Case 1 – 0” Sediment, 09:00 start time
- ♦ Table G7.3: Cumulative Summary for Case 2 – 6” Sediment, 09:00 start time
- ♦ Table G7.4: Cumulative Summary for Case 3 – 18” Sediment, 09:00 start time
- ♦ Table G7.5: Cumulative Summary for Case 4 – 18” Sediment, 06:00 start time

**7.3 Figures**

- ♦ Figure G7.1: UHS Outlet Temperature vs. Days After SCRAM
- ♦ Figure G7.2: UHS Inlet Temperature vs. Days After SCRAM
- ♦ Figure G7.3: Limiting Lake Temperatures vs. Time of Day – Recreation of Figure 7.1 from main body of calculation

**8.0 ATTACHMENTS**

Case	Description	pages
1	LAKET-PC Output - 0" Accumulated Sediment, 09:00	G19-G30
2	LAKET-PC Output - 6" Accumulated Sediment, 09:00	G31-G42
3	LAKET-PC Output - 18" Accumulated Sediment, 09:00	G43-G54
4	LAKET-PC Output - 18" Accumulated Sediment, 06:00	G55-G66
N/A	Excel Formulas Used in Determining Plant Temperature Rise	G67-G72

Table G7.1 - Plant Temperature Rise

CSCS Flowrate		86		cfs	Mass Flow	19,195,200	lbm/hr
	Density	62.00		lbm/ft3	cp	0.998	Btu/lbm/F
Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
0	3	35.48	6.80E+08	2.04E+09	2.04E+09	1.43E+09	6.09E+08
3	6	28.95	5.55E+08	1.66E+09	3.70E+09	2.48E+09	1.22E+09
6	9	16.79	3.22E+08	9.65E+08	4.67E+09	3.45E+09	1.22E+09
9	12	16.39	3.14E+08	9.42E+08	5.61E+09	4.39E+09	1.22E+09
12	15	15.42	2.95E+08	8.86E+08	6.50E+09	5.28E+09	1.22E+09
15	18	15.06	2.88E+08	8.65E+08	7.36E+09	6.14E+09	1.22E+09
18	21	14.61	2.80E+08	8.39E+08	8.20E+09	6.98E+09	1.22E+09
21	24	14.36	2.75E+08	8.25E+08	9.03E+09	7.81E+09	1.22E+09
24	27	13.95	2.67E+08	8.02E+08	9.83E+09	8.61E+09	1.22E+09
27	30	13.52	2.59E+08	7.77E+08	1.06E+10	9.39E+09	1.22E+09
30	33	13.36	2.56E+08	7.68E+08	1.14E+10	1.02E+10	1.22E+09
33	36	13.36	2.56E+08	7.68E+08	1.21E+10	1.09E+10	1.22E+09
36	39	13.36	2.56E+08	7.68E+08	1.29E+10	1.17E+10	1.22E+09
39	42	13.30	2.55E+08	7.64E+08	1.37E+10	1.25E+10	1.22E+09
42	45	12.79	2.45E+08	7.35E+08	1.44E+10	1.32E+10	1.22E+09
45	48	12.79	2.45E+08	7.35E+08	1.51E+10	1.39E+10	1.22E+09
48	51	12.50	2.39E+08	7.18E+08	1.59E+10	1.46E+10	1.22E+09
51	54	12.50	2.39E+08	7.18E+08	1.66E+10	1.54E+10	1.22E+09
54	57	12.30	2.36E+08	7.07E+08	1.73E+10	1.61E+10	1.22E+09
57	60	12.09	2.32E+08	6.95E+08	1.80E+10	1.68E+10	1.22E+09
60	63	12.09	2.32E+08	6.95E+08	1.87E+10	1.75E+10	1.22E+09
63	66	12.09	2.32E+08	6.95E+08	1.94E+10	1.82E+10	1.22E+09
66	69	12.09	2.32E+08	6.95E+08	2.01E+10	1.88E+10	1.22E+09
69	72	12.08	2.31E+08	6.94E+08	2.08E+10	1.95E+10	1.22E+09
72	75	11.56	2.21E+08	6.64E+08	2.14E+10	2.02E+10	1.22E+09
75	78	11.56	2.21E+08	6.64E+08	2.21E+10	2.09E+10	1.22E+09
78	81	11.56	2.21E+08	6.64E+08	2.28E+10	2.15E+10	1.22E+09
81	84	11.56	2.21E+08	6.64E+08	2.34E+10	2.22E+10	1.22E+09
84	87	11.56	2.21E+08	6.64E+08	2.41E+10	2.29E+10	1.22E+09
87	90	11.56	2.21E+08	6.64E+08	2.47E+10	2.35E+10	1.22E+09
90	93	11.56	2.21E+08	6.64E+08	2.54E+10	2.42E+10	1.22E+09
93	96	11.56	2.21E+08	6.64E+08	2.61E+10	2.49E+10	1.22E+09
96	99	11.16	2.14E+08	6.42E+08	2.67E+10	2.55E+10	1.22E+09
99	102	11.15	2.14E+08	6.41E+08	2.74E+10	2.61E+10	1.22E+09
102	105	11.15	2.14E+08	6.41E+08	2.80E+10	2.68E+10	1.22E+09
105	108	11.15	2.14E+08	6.41E+08	2.86E+10	2.74E+10	1.22E+09
108	111	11.15	2.14E+08	6.41E+08	2.93E+10	2.81E+10	1.22E+09
111	114	10.95	2.10E+08	6.29E+08	2.99E+10	2.87E+10	1.22E+09
114	117	10.94	2.10E+08	6.29E+08	3.05E+10	2.93E+10	1.22E+09
117	120	10.94	2.10E+08	6.29E+08	3.12E+10	2.99E+10	1.22E+09
120	123	10.59	2.03E+08	6.09E+08	3.18E+10	3.06E+10	1.22E+09
123	126	10.59	2.03E+08	6.09E+08	3.24E+10	3.12E+10	1.22E+09
126	129	10.59	2.03E+08	6.09E+08	3.30E+10	3.18E+10	1.22E+09
129	132	10.59	2.03E+08	6.09E+08	3.36E+10	3.24E+10	1.22E+09
132	135	10.59	2.03E+08	6.09E+08	3.42E+10	3.30E+10	1.22E+09

Table G7.1 - Plant Temperature Rise

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
135	138	10.59	2.03E+08	6.09E+08	3.48E+10	3.36E+10	1.22E+09
138	141	10.59	2.03E+08	6.09E+08	3.54E+10	3.42E+10	1.22E+09
141	144	10.59	2.03E+08	6.09E+08	3.60E+10	3.48E+10	1.22E+09
144	147	10.59	2.03E+08	6.09E+08	3.66E+10	3.54E+10	1.22E+09
147	150	10.59	2.03E+08	6.09E+08	3.73E+10	3.60E+10	1.22E+09
150	153	10.59	2.03E+08	6.09E+08	3.79E+10	3.66E+10	1.22E+09
153	156	10.59	2.03E+08	6.09E+08	3.85E+10	3.73E+10	1.22E+09
156	159	10.59	2.03E+08	6.09E+08	3.91E+10	3.79E+10	1.22E+09
159	162	10.59	2.03E+08	6.09E+08	3.97E+10	3.85E+10	1.22E+09
162	165	10.59	2.03E+08	6.09E+08	4.03E+10	3.91E+10	1.22E+09
165	168	10.36	1.98E+08	5.95E+08	4.09E+10	3.97E+10	1.22E+09
168	171	10.07	1.93E+08	5.79E+08	4.15E+10	4.03E+10	1.22E+09
171	174	10.07	1.93E+08	5.79E+08	4.20E+10	4.08E+10	1.22E+09
174	177	10.07	1.93E+08	5.79E+08	4.26E+10	4.14E+10	1.22E+09
177	180	10.07	1.93E+08	5.79E+08	4.32E+10	4.20E+10	1.22E+09
180	183	10.07	1.93E+08	5.79E+08	4.38E+10	4.26E+10	1.22E+09
183	186	10.07	1.93E+08	5.79E+08	4.44E+10	4.31E+10	1.22E+09
186	189	10.07	1.93E+08	5.79E+08	4.49E+10	4.37E+10	1.22E+09
189	192	10.07	1.93E+08	5.79E+08	4.55E+10	4.43E+10	1.22E+09
192	195	10.07	1.93E+08	5.79E+08	4.61E+10	4.49E+10	1.22E+09
195	198	10.07	1.93E+08	5.79E+08	4.67E+10	4.55E+10	1.22E+09
198	201	10.07	1.93E+08	5.79E+08	4.73E+10	4.60E+10	1.22E+09
201	204	10.07	1.93E+08	5.79E+08	4.78E+10	4.66E+10	1.22E+09
204	207	10.07	1.93E+08	5.79E+08	4.84E+10	4.72E+10	1.22E+09
207	210	10.07	1.93E+08	5.79E+08	4.90E+10	4.78E+10	1.22E+09
210	213	10.07	1.93E+08	5.79E+08	4.96E+10	4.84E+10	1.22E+09
213	216	10.07	1.93E+08	5.79E+08	5.02E+10	4.89E+10	1.22E+09
216	219	10.07	1.93E+08	5.79E+08	5.07E+10	4.95E+10	1.22E+09
219	222	10.07	1.93E+08	5.79E+08	5.13E+10	5.01E+10	1.22E+09
222	225	9.81	1.88E+08	5.64E+08	5.19E+10	5.07E+10	1.22E+09
225	228	9.79	1.87E+08	5.62E+08	5.24E+10	5.12E+10	1.22E+09
228	231	9.79	1.87E+08	5.62E+08	5.30E+10	5.18E+10	1.22E+09
231	234	9.79	1.87E+08	5.62E+08	5.36E+10	5.23E+10	1.22E+09
234	237	9.79	1.87E+08	5.62E+08	5.41E+10	5.29E+10	1.22E+09
237	240	9.79	1.87E+08	5.62E+08	5.47E+10	5.35E+10	1.22E+09
240	243	9.63	1.84E+08	5.53E+08	5.52E+10	5.40E+10	1.22E+09
243	246	9.63	1.84E+08	5.53E+08	5.58E+10	5.46E+10	1.22E+09
246	249	9.63	1.84E+08	5.53E+08	5.63E+10	5.51E+10	1.22E+09
249	252	9.63	1.84E+08	5.53E+08	5.69E+10	5.57E+10	1.22E+09
252	255	9.63	1.84E+08	5.53E+08	5.75E+10	5.62E+10	1.22E+09
255	258	9.63	1.84E+08	5.53E+08	5.80E+10	5.68E+10	1.22E+09
258	261	9.63	1.84E+08	5.53E+08	5.86E+10	5.73E+10	1.22E+09
261	264	9.63	1.84E+08	5.53E+08	5.91E+10	5.79E+10	1.22E+09
264	267	9.63	1.84E+08	5.53E+08	5.97E+10	5.84E+10	1.22E+09
267	270	9.63	1.84E+08	5.53E+08	6.02E+10	5.90E+10	1.22E+09
270	273	9.63	1.84E+08	5.53E+08	6.08E+10	5.96E+10	1.22E+09
273	276	9.63	1.84E+08	5.53E+08	6.13E+10	6.01E+10	1.22E+09

Table G7.1 - Plant Temperature Rise

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
276	279	9.48	1.82E+08	5.45E+08	6.19E+10	6.07E+10	1.22E+09
279	282	9.27	1.78E+08	5.33E+08	6.24E+10	6.12E+10	1.22E+09
282	285	9.27	1.78E+08	5.33E+08	6.29E+10	6.17E+10	1.22E+09
285	288	9.27	1.78E+08	5.33E+08	6.35E+10	6.23E+10	1.22E+09
288	291	9.27	1.78E+08	5.33E+08	6.40E+10	6.28E+10	1.22E+09
291	294	9.27	1.78E+08	5.33E+08	6.45E+10	6.33E+10	1.22E+09
294	297	9.27	1.78E+08	5.33E+08	6.51E+10	6.39E+10	1.22E+09
297	300	9.27	1.78E+08	5.33E+08	6.56E+10	6.44E+10	1.22E+09
300	303	9.27	1.78E+08	5.33E+08	6.61E+10	6.49E+10	1.22E+09
303	306	9.27	1.78E+08	5.33E+08	6.67E+10	6.54E+10	1.22E+09
306	309	9.27	1.78E+08	5.33E+08	6.72E+10	6.60E+10	1.22E+09
309	312	9.27	1.78E+08	5.33E+08	6.77E+10	6.65E+10	1.22E+09
312	315	9.27	1.78E+08	5.33E+08	6.83E+10	6.70E+10	1.22E+09
315	318	9.27	1.78E+08	5.33E+08	6.88E+10	6.76E+10	1.22E+09
318	321	9.27	1.78E+08	5.33E+08	6.93E+10	6.81E+10	1.22E+09
321	324	9.27	1.78E+08	5.33E+08	6.99E+10	6.86E+10	1.22E+09
324	327	9.27	1.78E+08	5.33E+08	7.04E+10	6.92E+10	1.22E+09
327	330	9.27	1.78E+08	5.33E+08	7.09E+10	6.97E+10	1.22E+09
330	333	9.27	1.78E+08	5.33E+08	7.15E+10	7.02E+10	1.22E+09
333	336	9.27	1.78E+08	5.33E+08	7.20E+10	7.08E+10	1.22E+09
336	339	9.27	1.78E+08	5.33E+08	7.25E+10	7.13E+10	1.22E+09
339	342	9.27	1.78E+08	5.33E+08	7.31E+10	7.18E+10	1.22E+09
342	345	9.27	1.78E+08	5.33E+08	7.36E+10	7.24E+10	1.22E+09
345	348	9.27	1.78E+08	5.33E+08	7.41E+10	7.29E+10	1.22E+09
348	351	9.27	1.78E+08	5.33E+08	7.47E+10	7.34E+10	1.22E+09
351	354	9.27	1.78E+08	5.33E+08	7.52E+10	7.40E+10	1.22E+09
354	357	9.27	1.78E+08	5.33E+08	7.57E+10	7.45E+10	1.22E+09
357	360	9.27	1.78E+08	5.33E+08	7.63E+10	7.50E+10	1.22E+09
360	363	9.27	1.78E+08	5.33E+08	7.68E+10	7.56E+10	1.22E+09
363	366	9.27	1.78E+08	5.33E+08	7.73E+10	7.61E+10	1.22E+09
366	369	9.27	1.78E+08	5.33E+08	7.79E+10	7.66E+10	1.22E+09
369	372	9.27	1.78E+08	5.33E+08	7.84E+10	7.72E+10	1.22E+09
372	375	9.27	1.78E+08	5.33E+08	7.89E+10	7.77E+10	1.22E+09
375	378	9.27	1.78E+08	5.33E+08	7.95E+10	7.82E+10	1.22E+09
378	381	9.27	1.78E+08	5.33E+08	8.00E+10	7.88E+10	1.22E+09
381	384	9.27	1.78E+08	5.33E+08	8.05E+10	7.93E+10	1.22E+09
384	387	9.27	1.78E+08	5.33E+08	8.11E+10	7.98E+10	1.22E+09
387	390	9.27	1.78E+08	5.33E+08	8.16E+10	8.04E+10	1.22E+09
390	393	9.27	1.78E+08	5.33E+08	8.21E+10	8.09E+10	1.22E+09
393	396	9.27	1.78E+08	5.33E+08	8.27E+10	8.14E+10	1.22E+09
396	399	9.27	1.78E+08	5.33E+08	8.32E+10	8.20E+10	1.22E+09
399	402	9.27	1.78E+08	5.33E+08	8.37E+10	8.25E+10	1.22E+09
402	405	9.27	1.78E+08	5.33E+08	8.43E+10	8.30E+10	1.22E+09
405	408	9.27	1.78E+08	5.33E+08	8.48E+10	8.36E+10	1.22E+09
408	411	9.27	1.78E+08	5.33E+08	8.53E+10	8.41E+10	1.22E+09
411	414	9.27	1.78E+08	5.33E+08	8.58E+10	8.46E+10	1.22E+09
414	417	9.23	1.77E+08	5.31E+08	8.64E+10	8.52E+10	1.22E+09

Table G7.1 - Plant Temperature Rise

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
417	420	8.94	1.71E+08	5.14E+08	8.69E+10	8.57E+10	1.22E+09
420	423	8.94	1.71E+08	5.14E+08	8.74E+10	8.62E+10	1.22E+09
423	426	8.94	1.71E+08	5.14E+08	8.79E+10	8.67E+10	1.22E+09
426	429	8.94	1.71E+08	5.14E+08	8.84E+10	8.72E+10	1.22E+09
429	432	8.94	1.71E+08	5.14E+08	8.89E+10	8.77E+10	1.22E+09
432	435	8.94	1.71E+08	5.14E+08	8.95E+10	8.82E+10	1.22E+09
435	438	8.94	1.71E+08	5.14E+08	9.00E+10	8.88E+10	1.22E+09
438	441	8.94	1.71E+08	5.14E+08	9.05E+10	8.93E+10	1.22E+09
441	444	8.94	1.71E+08	5.14E+08	9.10E+10	8.98E+10	1.22E+09
444	447	8.94	1.71E+08	5.14E+08	9.15E+10	9.03E+10	1.22E+09
447	450	8.94	1.71E+08	5.14E+08	9.20E+10	9.08E+10	1.22E+09
450	453	8.94	1.71E+08	5.14E+08	9.25E+10	9.13E+10	1.22E+09
453	456	8.94	1.71E+08	5.14E+08	9.31E+10	9.18E+10	1.22E+09
456	459	8.94	1.71E+08	5.14E+08	9.36E+10	9.24E+10	1.22E+09
459	462	8.94	1.71E+08	5.14E+08	9.41E+10	9.29E+10	1.22E+09
462	465	8.94	1.71E+08	5.14E+08	9.46E+10	9.34E+10	1.22E+09
465	468	8.94	1.71E+08	5.14E+08	9.51E+10	9.39E+10	1.22E+09
468	471	8.94	1.71E+08	5.14E+08	9.56E+10	9.44E+10	1.22E+09
471	474	8.94	1.71E+08	5.14E+08	9.61E+10	9.49E+10	1.22E+09
474	477	8.94	1.71E+08	5.14E+08	9.67E+10	9.54E+10	1.22E+09
477	480	8.94	1.71E+08	5.14E+08	9.72E+10	9.59E+10	1.22E+09
480	483	8.81	1.69E+08	5.06E+08	9.77E+10	9.65E+10	1.22E+09
483	486	8.78	1.68E+08	5.05E+08	9.82E+10	9.70E+10	1.22E+09
486	489	8.78	1.68E+08	5.05E+08	9.87E+10	9.75E+10	1.22E+09
489	492	8.78	1.68E+08	5.05E+08	9.92E+10	9.80E+10	1.22E+09
492	495	8.78	1.68E+08	5.05E+08	9.97E+10	9.85E+10	1.22E+09
495	498	8.78	1.68E+08	5.05E+08	1.00E+11	9.90E+10	1.22E+09
498	501	8.78	1.68E+08	5.05E+08	1.01E+11	9.95E+10	1.22E+09
501	504	8.78	1.68E+08	5.05E+08	1.01E+11	1.00E+11	1.22E+09
504	507	8.78	1.68E+08	5.05E+08	1.02E+11	1.00E+11	1.22E+09
507	510	8.78	1.68E+08	5.05E+08	1.02E+11	1.01E+11	1.22E+09
510	513	8.78	1.68E+08	5.05E+08	1.03E+11	1.02E+11	1.22E+09
513	516	8.78	1.68E+08	5.05E+08	1.03E+11	1.02E+11	1.22E+09
516	519	8.78	1.68E+08	5.05E+08	1.04E+11	1.03E+11	1.22E+09
519	522	8.78	1.68E+08	5.05E+08	1.04E+11	1.03E+11	1.22E+09
522	525	8.78	1.68E+08	5.05E+08	1.05E+11	1.04E+11	1.22E+09
525	528	8.78	1.68E+08	5.05E+08	1.05E+11	1.04E+11	1.22E+09
528	531	8.78	1.68E+08	5.05E+08	1.06E+11	1.05E+11	1.22E+09
531	534	8.78	1.68E+08	5.05E+08	1.06E+11	1.05E+11	1.22E+09
534	537	8.78	1.68E+08	5.05E+08	1.07E+11	1.06E+11	1.22E+09
537	540	8.78	1.68E+08	5.05E+08	1.07E+11	1.06E+11	1.22E+09
540	543	8.78	1.68E+08	5.05E+08	1.08E+11	1.07E+11	1.22E+09
543	546	8.78	1.68E+08	5.05E+08	1.08E+11	1.07E+11	1.22E+09
546	549	8.78	1.68E+08	5.05E+08	1.09E+11	1.08E+11	1.22E+09
549	552	8.78	1.68E+08	5.05E+08	1.09E+11	1.08E+11	1.22E+09
552	555	8.78	1.68E+08	5.05E+08	1.10E+11	1.09E+11	1.22E+09
555	558	8.61	1.65E+08	4.95E+08	1.10E+11	1.09E+11	1.22E+09

Table G7.1 - Plant Temperature Rise

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
558	561	8.57	1.64E+08	4.93E+08	1.11E+11	1.10E+11	1.22E+09
561	564	8.57	1.64E+08	4.93E+08	1.11E+11	1.10E+11	1.22E+09
564	567	8.57	1.64E+08	4.93E+08	1.12E+11	1.11E+11	1.22E+09
567	570	8.57	1.64E+08	4.93E+08	1.12E+11	1.11E+11	1.22E+09
570	573	8.57	1.64E+08	4.93E+08	1.13E+11	1.12E+11	1.22E+09
573	576	8.57	1.64E+08	4.93E+08	1.13E+11	1.12E+11	1.22E+09
576	579	8.57	1.64E+08	4.93E+08	1.14E+11	1.13E+11	1.22E+09
579	582	8.57	1.64E+08	4.93E+08	1.14E+11	1.13E+11	1.22E+09
582	585	8.57	1.64E+08	4.93E+08	1.15E+11	1.13E+11	1.22E+09
585	588	8.57	1.64E+08	4.93E+08	1.15E+11	1.14E+11	1.22E+09
588	591	8.57	1.64E+08	4.93E+08	1.16E+11	1.14E+11	1.22E+09
591	594	8.57	1.64E+08	4.93E+08	1.16E+11	1.15E+11	1.22E+09
594	597	8.57	1.64E+08	4.93E+08	1.17E+11	1.15E+11	1.22E+09
597	600	8.57	1.64E+08	4.93E+08	1.17E+11	1.16E+11	1.22E+09
600	603	8.57	1.64E+08	4.93E+08	1.18E+11	1.16E+11	1.22E+09
603	606	8.57	1.64E+08	4.93E+08	1.18E+11	1.17E+11	1.22E+09
606	609	8.57	1.64E+08	4.93E+08	1.19E+11	1.17E+11	1.22E+09
609	612	8.57	1.64E+08	4.93E+08	1.19E+11	1.18E+11	1.22E+09
612	615	8.57	1.64E+08	4.93E+08	1.20E+11	1.18E+11	1.22E+09
615	618	8.57	1.64E+08	4.93E+08	1.20E+11	1.19E+11	1.22E+09
618	621	8.57	1.64E+08	4.93E+08	1.21E+11	1.19E+11	1.22E+09
621	624	8.57	1.64E+08	4.93E+08	1.21E+11	1.20E+11	1.22E+09
624	627	8.57	1.64E+08	4.93E+08	1.22E+11	1.20E+11	1.22E+09
627	630	8.57	1.64E+08	4.93E+08	1.22E+11	1.21E+11	1.22E+09
630	633	8.57	1.64E+08	4.93E+08	1.23E+11	1.21E+11	1.22E+09
633	636	8.57	1.64E+08	4.93E+08	1.23E+11	1.22E+11	1.22E+09
636	639	8.57	1.64E+08	4.93E+08	1.24E+11	1.22E+11	1.22E+09
639	642	8.57	1.64E+08	4.93E+08	1.24E+11	1.23E+11	1.22E+09
642	645	8.57	1.64E+08	4.93E+08	1.25E+11	1.23E+11	1.22E+09
645	648	8.57	1.64E+08	4.93E+08	1.25E+11	1.24E+11	1.22E+09
648	651	8.57	1.64E+08	4.93E+08	1.26E+11	1.24E+11	1.22E+09
651	654	8.57	1.64E+08	4.93E+08	1.26E+11	1.25E+11	1.22E+09
654	657	8.57	1.64E+08	4.93E+08	1.27E+11	1.25E+11	1.22E+09
657	660	8.57	1.64E+08	4.93E+08	1.27E+11	1.26E+11	1.22E+09
660	663	8.57	1.64E+08	4.93E+08	1.28E+11	1.26E+11	1.22E+09
663	666	8.57	1.64E+08	4.93E+08	1.28E+11	1.27E+11	1.22E+09
666	669	8.57	1.64E+08	4.93E+08	1.29E+11	1.27E+11	1.22E+09
669	672	8.57	1.64E+08	4.93E+08	1.29E+11	1.28E+11	1.22E+09
672	675	8.57	1.64E+08	4.93E+08	1.29E+11	1.28E+11	1.22E+09
675	678	8.57	1.64E+08	4.93E+08	1.30E+11	1.29E+11	1.22E+09
678	681	8.57	1.64E+08	4.93E+08	1.30E+11	1.29E+11	1.22E+09
681	684	8.57	1.64E+08	4.93E+08	1.31E+11	1.30E+11	1.22E+09
684	687	8.57	1.64E+08	4.93E+08	1.31E+11	1.30E+11	1.22E+09
687	690	8.57	1.64E+08	4.93E+08	1.32E+11	1.31E+11	1.22E+09
690	693	8.57	1.64E+08	4.93E+08	1.32E+11	1.31E+11	1.22E+09
693	696	8.57	1.64E+08	4.93E+08	1.33E+11	1.32E+11	1.22E+09
696	699	8.57	1.64E+08	4.93E+08	1.33E+11	1.32E+11	1.22E+09

Table G7.1 - Plant Temperature Rise

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
699	702	8.57	1.64E+08	4.93E+08	1.34E+11	1.33E+11	1.22E+09
702	705	8.57	1.64E+08	4.93E+08	1.34E+11	1.33E+11	1.22E+09
705	708	8.57	1.64E+08	4.93E+08	1.35E+11	1.34E+11	1.22E+09
708	711	8.57	1.64E+08	4.93E+08	1.35E+11	1.34E+11	1.22E+09
711	714	8.57	1.64E+08	4.93E+08	1.36E+11	1.35E+11	1.22E+09
714	717	8.57	1.64E+08	4.93E+08	1.36E+11	1.35E+11	1.22E+09
717	720	8.52	1.63E+08	4.90E+08	1.37E+11	1.36E+11	1.22E+09
720	723	8.31	1.59E+08	4.77E+08	1.37E+11	1.36E+11	1.22E+09
723	726	8.31	1.59E+08	4.77E+08	1.38E+11	1.37E+11	1.22E+09
726	729	8.31	1.59E+08	4.77E+08	1.38E+11	1.37E+11	1.22E+09
729	732	8.31	1.59E+08	4.77E+08	1.39E+11	1.38E+11	1.22E+09
732	735	8.31	1.59E+08	4.77E+08	1.39E+11	1.38E+11	1.22E+09
735	738	8.31	1.59E+08	4.77E+08	1.40E+11	1.39E+11	1.22E+09
738	741	8.31	1.59E+08	4.77E+08	1.40E+11	1.39E+11	1.22E+09
741	744	8.31	1.59E+08	4.77E+08	1.41E+11	1.39E+11	1.22E+09
744	747	8.31	1.59E+08	4.77E+08	1.41E+11	1.40E+11	1.22E+09
747	750	8.31	1.59E+08	4.77E+08	1.42E+11	1.40E+11	1.22E+09
750	753	8.31	1.59E+08	4.77E+08	1.42E+11	1.41E+11	1.22E+09
753	756	8.31	1.59E+08	4.77E+08	1.43E+11	1.41E+11	1.22E+09
756	759	8.31	1.59E+08	4.77E+08	1.43E+11	1.42E+11	1.22E+09
759	762	8.31	1.59E+08	4.77E+08	1.44E+11	1.42E+11	1.22E+09
762	765	8.31	1.59E+08	4.77E+08	1.44E+11	1.43E+11	1.22E+09
765	768	8.31	1.59E+08	4.77E+08	1.45E+11	1.43E+11	1.22E+09
768	771	8.31	1.59E+08	4.77E+08	1.45E+11	1.44E+11	1.22E+09
771	774	8.31	1.59E+08	4.77E+08	1.45E+11	1.44E+11	1.22E+09
774	777	8.31	1.59E+08	4.77E+08	1.46E+11	1.45E+11	1.22E+09
777	780	8.31	1.59E+08	4.77E+08	1.46E+11	1.45E+11	1.22E+09
780	783	8.31	1.59E+08	4.77E+08	1.47E+11	1.46E+11	1.22E+09
783	786	8.31	1.59E+08	4.77E+08	1.47E+11	1.46E+11	1.22E+09
786	789	8.31	1.59E+08	4.77E+08	1.48E+11	1.47E+11	1.22E+09
789	792	8.31	1.59E+08	4.77E+08	1.48E+11	1.47E+11	1.22E+09
792	795	8.31	1.59E+08	4.77E+08	1.49E+11	1.48E+11	1.22E+09
795	798	8.31	1.59E+08	4.77E+08	1.49E+11	1.48E+11	1.22E+09
798	801	8.31	1.59E+08	4.77E+08	1.50E+11	1.49E+11	1.22E+09
801	804	8.31	1.59E+08	4.77E+08	1.50E+11	1.49E+11	1.22E+09
804	807	8.31	1.59E+08	4.77E+08	1.51E+11	1.50E+11	1.22E+09
807	810	8.31	1.59E+08	4.77E+08	1.51E+11	1.50E+11	1.22E+09
810	813	8.31	1.59E+08	4.77E+08	1.52E+11	1.50E+11	1.22E+09
813	816	8.31	1.59E+08	4.77E+08	1.52E+11	1.51E+11	1.22E+09
816	819	8.31	1.59E+08	4.77E+08	1.53E+11	1.51E+11	1.22E+09
819	822	8.31	1.59E+08	4.77E+08	1.53E+11	1.52E+11	1.22E+09
822	825	8.31	1.59E+08	4.77E+08	1.54E+11	1.52E+11	1.22E+09
825	828	8.31	1.59E+08	4.77E+08	1.54E+11	1.53E+11	1.22E+09
828	831	8.31	1.59E+08	4.77E+08	1.55E+11	1.53E+11	1.22E+09
831	834	8.31	1.59E+08	4.77E+08	1.55E+11	1.54E+11	1.22E+09
834	837	8.31	1.59E+08	4.77E+08	1.55E+11	1.54E+11	1.22E+09
837	840	8.31	1.59E+08	4.77E+08	1.56E+11	1.55E+11	1.22E+09



Table G7.1 - Plant Temperature Rise

Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
840	843	8.31	1.59E+08	4.77E+08	1.56E+11	1.55E+11	1.22E+09
843	846	8.31	1.59E+08	4.77E+08	1.57E+11	1.56E+11	1.22E+09
846	849	8.31	1.59E+08	4.77E+08	1.57E+11	1.56E+11	1.22E+09
849	852	8.31	1.59E+08	4.77E+08	1.58E+11	1.57E+11	1.22E+09
852	855	8.31	1.59E+08	4.77E+08	1.58E+11	1.57E+11	1.22E+09
855	858	8.31	1.59E+08	4.77E+08	1.59E+11	1.58E+11	1.22E+09
858	861	8.31	1.59E+08	4.77E+08	1.59E+11	1.58E+11	1.22E+09
861	864	8.31	1.59E+08	4.77E+08	1.60E+11	1.59E+11	1.22E+09
36 Day Average Heat Load			1.85E+08				

**Table G7.2. Cumulative Summary for Case 1 - 0" Sediment, 09:00 Start Time**

Case 1: LaSalle UHS (09:00, Worst Day Temp; Ti=100F, 0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE (CFS)	-0.16 ( 8051900)	-0.20 ( 7011900)	-0.18
TOTAL EVAP (CFS)	-0.25 ( 8041900)	-4.67 ( 7031900)	-1.39
NATURAL EVAP (CFS)	0.00 ( 7011900)	-3.62 ( 7031900)	-0.77
FORCED EVAP (CFS)	-0.25 ( 8041900)	-1.78 ( 7011900)	-0.62
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.64 ( 8051900)	689.27
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA (ACRE)	83.82 ( 7011900)	81.58 ( 8051900)	82.61
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.06
SURF LOSS (BTU/HR-FT2)	162.37 ( 7011900)	144.64 ( 7061900)	151.85
EVAP LOSS (BTU/HR-FT2)	231.58 ( 7031900)	0.00 ( 7011900)	49.83
COND LOSS (BTU/HR-FT2)	39.22 ( 7261900)	-6.56 ( 7261900)	6.89
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL (F)	98.68 ( 7011900)	82.77 ( 7061900)	89.37
LAKE TEMP @ INLET (F)	135.93 ( 7011900)	93.43 ( 7251900)	100.13
LAKE TEMP @ OUTLET (F)	101.55 ( 7011900)	84.35 ( 7061900)	90.50

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	95.8	89.0
LAKE TEMP @ INLET (F)	130.0	108.0	99.4
LAKE TEMP @ OUTLET (F)	101.0	96.8	90.2

**Table G7.3. Cumulative Summary for Case 2 – 6” Sediment, 09:00 Start Time**

Case 2: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; Ti=100F, 0.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
TOTAL EVAP (CFS)	-0.32 ( 8051900)	-4.11 ( 7051900)	-1.59
NATURAL EVAP (CFS)	0.00 ( 7031900)	-2.71 ( 7051900)	-0.95
FORCED EVAP (CFS)	-0.27 ( 7311900)	-1.65 ( 7011900)	-0.64
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.46 ( 8051900)	689.18
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA (ACRE)	82.98 ( 7011900)	80.48 ( 8051900)	81.65
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	162.49 ( 7011900)	143.55 ( 7241900)	153.38
EVAP LOSS (BTU/HR-FT2)	174.75 ( 7051900)	0.00 ( 7031900)	62.48
COND LOSS (BTU/HR-FT2)	25.44 ( 7051900)	-31.64 ( 7251900)	5.29
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL (F)	98.78 ( 7011900)	81.73 ( 7241900)	90.75
LAKE TEMP @ INLET (F)	135.36 ( 7011900)	91.03 ( 7241900)	101.26
LAKE TEMP @ OUTLET (F)	101.78 ( 7011900)	82.46 ( 7241900)	91.64

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	96.6	90.9
LAKE TEMP @ INLET (F)	130.0	110.1	101.0
LAKE TEMP @ OUTLET (F)	101.0	97.7	91.8

**Table G7.4. Cumulative Summary for Case 3 – 18” Sediment, 09:00 Start Time**

Case 3: LaSalle UHS (09:00, Worst Day Temp; Ti=99.35F, 1.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
TOTAL EVAP (CFS)	-0.20 ( 8041900)	-4.34 ( 7031900)	-1.37
NATURAL EVAP (CFS)	0.00 ( 7011900)	-3.38 ( 7031900)	-0.74
FORCED EVAP (CFS)	-0.20 ( 8041900)	-1.87 ( 7011900)	-0.62
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.63 ( 8051900)	689.27
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA (ACRE)	81.34 ( 7011900)	79.16 ( 8051900)	80.18
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.06
SURF LOSS (BTU/HR-FT2)	162.86 ( 7011900)	142.86 ( 7061900)	151.69
EVAP LOSS (BTU/HR-FT2)	222.86 ( 7031900)	0.00 ( 7011900)	49.66
COND LOSS (BTU/HR-FT2)	39.52 ( 7261900)	-7.05 ( 7261900)	6.81
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL (F)	99.10 ( 7011900)	81.09 ( 7061900)	89.22
LAKE TEMP @ INLET (F)	135.50 ( 7011900)	92.01 ( 7251900)	99.70
LAKE TEMP @ OUTLET (F)	101.98 ( 7011900)	82.17 ( 7061900)	90.10

TEMPERATURE FREQUENCY OF OCCURENCES

	1%	5%	50%
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	130.0	106.8	99.2
LAKE TEMP @ OUTLET (F)	101.0	96.9	89.9

**Table G7.5. Cumulative Summary for Case 4 – 18" Sediment, 06:00 Start Time**

Case 4: LaSalle UHS (06:00, Worst Day Temp; Ti=100F, 1.5')

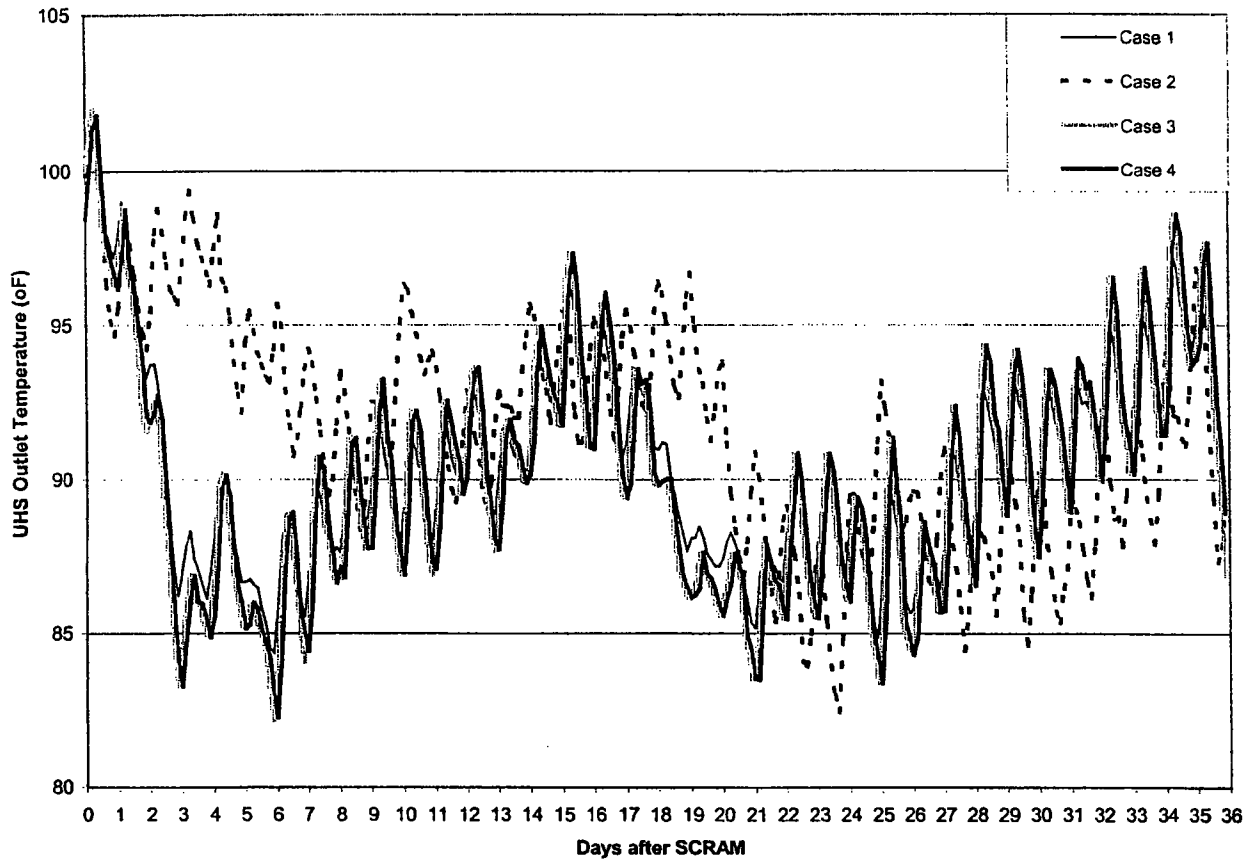
## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
TOTAL EVAP (CFS)	-0.20 ( 8041900)	-4.34 ( 7031900)	-1.36
NATURAL EVAP (CFS)	0.00 ( 7011900)	-3.39 ( 7031900)	-0.74
FORCED EVAP (CFS)	-0.20 ( 8041900)	-1.82 ( 7011900)	-0.62
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.63 ( 8051900)	689.27
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA (ACRE)	81.34 ( 7011900)	79.17 ( 8051900)	80.18
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.18
SURF LOSS (BTU/HR-FT2)	163.09 ( 7011900)	142.86 ( 7071900)	151.74
EVAP LOSS (BTU/HR-FT2)	223.45 ( 7031900)	0.00 ( 7011900)	49.53
COND LOSS (BTU/HR-FT2)	39.52 ( 7261900)	-7.06 ( 7261900)	6.78
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL (F)	99.30 ( 7011900)	81.09 ( 7071900)	89.26
LAKE TEMP @ INLET (F)	133.93 ( 7011900)	91.99 ( 7261900)	99.74
LAKE TEMP @ OUTLET (F)	101.80 ( 7011900)	82.26 ( 7071900)	90.14

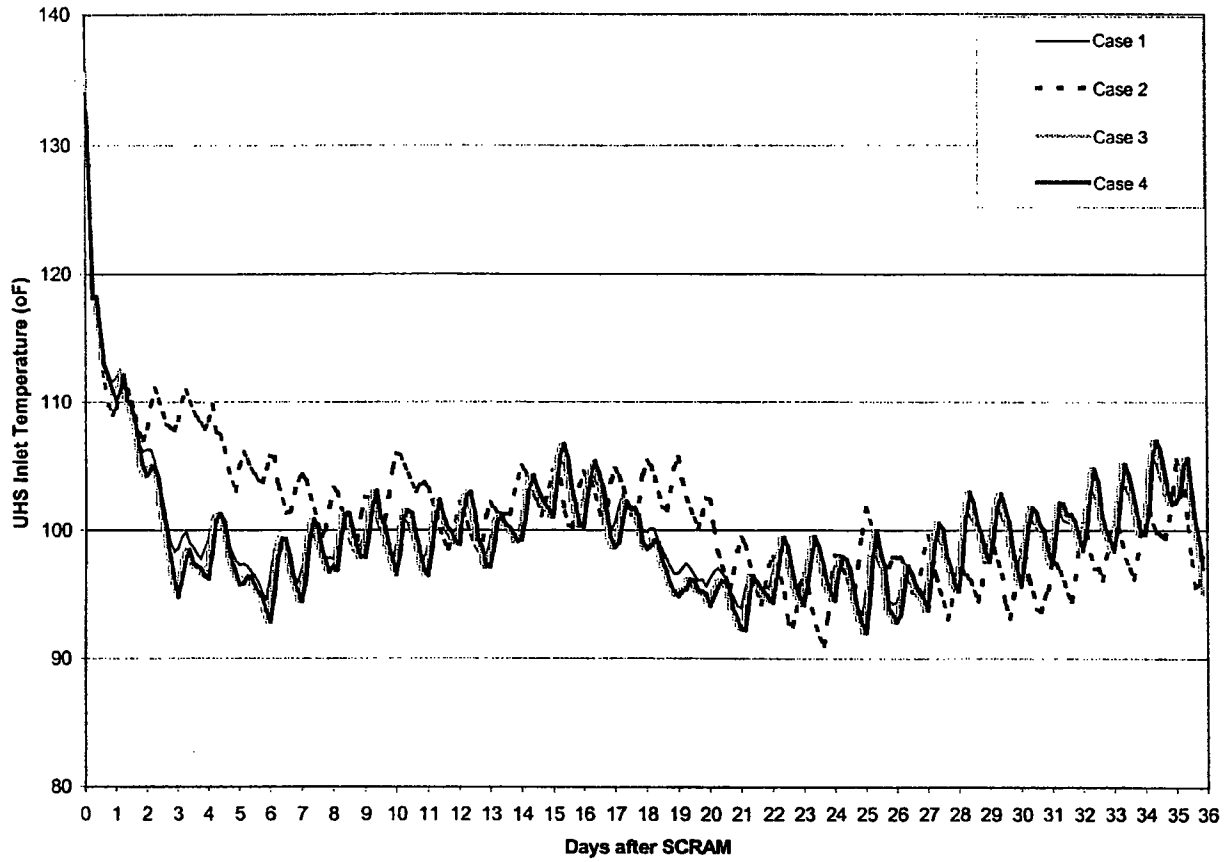
## TEMPERATURE

FREQUENCY OF OCCURENCES  
1%      5%      50%

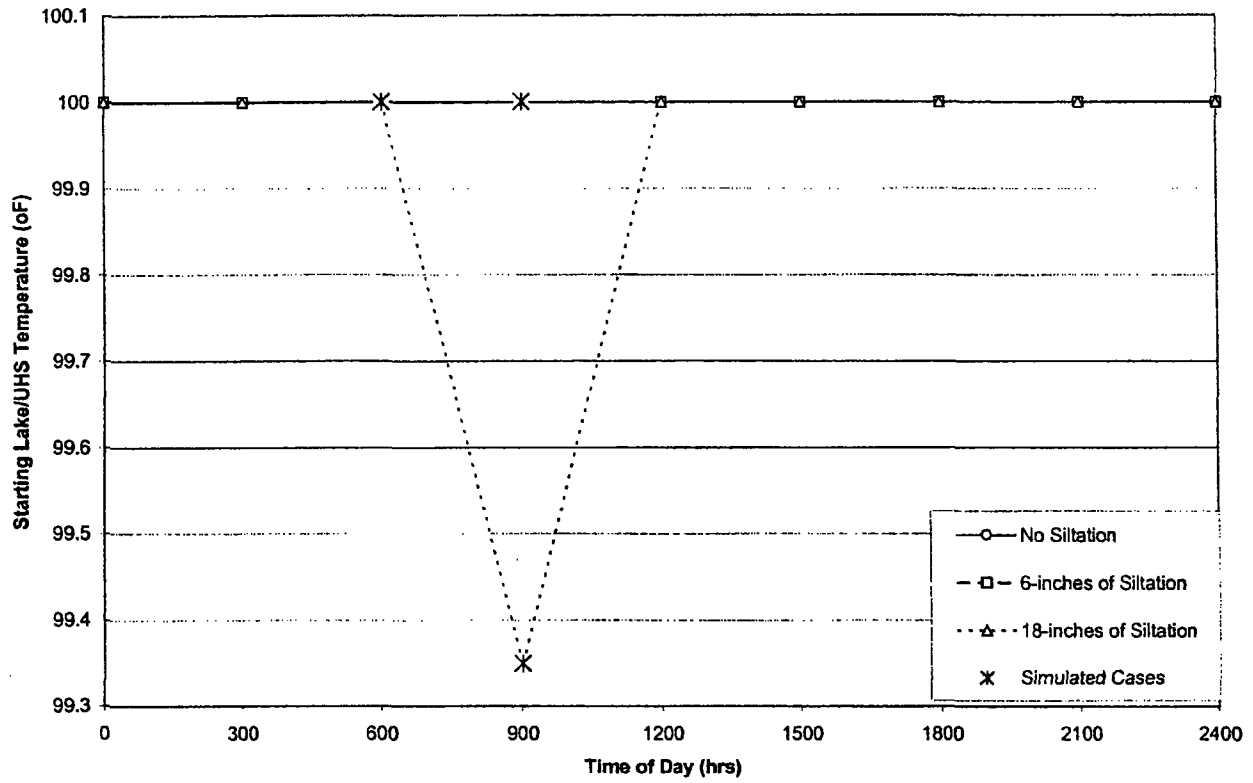
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	128.0	108.0	99.2
LAKE TEMP @ OUTLET (F)	101.0	97.1	89.9



**Figure G7.1. UHS Outlet Temperature vs. Days After SCRAM**



**Figure G7.2. UHS Inlet Temperature vs. Days After SCRAM**



**Figure G7.3. Limiting Lake Temperature vs. Time of Day – Recreation of Figure 7.1 from main body of calculation**



Program : LAKET  
Number : 03.7.292-2.0 O  
Created : 07/18/2001 13:58:10

Page : 1  
Date : 05/01/2002  
Time : 08:29:23.71

Case 1: LaSalle UHS (09:00, Worst Day Temp; Ti=100F, 0')

1					
2	070100	080500	1	1	0
3	1	20.			
4	1	0.2	5500.		0
5	690.	690.	1.		6
	83.83	464.9	75.45		418.4
	82.15	381.9	73.94		343.7
	80.55	300.5	72.50		270.5
	78.96	220.8	71.06		198.7
	77.33	142.6	69.60		128.4
	29.70	71.7	26.73		65.6
7	1	0			
8	100.0	95.5			
999					
FPLANT	R/I	86.0			
TPRISE	S/I				
35.48					
28.95					
16.79					
16.39					
15.42					
15.06					
14.61					
14.36					
13.95					
13.52					
13.36					
13.36					
13.36					
13.30					
12.79					
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11.16					
11.15					





Program : LAKET  
Number : 03.7.292-2.0 0  
Created : 07/18/2001 13:58:10

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Time : 08:29:23.75

9.27  
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8.57





Program : LAKET  
 Number : 03.7.292-2.0 0  
 Created : 07/18/2001 13:58:10

Page : 7  
 Date : 05/01/2002  
 Time : 08:29:23.79

Case 1: LaSalle UHS (09:00, Worst Day Temp; Ti=100F, 0')

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.





8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.570	8.570	8.570	8.570
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
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8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
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8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310

Program : LAKET  
Number : 03.7.292-2.0 0  
Created : 07/18/2001 13:58:10

Page : 9  
Date : 05/01/2002  
Time : 08:29:23.96

Case 1: LaSalle UHS (09:00, Worst Day Temp; Ti=100F, 0')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.18	-0.16	-0.18
TOTAL EVAP (CFS)	0.00	-1.40	-1.32	-1.39
NATURAL EVAP (CFS)	0.00	-0.77	-0.76	-0.77
FORCED EVAP (CFS)	0.00	-0.63	-0.56	-0.62
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.35	688.74	689.27
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	82.75	81.73	82.61
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	212.81	206.06
SURF LOSS (BTU/HR-FT2)	0.00	151.26	155.47	151.85
EVAP LOSS (BTU/HR-FT2)	0.00	49.88	49.55	49.83
COND LOSS (BTU/HR-FT2)	0.00	6.81	7.39	6.89
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	88.84	92.64	89.37
LAKE TEMP @ INLET (F)	0.00	99.85	101.85	100.13
LAKE TEMP @ OUTLET (F)	0.00	90.01	93.56	90.50

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	95.8	89.0
LAKE TEMP @ INLET (F)	130.0	108.0	99.4
LAKE TEMP @ OUTLET (F)	101.0	96.8	90.2

Program : LAKET  
Number : 03.7.292-2.0 0  
Created : 07/18/2001 13:58:10

Page : 10  
Date : 05/01/2002  
Time : 08:29:23.96

Case 1: LaSalle UHS (09:00, Worst Day Temp; Ti=100F, 0')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.18	-0.16	-0.18
TOTAL EVAP (CFS)	0.00	-1.40	-1.32	-1.39
NATURAL EVAP (CFS)	0.00	-0.77	-0.76	-0.77
FORCED EVAP (CFS)	0.00	-0.63	-0.56	-0.62
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.35	688.74	689.27
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	82.75	81.73	82.61
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	212.81	206.06
SURF LOSS (BTU/HR-FT2)	0.00	151.26	155.47	151.85
EVAP LOSS (BTU/HR-FT2)	0.00	49.88	49.55	49.83
COND LOSS (BTU/HR-FT2)	0.00	6.81	7.39	6.89
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	88.84	92.64	89.37
LAKE TEMP @ INLET (F)	0.00	99.85	101.85	100.13
LAKE TEMP @ OUTLET (F)	0.00	90.01	93.56	90.50

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	95.8	89.0
LAKE TEMP @ INLET (F)	130.0	108.0	99.4
LAKE TEMP @ OUTLET (F)	101.0	96.8	90.2

Program : LAKET  
 Number : 03.7.292-2.0 0  
 Created : 07/18/2001 13:58:10

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Case 1: LaSalle UHS (09:00, Worst Day Temp; Ti=100F, 0')

TOTAL CUMULATIVE SUMMARY

QUANTITY		MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE	(CFS)	-0.16 ( 8051900)	-0.20 ( 7011900)	-0.18
TOTAL EVAP	(CFS)	-0.25 ( 8041900)	-4.67 ( 7031900)	-1.39
NATURAL EVAP	(CFS)	0.00 ( 7011900)	-3.62 ( 7031900)	-0.77
FORCED EVAP	(CFS)	-0.25 ( 8041900)	-1.78 ( 7011900)	-0.62
PRECIPITATION	(CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP	(CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN	(CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF	(CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL	(CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION	(FEET)	689.99 ( 7011900)	688.64 ( 8051900)	689.27
DISSOLVED SOLIDS	(PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA	(ACRE)	83.82 ( 7011900)	81.58 ( 8051900)	82.61
SOLAR GAIN (BTU/HR-FT2)		426.50 ( 7011900)	97.95 ( 7041900)	206.06
SURF LOSS (BTU/HR-FT2)		162.37 ( 7011900)	144.64 ( 7061900)	151.85
EVAP LOSS (BTU/HR-FT2)		231.58 ( 7031900)	0.00 ( 7011900)	49.83
COND LOSS (BTU/HR-FT2)		39.22 ( 7261900)	-6.56 ( 7261900)	6.89
CIRCULATION TIME	(HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL	(F)	98.68 ( 7011900)	82.77 ( 7061900)	89.37
LAKE TEMP @ INLET	(F)	135.93 ( 7011900)	93.43 ( 7251900)	100.13
LAKE TEMP @ OUTLET	(F)	101.55 ( 7011900)	84.35 ( 7061900)	90.50

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	95.8	89.0
LAKE TEMP @ INLET (F)	130.0	108.0	99.4
LAKE TEMP @ OUTLET (F)	101.0	96.8	90.2

Program : LAKET  
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Case 2: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; Ti=100F, 0.5')

1					
2	070100	080500	1	1	0
3	1	20.			
4	1	0.2	5500.		0
5	690.	690.	1.		6
	82.99	423.5	74.69		381.2
	81.35	341.4	73.21		307.2
	79.75	260.8	71.78		234.7
	78.15	181.9	70.34		163.7
	29.70	102.2	26.73		92.0
	22.22	60.0	20.00		54.0
7	1	0			
8	100.0	95.5			
999					
FPLANT	R/I	86.0			
TPRISE	S/I				
35.48					
28.95					
16.79					
16.39					
15.42					
15.06					
14.61					
14.36					
13.95					
13.52					
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Program : LAKET  
Number : 03.7.292-2.0 0  
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Program : LAKET  
Number : 03.7.292-2.0 0  
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Case 2: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; Ti=100F, 0.5')

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.

Program : LAKET  
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Case 2: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; Ti=100F, 0.5')

FPLANT						
70100 -	80500	R/I	86.000			
TPRISE						
70100 -	80500	S/I	35.480	28.950	16.790	16.390
			15.420	15.060	14.610	14.360
			13.950	13.520	13.360	13.360
			13.360	13.300	12.790	12.790
			12.500	12.500	12.300	12.090
			12.090	12.090	12.090	12.080
			11.560	11.560	11.560	11.560
			11.560	11.560	11.560	11.560
			11.160	11.150	11.150	11.150
			11.150	10.950	10.940	10.940
			10.590	10.590	10.590	10.590
			10.590	10.590	10.590	10.590
			10.590	10.590	10.590	10.590
			10.590	10.590	10.590	10.360
			10.070	10.070	10.070	10.070
			10.070	10.070	10.070	10.070
			10.070	10.070	10.070	10.070
			10.070	10.070	10.070	10.070
			10.070	10.070	9.810	9.790
			9.790	9.790	9.790	9.790
			9.630	9.630	9.630	9.630
			9.630	9.630	9.630	9.630
			9.630	9.630	9.630	9.630
			9.480	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.810	8.780	8.780	8.780
			8.780	8.780	8.780	8.780
			8.780	8.780	8.780	8.780
			8.780	8.780	8.780	8.780
			8.780	8.780	8.780	8.780

8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310

Program : LAKET  
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Case 2: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; Ti=100F, 0.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.17	-0.15	-0.17
TOTAL EVAP (CFS)	0.00	-1.64	-1.32	-1.59
NATURAL EVAP (CFS)	0.00	-0.98	-0.77	-0.95
FORCED EVAP (CFS)	0.00	-0.65	-0.56	-0.64
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.28	688.55	689.18
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	81.81	80.64	81.65
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.58	152.11	153.38
EVAP LOSS (BTU/HR-FT2)	0.00	64.35	50.88	62.48
COND LOSS (BTU/HR-FT2)	0.00	5.32	5.08	5.29
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	90.93	89.62	90.75
LAKE TEMP @ INLET (F)	0.00	101.64	98.87	101.26
LAKE TEMP @ OUTLET (F)	0.00	91.80	90.60	91.64

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	96.6	90.9
LAKE TEMP @ INLET (F)	130.0	110.1	101.0
LAKE TEMP @ OUTLET (F)	101.0	97.7	91.8

Program : LAKET  
 Number : 03.7.292-2.0 O  
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Case 2: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; Ti=100F, 0.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.17	-0.15	-0.17
TOTAL EVAP (CFS)	0.00	-1.64	-1.32	-1.59
NATURAL EVAP (CFS)	0.00	-0.98	-0.77	-0.95
FORCED EVAP (CFS)	0.00	-0.65	-0.56	-0.64
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.28	688.55	689.18
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	81.81	80.64	81.65
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.58	152.11	153.38
EVAP LOSS (BTU/HR-FT2)	0.00	64.35	50.88	62.48
COND LOSS (BTU/HR-FT2)	0.00	5.32	5.08	5.29
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	90.93	89.62	90.75
LAKE TEMP @ INLET (F)	0.00	101.64	98.87	101.26
LAKE TEMP @ OUTLET (F)	0.00	91.80	90.60	91.64

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	96.6	90.9
LAKE TEMP @ INLET (F)	130.0	110.1	101.0
LAKE TEMP @ OUTLET (F)	101.0	97.7	91.8

Program : LAKET  
 Number : 03.7.292-2.0 0  
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Case 2: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; Ti=100F, 0.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
TOTAL EVAP (CFS)	-0.32 ( 8051900)	-4.11 ( 7051900)	-1.59
NATURAL EVAP (CFS)	0.00 ( 7031900)	-2.71 ( 7051900)	-0.95
FORCED EVAP (CFS)	-0.27 ( 7311900)	-1.65 ( 7011900)	-0.64
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.46 ( 8051900)	689.18
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA (ACRE)	82.98 ( 7011900)	80.48 ( 8051900)	81.65
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	162.49 ( 7011900)	143.55 ( 7241900)	153.38
EVAP LOSS (BTU/HR-FT2)	174.75 ( 7051900)	0.00 ( 7031900)	62.48
COND LOSS (BTU/HR-FT2)	25.44 ( 7051900)	-31.64 ( 7251900)	5.29
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL (F)	98.78 ( 7011900)	81.73 ( 7241900)	90.75
LAKE TEMP @ INLET (F)	135.36 ( 7011900)	91.03 ( 7241900)	101.26
LAKE TEMP @ OUTLET (F)	101.78 ( 7011900)	82.46 ( 7241900)	91.64

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.0	96.6	90.9
LAKE TEMP @ INLET (F)	130.0	110.1	101.0
LAKE TEMP @ OUTLET (F)	101.0	97.7	91.8



Program : LAKET  
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Case 3: LaSalle UHS (09:00, Worst Day Temp; Ti=99.35F, 1.5')

1				
2	070100	080500	1	1 0
3	1	20.		
4	1	0.2	5500.	0
5	690.	690.	1.	6
	81.35	341.4	73.21	307.2
	79.75	260.8	71.78	234.7
	78.15	181.9	70.34	163.7
	29.70	102.2	26.73	92.0
	22.22	60.0	20.00	54.0
	13.42	43.8	12.08	39.4
7	1	0		
8	99.35	94.85		
999				
FPLANT	R/I	86.0		
TPRICE	S/I			
35.48				
28.95				
16.79				
16.39				
15.42				
15.06				
14.61				
14.36				
13.95				
13.52				
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Program : LAKRT  
Number : 03.7.292-2.0 0  
Created : 07/18/2001 13:58:10

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Date : 05/01/2002  
Time : 08:55:01.88

Case 3: LaSalle UHS (09:00, Worst Day Temp; Ti=99.35F, 1.5')

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 99.35 94.85

WEATHER STATION ID 0.





8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310

Program : LAKET  
Number : 03.7.292-2.0 0  
Created : 07/18/2001 13:58:10

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Date : 05/01/2002  
Time : 08:55:01.98

Case 3: LaSalle UHS (09:00, Worst Day Temp; Ti=99.35F, 1.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.17
TOTAL EVAP (CFS)	0.00	-1.37	-1.32	-1.37
NATURAL EVAP (CFS)	0.00	-0.74	-0.76	-0.74
FORCED EVAP (CFS)	0.00	-0.63	-0.56	-0.62
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.35	688.73	689.27
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	80.32	79.32	80.18
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	212.81	206.06
SURF LOSS (BTU/HR-FT2)	0.00	151.01	155.92	151.69
EVAP LOSS (BTU/HR-FT2)	0.00	49.41	51.16	49.66
COND LOSS (BTU/HR-FT2)	0.00	6.67	7.69	6.81
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	88.61	93.03	89.22
LAKE TEMP @ INLET (F)	0.00	99.37	101.78	99.70
LAKE TEMP @ OUTLET (F)	0.00	89.55	93.51	90.10

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	130.0	106.8	99.2
LAKE TEMP @ OUTLET (F)	101.0	96.9	89.9

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Case 3: LaSalle UHS (09:00, Worst Day Temp; Ti=99.35F, 1.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.17
TOTAL EVAP (CFS)	0.00	-1.37	-1.32	-1.37
NATURAL EVAP (CFS)	0.00	-0.74	-0.76	-0.74
FORCED EVAP (CFS)	0.00	-0.63	-0.56	-0.62
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.35	688.73	689.27
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	80.32	79.32	80.18
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	212.81	206.06
SURF LOSS (BTU/HR-FT2)	0.00	151.01	155.92	151.69
EVAP LOSS (BTU/HR-FT2)	0.00	49.41	51.16	49.66
COND LOSS (BTU/HR-FT2)	0.00	6.67	7.69	6.81
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	88.61	93.03	89.22
LAKE TEMP @ INLET (F)	0.00	99.37	101.78	99.70
LAKE TEMP @ OUTLET (F)	0.00	89.55	93.51	90.10

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	130.0	106.8	99.2
LAKE TEMP @ OUTLET (F)	101.0	96.9	89.9

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Case 3: LaSalle UHS (09:00, Worst Day Temp; Ti=99.35F, 1.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
TOTAL EVAP (CFS)	-0.20 ( 8041900)	-4.34 ( 7031900)	-1.37
NATURAL EVAP (CFS)	0.00 ( 7011900)	-3.38 ( 7031900)	-0.74
FORCED EVAP (CFS)	-0.20 ( 8041900)	-1.87 ( 7011900)	-0.62
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.63 ( 8051900)	689.27
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA (ACRE)	81.34 ( 7011900)	79.16 ( 8051900)	80.18
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.06
SURF LOSS (BTU/HR-FT2)	162.86 ( 7011900)	142.86 ( 7061900)	151.69
EVAP LOSS (BTU/HR-FT2)	222.86 ( 7031900)	0.00 ( 7011900)	49.66
COND LOSS (BTU/HR-FT2)	39.52 ( 7261900)	-7.05 ( 7261900)	6.81
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL (F)	99.10 ( 7011900)	81.09 ( 7061900)	89.22
LAKE TEMP @ INLET (F)	135.50 ( 7011900)	92.01 ( 7251900)	99.70
LAKE TEMP @ OUTLET (F)	101.98 ( 7011900)	82.17 ( 7061900)	90.10

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	130.0	106.8	99.2
LAKE TEMP @ OUTLET (F)	101.0	96.9	89.9

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Case 4: LaSalle UHS (06:00, Worst Day Temp; Ti=100F, 1.5')

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2	070100	080500	1	1	0
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4	1	0.2	5500.	0	
5	690.	690.	1.	6	
	81.35	341.4	73.21	307.2	
	79.75	260.8	71.78	234.7	
	78.15	181.9	70.34	163.7	
	29.70	102.2	26.73	92.0	
	22.22	60.0	20.00	54.0	
	13.42	43.8	12.08	39.4	
7	1	0			
8	100.0	95.5			
999					
FPLANT	R/I	86.0			
TPRISE	S/I				
35.48					
28.95					
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Case 4: LaSalle UHS (06:00, Worst Day Temp; Ti=100F, 1.5')

RUN 36 DAYS FROM 70100 TO 80500  
PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQ 1 INCREMENTS AT 0 HOURS

INITIAL FORCED/NATURAL LAKE TEMPS. = 100.00 95.50

WEATHER STATION ID 0.



8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
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8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
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8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310

Program : LAKET  
Number : 03.7.292-2.0 0  
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Case 4: LaSalle UHS (06:00, Worst Day Temp; Ti=100F, 1.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.17
TOTAL EVAP (CFS)	0.00	-1.37	-1.30	-1.36
NATURAL EVAP (CFS)	0.00	-0.74	-0.74	-0.74
FORCED EVAP (CFS)	0.00	-0.63	-0.56	-0.62
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.35	688.73	689.27
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	80.32	79.32	80.18
SOLAR GAIN (BTU/HR-FT2)	0.00	205.07	213.07	206.18
SURF LOSS (BTU/HR-FT2)	0.00	151.06	155.97	151.74
EVAP LOSS (BTU/HR-FT2)	0.00	49.46	50.01	49.53
COND LOSS (BTU/HR-FT2)	0.00	6.67	7.41	6.78
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	88.65	93.07	89.26
LAKE TEMP @ INLET (F)	0.00	99.40	101.85	99.74
LAKE TEMP @ OUTLET (F)	0.00	89.58	93.58	90.14

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	128.0	108.0	99.2
LAKE TEMP @ OUTLET (F)	101.0	97.1	89.9

Program : LAKET  
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Case 4: LaSalle UHS (06:00, Worst Day Temp; Ti=100F, 1.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
LAKE SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.17
TOTAL EVAP (CFS)	0.00	-1.37	-1.30	-1.36
NATURAL EVAP (CFS)	0.00	-0.74	-0.74	-0.74
FORCED EVAP (CFS)	0.00	-0.63	-0.56	-0.62
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP (CFS)	0.00	0.00	0.00	0.00
BLOWDOWN (CFS)	0.00	0.00	0.00	0.00
RUNOFF (CFS)	0.00	0.00	0.00	0.00
DAM SPILL (CFS)	0.00	0.00	0.00	0.00
LAKE ELEVATION (FEET)	0.00	689.35	688.73	689.27
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00
LAKE TOTAL AREA (ACRE)	0.00	80.32	79.32	80.18
SOLAR GAIN (BTU/HR-FT2)	0.00	205.07	213.07	206.18
SURF LOSS (BTU/HR-FT2)	0.00	151.06	155.97	151.74
EVAP LOSS (BTU/HR-FT2)	0.00	49.46	50.01	49.53
COND LOSS (BTU/HR-FT2)	0.00	6.67	7.41	6.78
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
LAKE TEMP NATURAL (F)	0.00	88.65	93.07	89.26
LAKE TEMP @ INLET (F)	0.00	99.40	101.85	99.74
LAKE TEMP @ OUTLET (F)	0.00	89.58	93.58	90.14

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	128.0	108.0	99.2
LAKE TEMP @ OUTLET (F)	101.0	97.1	89.9

Program : LAKET  
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Case 4: LaSalle UHS (06:00, Worst Day Temp; Ti=100F, 1.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
LAKE SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
TOTAL EVAP (CFS)	-0.20 ( 8041900)	-4.34 ( 7031900)	-1.36
NATURAL EVAP (CFS)	0.00 ( 7011900)	-3.39 ( 7031900)	-0.74
FORCED EVAP (CFS)	-0.20 ( 8041900)	-1.82 ( 7011900)	-0.62
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
BLOWDOWN (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
RUNOFF (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
DAM SPILL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.63 ( 8051900)	689.27
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TOTAL AREA (ACRE)	81.34 ( 7011900)	79.17 ( 8051900)	80.18
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.18
SURF LOSS (BTU/HR-FT2)	163.09 ( 7011900)	142.86 ( 7071900)	151.74
EVAP LOSS (BTU/HR-FT2)	223.45 ( 7031900)	0.00 ( 7011900)	49.53
COND LOSS (BTU/HR-FT2)	39.52 ( 7261900)	-7.06 ( 7261900)	6.78
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
LAKE TEMP NATURAL (F)	99.30 ( 7011900)	81.09 ( 7071900)	89.26
LAKE TEMP @ INLET (F)	133.93 ( 7011900)	91.99 ( 7261900)	99.74
LAKE TEMP @ OUTLET (F)	101.80 ( 7011900)	82.26 ( 7071900)	90.14

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	98.8	96.3	89.0
LAKE TEMP @ INLET (F)	128.0	108.0	99.2
LAKE TEMP @ OUTLET (F)	101.0	97.1	89.9









Excel Formulas for Table G7.1 Plant Temperature Rise

	A	B	C	D	E	F	G	H
	Starting Time (hr)	Ending Time (hr)	Plant Temperature Rise (Deg F)	Heat Rate per Timestep (BTU/hr)	Heat Added in Timestep (BTU)	Total Heat Added (BTU)	Generated Heat Added (BTU)	Sensible Heat Added (BTU)
3								
242	=B241	=B241+3	=D242/G\$1/G\$2	=E242/(B242-A242)	=F242-F241	=G242+H242	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B242)	=H241
243	=B242	=B242+3	=D243/G\$1/G\$2	=E243/(B243-A243)	=F243-F242	=G243+H243	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B243)	=H242
244	=B243	=B243+3	=D244/G\$1/G\$2	=E244/(B244-A244)	=F244-F243	=G244+H244	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B244)	=H243
245	=B244	=B244+3	=D245/G\$1/G\$2	=E245/(B245-A245)	=F245-F244	=G245+H245	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B245)	=H244
246	=B245	=B245+3	=D246/G\$1/G\$2	=E246/(B246-A246)	=F246-F245	=G246+H246	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B246)	=H245
247	=B246	=B246+3	=D247/G\$1/G\$2	=E247/(B247-A247)	=F247-F246	=G247+H247	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B247)	=H246
248	=B247	=B247+3	=D248/G\$1/G\$2	=E248/(B248-A248)	=F248-F247	=G248+H248	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B248)	=H247
249	=B248	=B248+3	=D249/G\$1/G\$2	=E249/(B249-A249)	=F249-F248	=G249+H249	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B249)	=H248
250	=B249	=B249+3	=D250/G\$1/G\$2	=E250/(B250-A250)	=F250-F249	=G250+H250	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B250)	=H249
251	=B250	=B250+3	=D251/G\$1/G\$2	=E251/(B251-A251)	=F251-F250	=G251+H251	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B251)	=H250
252	=B251	=B251+3	=D252/G\$1/G\$2	=E252/(B252-A252)	=F252-F251	=G252+H252	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B252)	=H251
253	=B252	=B252+3	=D253/G\$1/G\$2	=E253/(B253-A253)	=F253-F252	=G253+H253	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B253)	=H252
254	=B253	=B253+3	=D254/G\$1/G\$2	=E254/(B254-A254)	=F254-F253	=G254+H254	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B254)	=H253
255	=B254	=B254+3	=D255/G\$1/G\$2	=E255/(B255-A255)	=F255-F254	=G255+H255	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B255)	=H254
256	=B255	=B255+3	=D256/G\$1/G\$2	=E256/(B256-A256)	=F256-F255	=G256+H256	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B256)	=H255
257	=B256	=B256+3	=D257/G\$1/G\$2	=E257/(B257-A257)	=F257-F256	=G257+H257	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B257)	=H256
258	=B257	=B257+3	=D258/G\$1/G\$2	=E258/(B258-A258)	=F258-F257	=G258+H258	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B258)	=H257
259	=B258	=B258+3	=D259/G\$1/G\$2	=E259/(B259-A259)	=F259-F258	=G259+H259	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B259)	=H258
260	=B259	=B259+3	=D260/G\$1/G\$2	=E260/(B260-A260)	=F260-F259	=G260+H260	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B260)	=H259
261	=B260	=B260+3	=D261/G\$1/G\$2	=E261/(B261-A261)	=F261-F260	=G261+H261	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B261)	=H260
262	=B261	=B261+3	=D262/G\$1/G\$2	=E262/(B262-A262)	=F262-F261	=G262+H262	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B262)	=H261
263	=B262	=B262+3	=D263/G\$1/G\$2	=E263/(B263-A263)	=F263-F262	=G263+H263	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B263)	=H262
264	=B263	=B263+3	=D264/G\$1/G\$2	=E264/(B264-A264)	=F264-F263	=G264+H264	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B264)	=H263
265	=B264	=B264+3	=D265/G\$1/G\$2	=E265/(B265-A265)	=F265-F264	=G265+H265	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B265)	=H264
266	=B265	=B265+3	=D266/G\$1/G\$2	=E266/(B266-A266)	=F266-F265	=G266+H266	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B266)	=H265
267	=B266	=B266+3	=D267/G\$1/G\$2	=E267/(B267-A267)	=F267-F266	=G267+H267	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B267)	=H266
268	=B267	=B267+3	=D268/G\$1/G\$2	=E268/(B268-A268)	=F268-F267	=G268+H268	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B268)	=H267
269	=B268	=B268+3	=D269/G\$1/G\$2	=E269/(B269-A269)	=F269-F268	=G269+H269	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B269)	=H268
270	=B269	=B269+3	=D270/G\$1/G\$2	=E270/(B270-A270)	=F270-F269	=G270+H270	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B270)	=H269
271	=B270	=B270+3	=D271/G\$1/G\$2	=E271/(B271-A271)	=F271-F270	=G271+H271	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B271)	=H270
272	=B271	=B271+3	=D272/G\$1/G\$2	=E272/(B272-A272)	=F272-F271	=G272+H272	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B272)	=H271
273	=B272	=B272+3	=D273/G\$1/G\$2	=E273/(B273-A273)	=F273-F272	=G273+H273	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B273)	=H272
274	=B273	=B273+3	=D274/G\$1/G\$2	=E274/(B274-A274)	=F274-F273	=G274+H274	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B274)	=H273
275	=B274	=B274+3	=D275/G\$1/G\$2	=E275/(B275-A275)	=F275-F274	=G275+H275	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B275)	=H274
276	=B275	=B275+3	=D276/G\$1/G\$2	=E276/(B276-A276)	=F276-F275	=G276+H276	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B276)	=H275
277	=B276	=B276+3	=D277/G\$1/G\$2	=E277/(B277-A277)	=F277-F276	=G277+H277	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B277)	=H276
278	=B277	=B277+3	=D278/G\$1/G\$2	=E278/(B278-A278)	=F278-F277	=G278+H278	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B278)	=H277
279	=B278	=B278+3	=D279/G\$1/G\$2	=E279/(B279-A279)	=F279-F278	=G279+H279	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B279)	=H278
280	=B279	=B279+3	=D280/G\$1/G\$2	=E280/(B280-A280)	=F280-F279	=G280+H280	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B280)	=H279
281	=B280	=B280+3	=D281/G\$1/G\$2	=E281/(B281-A281)	=F281-F280	=G281+H281	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B281)	=H280
282	=B281	=B281+3	=D282/G\$1/G\$2	=E282/(B282-A282)	=F282-F281	=G282+H282	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B282)	=H281
283	=B282	=B282+3	=D283/G\$1/G\$2	=E283/(B283-A283)	=F283-F282	=G283+H283	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B283)	=H282
284	=B283	=B283+3	=D284/G\$1/G\$2	=E284/(B284-A284)	=F284-F283	=G284+H284	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B284)	=H283
285	=B284	=B284+3	=D285/G\$1/G\$2	=E285/(B285-A285)	=F285-F284	=G285+H285	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B285)	=H284
286	=B285	=B285+3	=D286/G\$1/G\$2	=E286/(B286-A286)	=F286-F285	=G286+H286	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B286)	=H285
287	=B286	=B286+3	=D287/G\$1/G\$2	=E287/(B287-A287)	=F287-F286	=G287+H287	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B287)	=H286
288	=B287	=B287+3	=D288/G\$1/G\$2	=E288/(B288-A288)	=F288-F287	=G288+H288	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B288)	=H287
289	=B288	=B288+3	=D289/G\$1/G\$2	=E289/(B289-A289)	=F289-F288	=G289+H289	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B289)	=H288
290	=B289	=B289+3	=D290/G\$1/G\$2	=E290/(B290-A290)	=F290-F289	=G290+H290	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B290)	=H289
291	=B290	=B290+3	=D291/G\$1/G\$2	=E291/(B291-A291)	=F291-F290	=G291+H291	=sinterp2("Total","Total","B2:B73","D2:D73",ROWS(\$B\$2:\$B\$73),B291)	=H290
292								
293			verage Heat Load	=AVERAGE(D4:D2				

Excel Formulas for Table G7.1 Plant Temperature Rise

	A	B	C	D	E	F
1	Time (seconds)	Time (hours)	Combined Generated Heat Load (Btu/hr)	Integrated Generated Heat (Btu)	Sensible Heat Available (Btu)	Total Heat Available (Btu)
2	0	0	2.44E+10	0.00E+00	1.22E+09	1.22E+09
3	1.00E-01	2.78E-05	2.42E+10	6.75E+05	1.22E+09	1.22E+09
4	1.50E-01	4.17E-05	2.35E+10	1.01E+06	1.22E+09	1.22E+09
5	2.00E-01	5.56E-05	2.28E+10	1.33E+06	1.22E+09	1.22E+09
6	4.00E-01	1.11E-04	1.83E+10	2.47E+06	1.22E+09	1.22E+09
7	6.00E-01	1.67E-04	1.45E+10	3.38E+06	1.22E+09	1.22E+09
8	8.00E-01	2.22E-04	1.21E+10	4.12E+06	1.22E+09	1.22E+09
9	1.00E+00	2.78E-04	8.35E+09	4.68E+06	1.22E+09	1.22E+09
10	1.50E+00	4.17E-04	6.11E+09	5.69E+06	1.22E+09	1.22E+09
11	2.00E+00	5.56E-04	3.88E+09	6.38E+06	1.22E+09	1.23E+09
12	4.00E+00	1.11E-03	1.91E+09	7.99E+06	1.22E+09	1.23E+09
13	6.00E+00	1.67E-03	1.60E+09	8.97E+06	1.22E+09	1.23E+09
14	8.00E+00	2.22E-03	1.50E+09	9.83E+06	1.22E+09	1.23E+09
15	1.00E+01	2.78E-03	1.40E+09	1.06E+07	1.22E+09	1.23E+09
16	1.50E+01	4.17E-03	1.31E+09	1.25E+07	1.22E+09	1.23E+09
17	2.00E+01	5.56E-03	1.23E+09	1.43E+07	1.22E+09	1.23E+09
18	4.00E+01	1.11E-02	1.10E+09	2.07E+07	1.22E+09	1.24E+09
19	6.00E+01	1.67E-02	1.02E+09	2.66E+07	1.22E+09	1.25E+09
20	8.00E+01	2.22E-02	9.69E+08	3.22E+07	1.22E+09	1.25E+09
21	1.00E+02	2.78E-02	9.34E+08	3.74E+07	1.22E+09	1.26E+09
22	1.50E+02	4.17E-02	8.74E+08	5.00E+07	1.22E+09	1.27E+09
23	2.00E+02	5.56E-02	8.34E+08	6.19E+07	1.22E+09	1.28E+09
24	4.00E+02	1.11E-01	7.47E+08	1.06E+08	1.22E+09	1.32E+09
25	6.00E+02	1.67E-01	6.98E+08	1.46E+08	1.22E+09	1.36E+09
26	8.00E+02	2.22E-01	6.61E+08	1.84E+08	1.22E+09	1.40E+09
27	1.00E+03	2.78E-01	6.33E+08	2.20E+08	1.22E+09	1.44E+09
28	1.50E+03	4.17E-01	5.80E+08	3.04E+08	1.22E+09	1.52E+09
29	2.00E+03	5.56E-01	5.42E+08	3.82E+08	1.22E+09	1.60E+09
30	4.00E+03	1.11E+00	4.60E+08	6.60E+08	1.22E+09	1.88E+09
31	6.00E+03	1.67E+00	4.21E+08	9.04E+08	1.22E+09	2.12E+09
32	8.00E+03	2.22E+00	3.97E+08	1.13E+09	1.22E+09	2.35E+09
33	1.00E+04	2.78E+00	3.81E+08	1.35E+09	1.22E+09	2.57E+09
34	1.50E+04	4.17E+00	3.55E+08	1.86E+09	1.22E+09	3.08E+09
35	2.00E+04	5.56E+00	3.39E+08	2.34E+09	1.22E+09	3.56E+09
36	4.00E+04	1.11E+01	3.05E+08	4.13E+09	1.22E+09	5.35E+09
37	6.00E+04	1.67E+01	2.86E+08	5.77E+09	1.22E+09	6.99E+09
38	8.00E+04	2.22E+01	2.74E+08	7.32E+09	1.22E+09	8.54E+09
39	8.64E+04	2.40E+01	2.70E+08	7.81E+09	1.22E+09	9.03E+09
40	1.00E+05	2.78E+01	2.64E+08	8.82E+09	1.22E+09	1.00E+10
41	1.50E+05	4.17E+01	2.48E+08	1.24E+10	1.22E+09	1.36E+10
42	1.73E+05	4.81E+01	2.42E+08	1.39E+10	1.22E+09	1.52E+10
43	2.00E+05	5.56E+01	2.37E+08	1.57E+10	1.22E+09	1.70E+10
44	2.59E+05	7.19E+01	2.27E+08	1.95E+10	1.22E+09	2.07E+10
45	3.46E+05	9.61E+01	2.16E+08	2.49E+10	1.22E+09	2.61E+10
46	4.00E+05	1.11E+02	2.11E+08	2.81E+10	1.22E+09	2.93E+10

Excel Formulas for Table G7.1 Plant Temperature Rise

	A	B	C	D	E	F
1	Time (seconds)	Time (hours)	Combined Generated Heat Load (Btu/hr)	Integrated Generated Heat (Btu)	Sensible Heat Available (Btu)	Total Heat Available (Btu)
47	4.32E+05	1.20E+02	2.08E+08	2.99E+10	1.22E+09	3.12E+10
48	6.00E+05	1.67E+02	1.97E+08	3.94E+10	1.22E+09	4.06E+10
49	8.00E+05	2.22E+02	1.89E+08	5.01E+10	1.22E+09	5.14E+10
50	8.64E+05	2.40E+02	1.86E+08	5.35E+10	1.22E+09	5.47E+10
51	1.00E+06	2.78E+02	1.82E+08	6.04E+10	1.22E+09	6.17E+10
52	1.50E+06	4.17E+02	1.73E+08	8.51E+10	1.22E+09	8.63E+10
53	1.73E+06	4.81E+02	1.70E+08	9.60E+10	1.22E+09	9.73E+10
54	2.00E+06	5.56E+02	1.67E+08	1.09E+11	1.22E+09	1.10E+11
55	2.59E+06	7.19E+02	1.62E+08	1.36E+11	1.22E+09	1.37E+11
56	3.46E+06	9.61E+02	1.57E+08	1.74E+11	1.22E+09	1.75E+11
57	4.00E+06	1.11E+03	1.54E+08	1.97E+11	1.22E+09	1.99E+11
58	4.32E+06	1.20E+03	1.53E+08	2.11E+11	1.22E+09	2.12E+11
59	6.00E+06	1.67E+03	1.48E+08	2.81E+11	1.22E+09	2.82E+11
60	8.00E+06	2.22E+03	1.44E+08	3.62E+11	1.22E+09	3.64E+11
61	1.00E+07	2.78E+03	1.41E+08	4.42E+11	1.22E+09	4.43E+11
62	1.50E+07	4.17E+03	1.36E+08	6.34E+11	1.22E+09	6.36E+11
63	2.00E+07	5.56E+03	1.33E+08	8.22E+11	1.22E+09	8.23E+11
64	4.00E+07	1.11E+04	1.28E+08	1.55E+12	1.22E+09	1.55E+12
65	6.00E+07	1.67E+04	1.25E+08	2.25E+12	1.22E+09	2.25E+12
66	8.00E+07	2.22E+04	1.24E+08	2.94E+12	1.22E+09	2.94E+12
67	1.00E+08	2.78E+04	1.23E+08	3.62E+12	1.22E+09	3.63E+12
68	1.50E+08	4.17E+04	1.22E+08	5.32E+12	1.22E+09	5.32E+12
69	2.00E+08	5.56E+04	1.21E+08	7.01E+12	1.22E+09	7.01E+12
70	4.00E+08	1.11E+05	1.21E+08	1.37E+13	1.22E+09	1.37E+13
71	6.00E+08	1.67E+05	1.21E+08	2.04E+13	1.22E+09	2.04E+13
72	8.00E+08	2.22E+05	1.20E+08	2.71E+13	1.22E+09	2.71E+13
73	1.00E+09	2.78E+05	1.20E+08	3.38E+13		



## H1.0 PURPOSE/OBJECTIVE

The purpose of this attachment is to evaluate the UHS transient analyses with an increased allowable plant intake temperature of 104°F per Reference H5.4. The initial lake temperature is adjusted such that the plant intake temperature remains below 104°F during the accident scenario.

## H2.0 METHODOLOGY AND ACCEPTANCE CRITERIA

The S&L LAKET-PC computer program [Ref. H5.1] is utilized to determine the combined impact of decay heat, initial UHS temperature, and allowable sediment accumulation in the UHS. The maximum allowable UHS temperature is determined for average sediment accumulations of 0, 6, and 18 inches (which correspond to UHS volumes of 464.9, 423.5 and 341.4 acre-ft, respectively) in Revision 5. The maximum allowable UHS temperature is determined for average sediment accumulation of 12 inches (which corresponds to UHS volume 381.9 acre-ft) in Revision 6.

### H2.1 Methodology

The LAKET program has been updated since Revision 4 was made. This latest version, LAKET-PC 2.2 [Ref. H5.1], introduces new variables that may be used for more accuracy and data input flexibility. For example, the plot frequency can now be in time intervals of minutes or desired amount of hours, instead of fixed 3-hour intervals. In Revision 5, Cases c00e, c06e, c18e, and c0609 were recalculated using the updated LAKET-PC software. Verification that the updated software produced similar results as the previous software version was needed. This was done by translating all the data used previously into the format the updated software can understand. For the parameters of interest, both versions of LAKET produced similar results. The results of the verification runs are provided in Section 7.2.3 of the main body. This revision (Rev. 6) utilizes the same version of LAKE-PC as Rev. 5 and thus no formal verification cases are required.

Many different weather files were created for the analysis contained in the main body of the calculation. There are two separate weather files for each starting time. One file is the worst day temperature file, which has the worst day in the weather history as day one followed by the worst consecutive 30 days in weather history. The second file is the worst 5/1/30 day temperature file, which has the worst five consecutive days in the weather history followed by the worst day in weather history, followed by the worst consecutive 30 days in weather history. For more details see Section 2.1 of the main body of the calculation. Table 7.3 from the main body of the calculation lists the weather files that produce the most restrictive temperature limit. The files listed which correspond to the cases of interest are used for the runs in this attachment. In the case that two separate weather files are listed, the weather file resulting in the highest peak temperature from Table 7.3 (main calculation) is used. In Revision 5, three different sediment levels (0, 6, 18 inches) were each run under the two different weather conditions, totaling six scenarios. For Revision 6, three new scenarios were added to this calculation to account for 12 inch sediment level and two different weather conditions. The following computer simulations are run in this attachment:

Case	Rev.	Weather Data	Start Time	Sediment Level (in.)	Methodology	Test Condition
1a	5	1/30	0900	0	Reg. Guide 1.27, Rev. 1	Plant Inlet Temp $\leq$ 104°F
1b	5	5/1/30	0900	0	Reg. Guide 1.27, Rev. 2	Plant Inlet Temp $\leq$ 104°F
1c	5	Worst 30-day Evaporation	1200	0	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 1a
2a	5	1/30	0900	6	Reg. Guide 1.27, Rev. 1	Plant Inlet Temp $\leq$ 104°F
2b	5	5/1/30	0900	6	Reg. Guide 1.27, Rev. 2	Plant Inlet Temp $\leq$ 104°F
2c	5	Worst 30-day Evaporation	1200	6	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 2a
3a	5	1/30	0900	18	Reg. Guide 1.27, Rev. 1	Plant Inlet Temp $\leq$ 104°F
3b	5	5/1/30	0900	18	Reg. Guide 1.27, Rev. 2	Plant Inlet Temp $\leq$ 104°F
3c	5	Worst 30-day Evaporation	1200	18	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 3a
4a	6	1/30	0900	12	Reg. Guide 1.27, Rev. 1	Plant Inlet Temp $\leq$ 104°F
4b	6	5/1/30	0900	12	Reg. Guide 1.27, Rev. 2	Plant Inlet Temp $\leq$ 104°F
4c	6	Worst 30-day Evaporation	1200	12	Reg. Guide 1.27, Rev. 1	Use limiting initial temperature from Case 4a

For each of the peak temperature cases (1a, 1b, 2a, 2b, 3a, 3b, 4a, and 4b), it is required that the maximum plant inlet temperature does not surpass 104°F. If the resulting maximum plant inlet temperature is greater than 104°F, the case is rerun at lower initial UHS temperatures until a plant inlet temperature lower than or equal to 104°F is achieved.

For the worst 30 day evaporation period cases (1c, 2c, 3c, and 4c), the limiting initial temperature from the peak temperature case analysis using the same level of siltation was used for initial lake temperature.

The UHS inlet and outlet temperatures are plotted for every three-hour time step of the 36-day weather period. Figure 7.1 from the main body of the calculation is recreated based on the initial UHS temperatures used for the cases listed above, while maintaining plant inlet temperatures at or below 104°F.

## H2.2 Acceptance Criteria

H2.2.1 Peak Temperature - The maximum plant inlet temperature shall remain equal to or less than 104°F.

H2.2.2 Maximum Drawdown – The maximum drawdown shall be less than 1.5-ft.

## H2.3 Limitations

Same as main body of calculation



## H2.4 Identification of Computer Programs

Revision 5 - All runs are performed using LAKET-PC v2.2 on SNL PC No. ZD2215.

Revision 6 - All runs are performed using LAKET-PC v2.2 on SNL PC No. ZL4578.

LAKET-PC is a validated program approved for use in modeling transient lake conditions. The controlled files are located at:

Controlled File Path: \\SNLVS5\SYS3\OPSS\LAK29222\

## H3.0 ASSUMPTIONS

H3.1 Computer Program - The latest validated version of LAKET-PC will be used in the analysis. The use of the latest version of LAKET is verified by running models from previous versions and verifying that the results are similar. Changes to the run stream will be updated as needed. Note that revisions to the LAKET program are for ease of use and do not represent use of a new methodology or computer code.

H3.2 UHS Inventory used for Fire Fighting - As stated in minor Revision 5A, UFSAR Section 9.2.6.3 states that 440,400 gallons of water from the UHS must be available for fire fighting following an accident. Fire fighting could consume up to 1.352 acre-ft (440,400 gal x 0.1337 ft<sup>3</sup>/gal / 43,560 ft<sup>2</sup>/acre). The volume and surface area of the UHS at its maximum drawdown of 1.5 ft (El. 688.5 ft) are 341 acre-ft and 81.3 acres, respectively. Thus, fire water consumption would decrease the UHS heat capacitance by only 0.396% (1.352 acre-ft/341 acre-ft) and increase the maximum UHS drawdown by only 0.0166 ft (1.352 acre-ft/81.3 acres). This is less than 0.2 inches of drawdown. Therefore, the use of UHS inventory for fire fighting remains insignificant.

H3.3 Other - All other assumptions are the same as the assumptions in the main body of calculation.

## H4.0 DESIGN INPUT

All design inputs for this attachment are the same as the design inputs from the main body of the calculation except for the initial forced temperature. For all the tested peak temperature cases, the initial forced temperature was maximized, while still maintaining the required plant inlet temperature at or under 104°F. Plant heat loads are the same as those listed in Attachment G.

## H5.0 REFERENCES

- H5.1 LAKET-PC Computer Program, Version 2.2, S&L Program No. 03.7.292-2.2, December, 2004.
- H5.2 "UHS Heat Load," Calculation L-002453, Rev. 2, April, 2002.
- H5.3 STMFUNC Computer Program, S&L Program No. STM 03.7.598-2.0, May 2003.
- H5.4 Letter from Mike Peters, LaSalle Station to Manuel Vega, S&L. Subject: Requested Input for L-002457 Revision 5. (See pp. H27)
- H5.5 Email from Paul Derezotes, S&L to Michael Duffy, S&L, "Uhsavg Program Capabilities Summary for LaSalle" (See pp. H28)
- H5.6 GE Letter SC06-01, dated 1/19/2006, "Plants with GE Containment Design or Analysis (Attachment 1)"

All other references except the ones mentioned above are the same as the references in the main body of the calculation.

## H6.0 CALCULATIONS

The calculations are the same as those described in the main body of the calculation except for the maximum allowable UHS temperature. For Attachment H, the maximum plant inlet temperature should be at or below 104°F.

### H6.1 Review of GE Communication SC06-01

GE Communication SC06-01, Attachment H Reference H5.6, concerns the analysis done on suppression pool temperature under worst single failure. It states that the assumptions made previously by GE may not represent worst single failure conditions for some plants when determining peak suppression pool temperature. Some plants may have an alternate single failure that can result in a higher peak suppression pool temperature than reported in existing design basis and licensing basis calculations. This higher peak suppression pool temperature may arise from significantly greater pump heat transferred to the suppression pool. This can occur if a loss of off-site power (LOOP) does not occur or with a LOOP, if the postulated single failure results in one Residual Heat Remover (RHR) heat exchanger being unavailable but with the maximum number of emergency core cooling systems (ECCS) and RHR pumps being available. Consequently, the peak suppression pool temperature for this scenario is higher than that determined based on the original design. In Revision 5 of this calculation, this has been looked into to ensure that calculations have been performed with worst case scenario conditions. Revision 5 utilized heat load data previously used for calculations in Revision 4, and the heat load data used in Revision 4 was obtained from Calculation L-002453, Reference 5.8. According to this calculation, the heat load from the pump motors conservatively includes all of the CSCS pump motors except for the Fuel Pool Emergency Make-up Pump motors. In addition, the ECCS and RHR pump motor heat loads are included in the heat load total since the heat is added to the suppression pool and ultimately will be added to the UHS via the RHR heat exchanger. Therefore, it can be concluded that conservative measures have been taken throughout the calculation and all the pumps heat loads have been considered.

## H7.0 RESULTS AND CONCLUSIONS

### H7.1 Summary

Table H7.0.1 through Table H7.0.3 provide a summary of results for all the cases modeled. The cumulative results for individual cases are shown in Tables H7.1 through H7.9. Figures H7.1 through Figures H7.4 are graphs of the UHS temperatures versus the day for each of the cases under different weather conditions.

### H7.2 Tables

- ◆ Table H7.0: Overall Summary of Cases and Results
- ◆ Table H7.1: Cumulative Summary for Case 1a – 0” Sediment, 09:00 Start, 1/30 Weather Data
- ◆ Table H7.2: Cumulative Summary for Case 1b – 0” Sediment, 09:00 Start, 5/1/30 Weather Data
- ◆ Table H7.3: Cumulative Summary for Case 1c – 0” Sediment, 12:00 Start, Worst 30-day Evap. Data
- ◆ Table H7.4: Cumulative Summary for Case 2a – 6” Sediment, 09:00 Start, 1/30 Weather Data
- ◆ Table H7.5: Cumulative Summary for Case 2b – 6” Sediment, 09:00 Start, 5/1/30 Weather Data
- ◆ Table H7.6: Cumulative Summary for Case 2c – 6” Sediment, 12:00 Start, Worst 30-day Evap. Data
- ◆ Table H7.7: Cumulative Summary for Case 3a – 18” Sediment, 09:00 Start, 1/30 Weather Data
- ◆ Table H7.8: Cumulative Summary for Case 3b – 18” Sediment, 09:00 Start, 5/1/30 Weather Data
- ◆ Table H7.9: Cumulative Summary for Case 3c – 18” Sediment, 12:00 Start, Worst 30-day Evap. Data
- ◆ Table H7.10: Cumulative Summary for Case 4a – 12” Sediment, 09:00 Start, 1/30 Weather Data
- ◆ Table H7.11: Cumulative Summary for Case 4b – 12” Sediment, 09:00 Start, 5/1/30 Weather Data
- ◆ Table H7.12: Cumulative Summary for Case 4c – 12” Sediment, 12:00 Start, Worst 30-day Evap. Data
- ◆ Table H7.13: Table of Outlet Files

### H7.3 Figures

- ◆ Figure H7.1: 1/30 Plant Inlet Temperature vs. Day
- ◆ Figure H7.2: 1/30 Plant Outlet Temperature vs. Day
- ◆ Figure H7.3: 5/1/30 Plant Inlet Temperature vs. Day
- ◆ Figure H7.4: 5/1/30 Plant Outlet Temperature vs. Day
- ◆ Figure H7.5: Case 3a: UHS LOCA Temperature Transient, Worst 31-Day Temperature Period
- ◆ Figure H7.6: Case 3b: UHS LOCA Temperature Transient, Worst 36-Day Temperature Period
- ◆ Figure H7.7: Case 3c: UHS LOCA Drawdown, Worst 30-Day Evaporation Weather Period

**Table H7.0.1. Overall Summary for Maximum Temperature Under Regulation Guide 1.27, Rev. 1**

Case	Rev.	Weather Data	Sediment Level (in.)	Initial Lake Temp. (°F)	Max Plant Outlet Temp. (°F)	Max Plant Inlet Temp. (°F)
1a	5	1/30	0	103.0	138.6	104.0
2a	5	1/30	6	102.9	138.5	104.0
3a	5	1/30	18	102.3	138.1	104.0
4a	6	1/30	12	102.7	138.4	104.0

**Table H7.0.2 Overall Summary for Maximum Temperature Under Regulation Guide 1.27, Rev. 2**

Case	Rev.	Weather Data	Sediment Level (in.)	Initial Lake Temp. (°F)	Max Plant Outlet Temp. (°F)	Max Plant Inlet Temp. (°F)
1b	5	5/1/30	0	103.6	138.5	104.0
2b	5	5/1/30	6	103.5	138.4	104.0
3b	5	5/1/30	18	102.9	137.7	104.0
4b	6	5/1/30	12	103.0	137.9	104.0

**Table H7.0.3 Overall Summary for Maximum Evaporation Under Regulation Guide 1.27, Rev. 1**

Case	Rev.	Weather Data	Sediment Level (in.)	Initial Lake Temp. (°F)	Maximum Drawdown (ft)
1c	5	Worst 30-day Evaporation	0	103.0	1.48
2c	5	Worst 30-day Evaporation	6	102.9	1.48
3c	5	Worst 30-day Evaporation	18	102.3	1.48
4c	6	Worst 30-day Evaporation	12	102.7	1.48

**Table H7.1. Cumulative Summary for Case 1a – 0” Sediment, 09:00 Start Time, 1/30 Weather Data**

Case 1a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.64 ( 8051900)	689.26
TOTAL AREA (ACRE)	83.82 ( 7011900)	81.56 ( 8051900)	82.59
TOTAL VOLUME (ACRE-FT)	464.29 ( 7011900)	351.99 ( 8051900)	403.37
EFFECTIVE AREA (ACRE)	75.44 ( 7011900)	73.41 ( 8051900)	74.33
EFFECTIVE VOL (ACRE-FT)	417.85 ( 7011900)	316.80 ( 8051900)	363.03
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.16 ( 8051900)	-0.20 ( 7011900)	-0.18
EVAPORATION TOTAL (CFS)	-0.25 ( 8041900)	-4.92 ( 7021900)	-1.41
EVAPORATION NATURL(CFS)	0.00 ( 7011900)	-3.78 ( 7031900)	-0.78
EVAPORATION FORCED(CFS)	-0.25 ( 8041900)	-2.00 ( 7011900)	-0.62
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.06
SURF LOSS (BTU/HR-FT2)	165.18 ( 7011900)	144.85 ( 7061900)	152.04
EVAP LOSS (BTU/HR-FT2)	241.93 ( 7031900)	0.00 ( 7011900)	50.63
COND LOSS (BTU/HR-FT2)	39.22 ( 7261900)	-6.56 ( 7261900)	7.05
LAKE TEMP NATURAL (F)	101.09 ( 7011900)	82.96 ( 7061900)	89.55
LAKE TEMP @ INLET (F)	138.60 ( 7011900)	93.65 ( 7251900)	100.28
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	84.47 ( 7061900)	90.64
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 8051900)	-0.05 ( 7011900)	-12.57
TOTAL EVAP TOT (ACRE-FT)	-0.06 ( 8041900)	-1.22 ( 7021900)	-100.33
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.94 ( 7031900)	-55.85
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 8041900)	-0.50 ( 7011900)	-44.49
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	96.0	89.1
LAKE TEMP @ INLET (F)	132.0	109.0	99.5
LAKE TEMP @ OUTLET (F)	103.3	97.0	90.3

**Table H7.2. Cumulative Summary for Case 1b – 0" Sediment, 09:00 Start Time, 5/1/30 Weather Data**

Case 1b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 0')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.45 ( 8051900)	689.17
TOTAL AREA (ACRE)	83.81 ( 7011900)	81.26 ( 8051900)	82.44
TOTAL VOLUME (ACRE-FT)	464.07 ( 7011900)	336.81 ( 8051900)	396.15
EFFECTIVE AREA (ACRE)	75.43 ( 7011900)	73.14 ( 8051900)	74.20
EFFECTIVE VOL (ACRE-FT)	417.66 ( 7011900)	303.15 ( 8051900)	356.53
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.15 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.28 ( 8051900)	-3.97 ( 7051900)	-1.62
EVAPORATION NATURL (CFS)	0.00 ( 7031900)	-2.78 ( 7051900)	-0.98
EVAPORATION FORCED (CFS)	-0.27 ( 7311900)	-1.86 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.48 ( 7011900)	144.08 ( 7241900)	153.62
EVAP LOSS (BTU/HR-FT2)	177.64 ( 7051900)	0.00 ( 7031900)	63.59
COND LOSS (BTU/HR-FT2)	25.97 ( 7051900)	-31.74 ( 7251900)	5.51
LAKE TEMP NATURAL (F)	101.34 ( 7011900)	82.23 ( 7241900)	90.96
LAKE TEMP @ INLET (F)	138.50 ( 7011900)	91.64 ( 7241900)	101.51
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	83.07 ( 7241900)	91.88
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 8051900)	-0.05 ( 7011900)	-12.36
TOTAL EVAP TOT (ACRE-FT)	-0.07 ( 8051900)	-0.99 ( 7051900)	-115.71
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.69 ( 7051900)	-70.02
TOTAL EVAP FOR (ACRE-FT)	-0.07 ( 7311900)	-0.46 ( 7011900)	-45.69
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	97.5	90.9
LAKE TEMP @ INLET (F)	132.0	110.9	100.9
LAKE TEMP @ OUTLET (F)	103.5	98.2	91.9

**Table H7.3. Cumulative Summary for Case 1c – 0" Sediment, 12:00 Start Time, Worst 30-day Evaporation**

Case 1c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 0')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	689.99 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	83.82 ( 6181954)	81.37 ( 7171954)	82.50
TOTAL VOLUME (ACRE-FT)	464.32 ( 6181954)	342.30 ( 7171954)	399.17
EFFECTIVE AREA (ACRE)	75.44 ( 6181954)	73.24 ( 7171954)	74.26
EFFECTIVE VOL (ACRE-FT)	417.88 ( 6181954)	308.09 ( 7171954)	359.24
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.15 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.55 ( 6291954)	-5.34 ( 6271954)	-1.89
EVAPORATION NATURL (CFS)	-0.28 ( 6221954)	-4.08 ( 6271954)	-1.25
EVAPORATION FORCED (CFS)	-0.17 ( 7171954)	-2.19 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.31 ( 6181954)	137.78 ( 7071954)	146.93
EVAP LOSS (BTU/HR-FT2)	263.35 ( 6271954)	18.24 ( 6221954)	81.46
COND LOSS (BTU/HR-FT2)	37.87 ( 6271954)	-46.87 ( 7121954)	2.71
LAKE TEMP NATURAL (F)	101.19 ( 6181954)	76.21 ( 7071954)	84.84
LAKE TEMP @ INLET (F)	139.42 ( 6181954)	85.46 ( 7071954)	95.84
LAKE TEMP @ OUTLET (F)	103.94 ( 6181954)	76.52 ( 7071954)	85.95
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.38
TOTAL EVAP TOT (ACRE-FT)	-0.14 ( 6291954)	-1.32 ( 6271954)	-112.21
TOTAL EVAP NAT (ACRE-FT)	-0.07 ( 6221954)	-1.01 ( 6271954)	-74.58
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.54 ( 6181954)	-37.63
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.0	94.5	84.1
LAKE TEMP @ INLET (F)	132.0	109.0	94.6
LAKE TEMP @ OUTLET (F)	103.0	95.5	85.3

**Table H7.4. Cumulative Summary for Case 2a – 6” Sediment, 09:00 Start Time, 1/30 Weather Data**

Case 2a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 0.5')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.63 ( 8051900)	689.26
TOTAL AREA (ACRE)	82.98 ( 7011900)	80.76 ( 8051900)	81.77
TOTAL VOLUME (ACRE-FT)	422.90 ( 7011900)	311.45 ( 8051900)	362.57
EFFECTIVE AREA (ACRE)	74.68 ( 7011900)	72.68 ( 8051900)	73.59
EFFECTIVE VOL (ACRE-FT)	380.66 ( 7011900)	280.26 ( 8051900)	326.29
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.15 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.22 ( 8041900)	-4.85 ( 7021900)	-1.40
EVAPORATION NATURL(CFS)	0.00 ( 7011900)	-3.69 ( 7031900)	-0.77
EVAPORATION FORCED(CFS)	-0.22 ( 8041900)	-2.03 ( 7011900)	-0.62
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.06
SURF LOSS (BTU/HR-FT2)	165.32 ( 7011900)	144.26 ( 7061900)	151.99
EVAP LOSS (BTU/HR-FT2)	238.54 ( 7031900)	0.00 ( 7011900)	50.51
COND LOSS (BTU/HR-FT2)	39.32 ( 7261900)	-6.71 ( 7261900)	7.02
LAKE TEMP NATURAL (F)	101.20 ( 7011900)	82.41 ( 7061900)	89.49
LAKE TEMP @ INLET (F)	138.51 ( 7011900)	93.10 ( 7251900)	100.14
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	83.71 ( 7061900)	90.52
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 8051900)	-0.05 ( 7011900)	-12.40
TOTAL EVAP TOT (ACRE-FT)	-0.06 ( 8041900)	-1.20 ( 7021900)	-99.64
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.92 ( 7031900)	-55.17
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 8041900)	-0.50 ( 7011900)	-44.47
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	96.5	89.0
LAKE TEMP @ INLET (F)	132.0	108.0	99.4
LAKE TEMP @ OUTLET (F)	103.3	96.9	90.1



**Table H7.5. Cumulative Summary for Case 2b – 6" Sediment, 09:00 Start Time, 5/1/30 Weather Data**

Case 2b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 0.5')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.44 ( 8051900)	689.17
TOTAL AREA (ACRE)	82.97 ( 7011900)	80.46 ( 8051900)	81.63
TOTAL VOLUME (ACRE-FT)	422.68 ( 7011900)	296.53 ( 8051900)	355.38
EFFECTIVE AREA (ACRE)	74.68 ( 7011900)	72.41 ( 8051900)	73.46
EFFECTIVE VOL (ACRE-FT)	380.46 ( 7011900)	266.84 ( 8051900)	319.82
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.32 ( 8051900)	-4.04 ( 7051900)	-1.61
EVAPORATION NATURL (CFS)	0.00 ( 7031900)	-2.76 ( 7051900)	-0.97
EVAPORATION FORCED (CFS)	-0.27 ( 7311900)	-1.90 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.64 ( 7011900)	143.53 ( 7241900)	153.57
EVAP LOSS (BTU/HR-FT2)	178.04 ( 7051900)	0.00 ( 7031900)	63.38
COND LOSS (BTU/HR-FT2)	26.04 ( 7051900)	-31.64 ( 7251900)	5.46
LAKE TEMP NATURAL (F)	101.48 ( 7011900)	81.72 ( 7241900)	90.91
LAKE TEMP @ INLET (F)	138.41 ( 7011900)	91.06 ( 7241900)	101.38
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.49 ( 7241900)	91.75
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 8051900)	-0.05 ( 7011900)	-12.17
TOTAL EVAP TOT (ACRE-FT)	-0.08 ( 8051900)	-1.00 ( 7051900)	-114.78
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.68 ( 7051900)	-69.10
TOTAL EVAP FOR (ACRE-FT)	-0.07 ( 7311900)	-0.47 ( 7011900)	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	97.4	90.9
LAKE TEMP @ INLET (F)	132.0	110.8	101.0
LAKE TEMP @ OUTLET (F)	103.0	98.2	91.8

**Table H7.6. Cumulative Summary for Case 2c – 6” Sediment, 12:00 Start Time, Worst 30-day Evaporation**

Case 2c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, .5')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	82.98 ( 6181954)	80.57 ( 7171954)	81.70
TOTAL VOLUME (ACRE-FT)	423.22 ( 6181954)	302.19 ( 7171954)	358.58
EFFECTIVE AREA (ACRE)	74.68 ( 6181954)	72.52 ( 7171954)	73.52
EFFECTIVE VOL (ACRE-FT)	380.95 ( 6181954)	271.98 ( 7171954)	322.75
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.15 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.52 ( 6291954)	-5.38 ( 6181954)	-1.87
EVAPORATION NATURL (CFS)	-0.27 ( 6221954)	-4.09 ( 6271954)	-1.23
EVAPORATION FORCED (CFS)	-0.16 ( 7171954)	-2.39 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.46 ( 6181954)	136.98 ( 7071954)	146.83
EVAP LOSS (BTU/HR-FT2)	266.76 ( 6271954)	17.76 ( 6221954)	81.05
COND LOSS (BTU/HR-FT2)	37.75 ( 6271954)	-46.98 ( 7121954)	2.59
LAKE TEMP NATURAL (F)	101.32 ( 6181954)	75.43 ( 7071954)	84.75
LAKE TEMP @ INLET (F)	140.00 ( 6181954)	84.77 ( 7071954)	95.69
LAKE TEMP @ OUTLET (F)	104.78 ( 6181954)	75.99 ( 7071954)	85.82
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.23
TOTAL EVAP TOT (ACRE-FT)	-0.13 ( 6291954)	-1.33 ( 6181954)	-111.06
TOTAL EVAP NAT (ACRE-FT)	-0.07 ( 6221954)	-1.01 ( 6271954)	-73.47
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.59 ( 6181954)	-37.59
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%

LAKE TEMP NATURAL (F)	100.0	94.3	84.0
LAKE TEMP @ INLET (F)	133.0	109.0	94.6
LAKE TEMP @ OUTLET (F)	104.0	94.7	85.1

**Table H7.7. Cumulative Summary for Case 3a – 18” Sediment, 09:00 Start Time, 1/30 Weather Data**

Case 3a: LaSalle UHS (09:00, Worst Day Temp; To=104.0F, 1.5')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.63 ( 8051900)	689.26
TOTAL AREA (ACRE)	81.34 ( 7011900)	79.15 ( 8051900)	80.16
TOTAL VOLUME (ACRE-FT)	340.83 ( 7011900)	231.22 ( 8051900)	281.73
EFFECTIVE AREA (ACRE)	73.20 ( 7011900)	71.24 ( 8051900)	72.15
EFFECTIVE VOL (ACRE-FT)	306.69 ( 7011900)	208.08 ( 8051900)	253.53
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.20 ( 8041900)	-4.45 ( 7031900)	-1.38
EVAPORATION NATURL (CFS)	0.00 ( 7011900)	-3.49 ( 7031900)	-0.75
EVAPORATION FORCED (CFS)	-0.20 ( 8041900)	-2.03 ( 7011900)	-0.62
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	206.06
SURF LOSS (BTU/HR-FT2)	165.45 ( 7011900)	142.94 ( 7061900)	151.84
EVAP LOSS (BTU/HR-FT2)	229.83 ( 7031900)	0.00 ( 7011900)	50.25
COND LOSS (BTU/HR-FT2)	39.52 ( 7261900)	-7.06 ( 7261900)	6.93
LAKE TEMP NATURAL (F)	101.31 ( 7011900)	81.16 ( 7061900)	89.35
LAKE TEMP @ INLET (F)	138.06 ( 7011900)	91.97 ( 7251900)	99.81
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.18 ( 7061900)	90.20
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 8051900)	-0.05 ( 7011900)	-11.95
TOTAL EVAP TOT (ACRE-FT)	-0.05 ( 8041900)	-1.10 ( 7031900)	-98.22
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.86 ( 7031900)	-53.79
TOTAL EVAP FOR (ACRE-FT)	-0.05 ( 8041900)	-0.50 ( 7011900)	-44.43
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	97.0	89.0
LAKE TEMP @ INLET (F)	132.0	107.0	99.2
LAKE TEMP @ OUTLET (F)	103.0	97.5	89.9

**Table H7.8. Cumulative Summary for Case 3b – 18" Sediment, 09:00 Start Time, 5/1/30 Weather Data**

Case 3b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104.0F, 1.5')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.45 ( 8051900)	689.17
TOTAL AREA (ACRE)	81.33 ( 7011900)	78.86 ( 8051900)	80.02
TOTAL VOLUME (ACRE-FT)	340.63 ( 7011900)	216.86 ( 8051900)	274.71
EFFECTIVE AREA (ACRE)	73.20 ( 7011900)	70.98 ( 8051900)	72.02
EFFECTIVE VOL (ACRE-FT)	306.51 ( 7011900)	195.16 ( 8051900)	247.21
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.13 ( 8051900)	-0.20 ( 7011900)	-0.16
EVAPORATION TOTAL (CFS)	-0.24 ( 8051900)	-4.12 ( 7051900)	-1.58
EVAPORATION NATURL(CFS)	0.00 ( 7031900)	-2.72 ( 7051900)	-0.94
EVAPORATION FORCED(CFS)	-0.23 ( 7311900)	-1.86 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.63 ( 7011900)	142.19 ( 7241900)	153.43
EVAP LOSS (BTU/HR-FT2)	179.35 ( 7051900)	0.00 ( 7031900)	62.87
COND LOSS (BTU/HR-FT2)	26.28 ( 7051900)	-30.81 ( 7251900)	5.32
LAKE TEMP NATURAL (F)	101.47 ( 7011900)	80.45 ( 7241900)	90.78
LAKE TEMP @ INLET (F)	137.71 ( 7011900)	89.71 ( 7241900)	101.03
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	81.35 ( 7241900)	91.43
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 8051900)	-0.05 ( 7011900)	-11.67
TOTAL EVAP TOT (ACRE-FT)	-0.06 ( 8051900)	-1.02 ( 7051900)	-112.86
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.68 ( 7051900)	-67.18
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 7311900)	-0.46 ( 7011900)	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	97.5	90.9
LAKE TEMP @ INLET (F)	132.0	110.4	100.8
<b>LAKE TEMP @ OUTLET (F)</b>	<b>103.0</b>	<b>98.0</b>	<b>91.5</b>

**Table H7.9. Cumulative Summary for Case 3c – 18" Sediment, 12:00 Start Time, Worst 30-day Evaporation**

Case 3c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.5')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	81.34 ( 6181954)	78.98 ( 7171954)	80.09
TOTAL VOLUME (ACRE-FT)	341.13 ( 6181954)	222.77 ( 7171954)	278.14
EFFECTIVE AREA (ACRE)	73.21 ( 6181954)	71.09 ( 7171954)	72.08
EFFECTIVE VOL (ACRE-FT)	306.96 ( 6181954)	200.48 ( 7171954)	250.29
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.13 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.48 ( 6291954)	-5.43 ( 6181954)	-1.83
EVAPORATION NATURL(CFS)	-0.24 ( 6291954)	-4.14 ( 6271954)	-1.20
EVAPORATION FORCED(CFS)	-0.15 ( 7171954)	-2.48 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.58 ( 6181954)	134.89 ( 7071954)	146.59
EVAP LOSS (BTU/HR-FT2)	275.61 ( 6271954)	16.17 ( 6291954)	80.13
COND LOSS (BTU/HR-FT2)	37.15 ( 6271954)	-47.13 ( 7121954)	2.30
LAKE TEMP NATURAL (F)	101.42 ( 6181954)	73.38 ( 7071954)	84.52
LAKE TEMP @ INLET (F)	140.00 ( 6181954)	82.37 ( 7071954)	95.38
LAKE TEMP @ OUTLET (F)	104.65 ( 6181954)	73.45 ( 7071954)	85.55
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 7171954)	-0.05 ( 6181954)	-9.84
TOTAL EVAP TOT (ACRE-FT)	-0.12 ( 6291954)	-1.35 ( 6181954)	-108.78
TOTAL EVAP NAT (ACRE-FT)	-0.06 ( 6291954)	-1.03 ( 6271954)	-71.20
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.62 ( 6181954)	-37.58
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.0	93.3	84.1
LAKE TEMP @ INLET (F)	133.0	107.5	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.2

Table H7.10. Cumulative Summary for Case 4a – 12" Sediment, 09:00 Start Time, 1/30 Weather Data

Case 4a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 1.0')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.81 ( 7311900)	689.34
TOTAL AREA (ACRE)	82.14 ( 7011900)	80.24 ( 7311900)	81.10
TOTAL VOLUME (ACRE-FT)	381.31 ( 7011900)	285.29 ( 7311900)	328.51
EFFECTIVE AREA (ACRE)	73.93 ( 7011900)	72.22 ( 7311900)	72.99
EFFECTIVE VOL (ACRE-FT)	343.17 ( 7011900)	256.73 ( 7311900)	295.63
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.15 ( 7311900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.26 ( 7161900)	-4.78 ( 7021900)	-1.40
EVAPORATION NATURL(CFS)	0.00 ( 7011900)	-3.60 ( 7031900)	-0.76
EVAPORATION FORCED(CFS)	-0.26 ( 7161900)	-2.08 ( 7011900)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	204.97
SURF LOSS (BTU/HR-FT2)	165.49 ( 7011900)	143.62 ( 7061900)	151.30
EVAP LOSS (BTU/HR-FT2)	234.70 ( 7031900)	0.00 ( 7011900)	50.37
COND LOSS (BTU/HR-FT2)	39.43 ( 7261900)	-6.87 ( 7261900)	6.88
LAKE TEMP NATURAL (F)	101.35 ( 7011900)	81.80 ( 7061900)	88.87
LAKE TEMP @ INLET (F)	138.41 ( 7011900)	92.47 ( 7251900)	99.69
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.96 ( 7061900)	89.86
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7311900)	-0.05 ( 7011900)	-10.71
TOTAL EVAP TOT (ACRE-FT)	-0.06 ( 7161900)	-1.18 ( 7021900)	-85.89
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.89 ( 7031900)	-46.97
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 7161900)	-0.51 ( 7011900)	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	97.0	88.3
LAKE TEMP @ INLET (F)	132.0	110.0	98.7
LAKE TEMP @ OUTLET (F)	103.0	97.0	89.4

Table H7.11. Cumulative Summary for Case 4b – 12" Sediment, 09:00 Start Time, 5/1/30 Weather Data

Case 4b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 1.0')

## TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.45 ( 8051900)	689.17
TOTAL AREA (ACRE)	82.13 ( 7011900)	79.67 ( 8051900)	80.82
TOTAL VOLUME (ACRE-FT)	381.11 ( 7011900)	256.19 ( 8051900)	314.56
EFFECTIVE AREA (ACRE)	73.93 ( 7011900)	71.69 ( 8051900)	72.74
EFFECTIVE VOL (ACRE-FT)	342.99 ( 7011900)	230.54 ( 8051900)	283.07
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.29 ( 8051900)	-4.06 ( 7051900)	-1.59
EVAPORATION NATURL(CFS)	0.00 ( 7031900)	-2.73 ( 7051900)	-0.95
EVAPORATION FORCED(CFS)	-0.25 ( 7311900)	-1.84 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.45 ( 7011900)	142.91 ( 7241900)	153.49
EVAP LOSS (BTU/HR-FT2)	178.35 ( 7051900)	0.00 ( 7031900)	63.07
COND LOSS (BTU/HR-FT2)	26.10 ( 7051900)	-31.35 ( 7251900)	5.38
LAKE TEMP NATURAL (F)	101.31 ( 7011900)	81.13 ( 7241900)	90.84
LAKE TEMP @ INLET (F)	137.91 ( 7011900)	90.55 ( 7241900)	101.20
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.04 ( 7241900)	91.59
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 8051900)	-0.05 ( 7011900)	-11.95
TOTAL EVAP TOT (ACRE-FT)	-0.07 ( 8051900)	-1.01 ( 7051900)	-113.75
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.68 ( 7051900)	-68.07
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 7311900)	-0.46 ( 7011900)	-45.67
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	97.2	90.9
LAKE TEMP @ INLET (F)	132.0	110.6	100.9
LAKE TEMP @ OUTLET (F)	103.0	98.1	91.7

Table H7.12. Cumulative Summary for Case 4c – 12” Sediment, 12:00 Start Time, Worst 30-day Evaporation

Case 4c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	82.14 ( 6181954)	79.78 ( 7171954)	80.89
TOTAL VOLUME (ACRE-FT)	381.62 ( 6181954)	261.88 ( 7171954)	317.77
EFFECTIVE AREA (ACRE)	73.94 ( 6181954)	71.80 ( 7171954)	72.80
EFFECTIVE VOL (ACRE-FT)	343.45 ( 6181954)	235.66 ( 7171954)	285.96
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.14 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.49 ( 6291954)	-5.43 ( 6181954)	-1.85
EVAPORATION NATURL(CFS)	-0.26 ( 6291954)	-4.11 ( 6271954)	-1.22
EVAPORATION FORCED(CFS)	-0.16 ( 7171954)	-2.44 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.64 ( 6181954)	136.01 ( 7071954)	146.72
EVAP LOSS (BTU/HR-FT2)	270.89 ( 6271954)	17.13 ( 6291954)	80.62
COND LOSS (BTU/HR-FT2)	37.53 ( 6271954)	-47.07 ( 7121954)	2.46
LAKE TEMP NATURAL (F)	101.48 ( 6181954)	74.48 ( 7071954)	84.64
LAKE TEMP @ INLET (F)	140.00 ( 6181954)	83.77 ( 7071954)	95.53
LAKE TEMP @ OUTLET (F)	104.84 ( 6181954)	74.79 ( 7071954)	85.68
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.05
TOTAL EVAP TOT (ACRE-FT)	-0.12 ( 6291954)	-1.35 ( 6181954)	-109.95
TOTAL EVAP NAT (ACRE-FT)	-0.06 ( 6291954)	-1.02 ( 6271954)	-72.35
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.61 ( 6181954)	-37.60
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	100.0	94.0	84.0
LAKE TEMP @ INLET (F)	133.0	108.0	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.1



Figure H7.1: 1/30 Plant Inlet Temperature vs Day

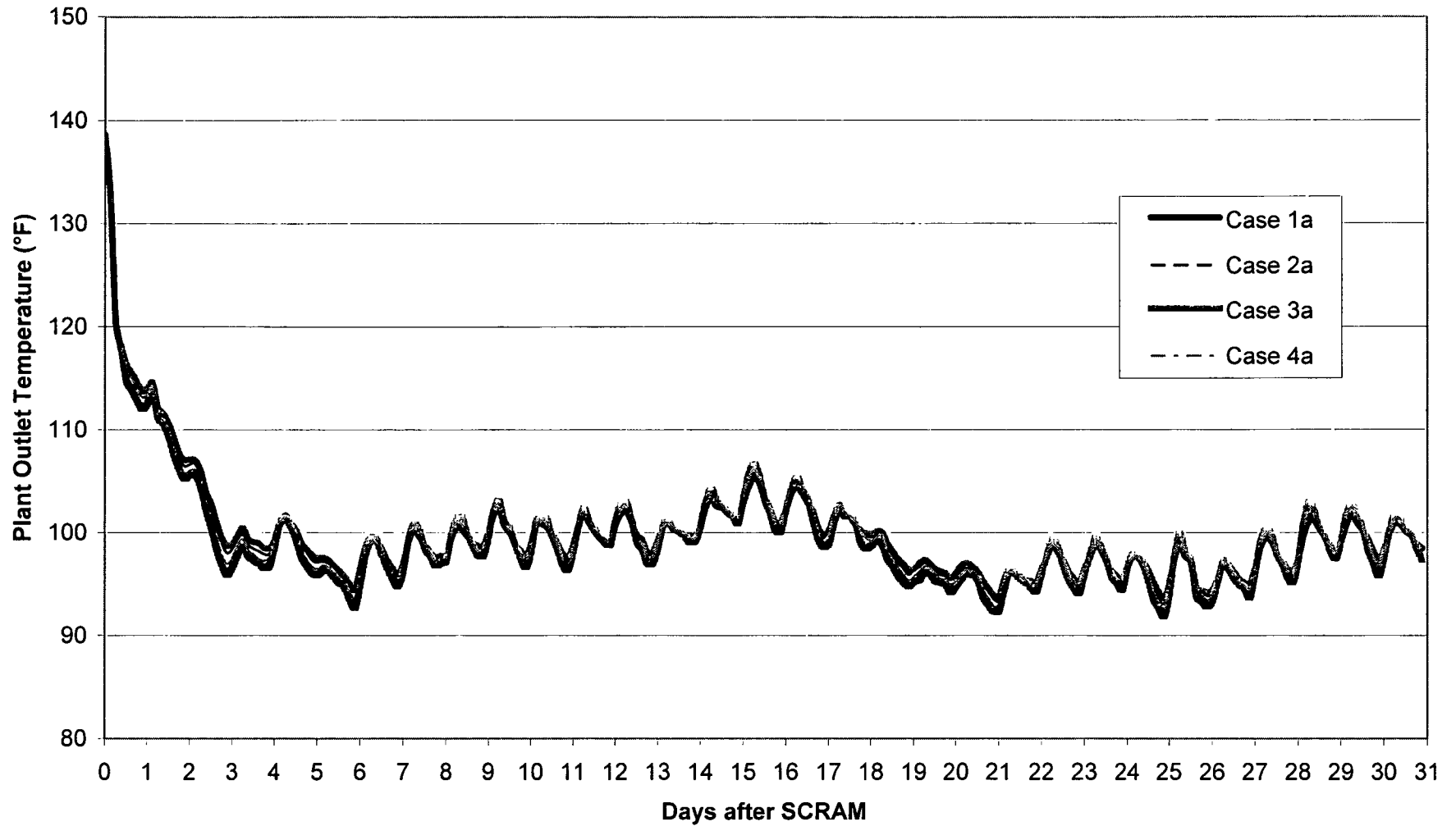


Figure H7.2: 1/30 Plant Outlet Temperature vs Day

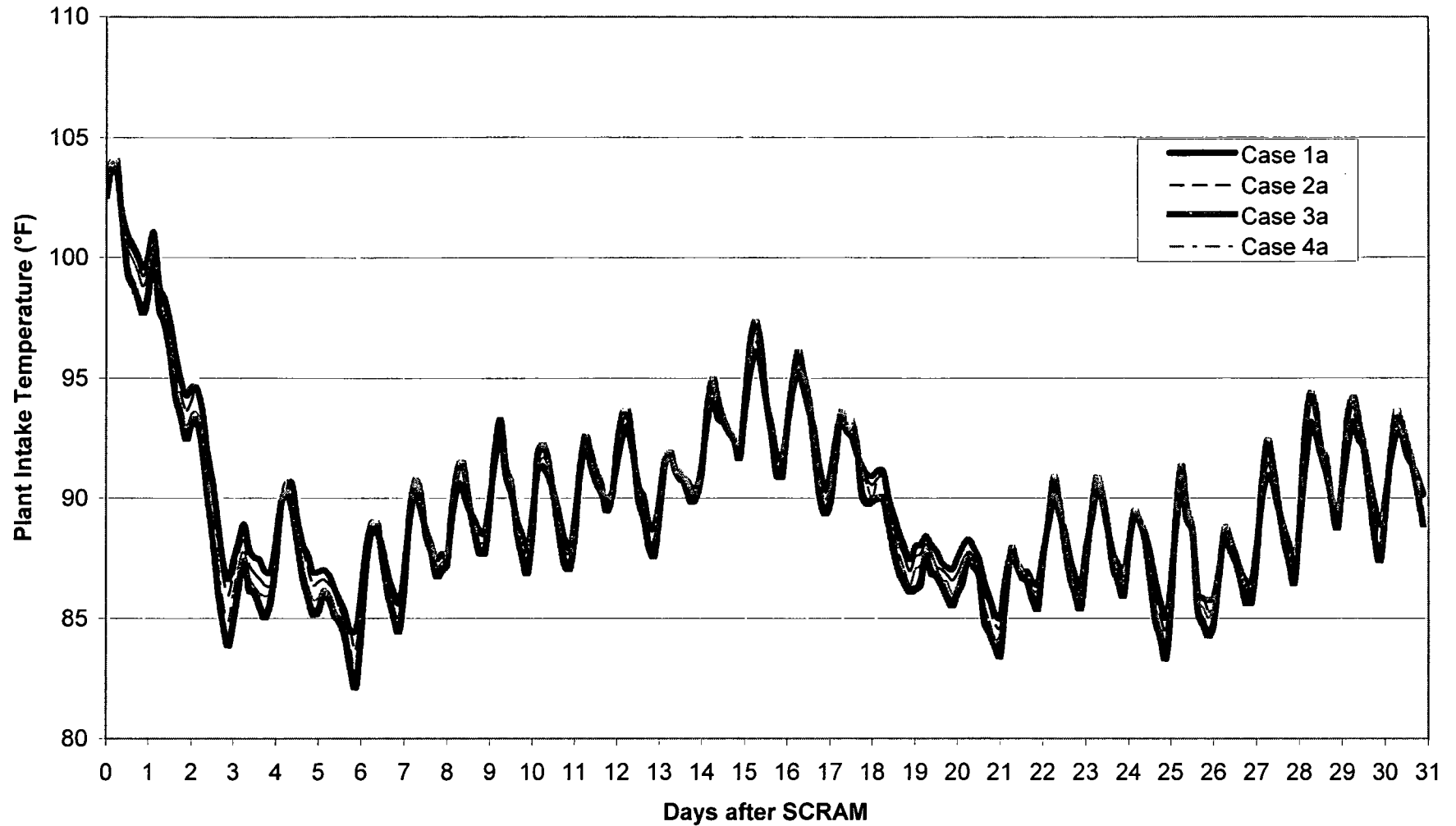


Figure H7.3: 5/1/30 Plant Inlet Temperature vs Day

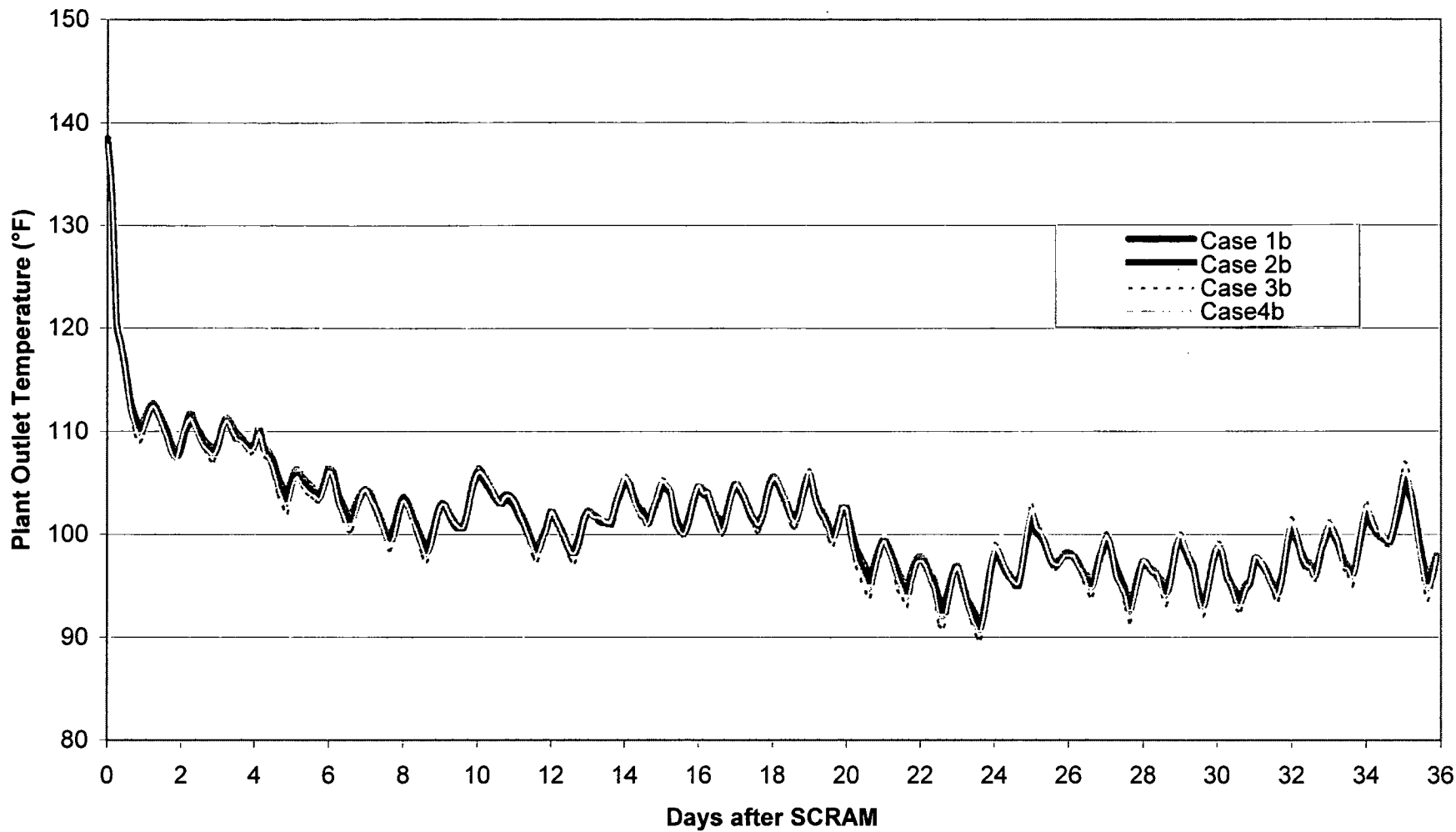
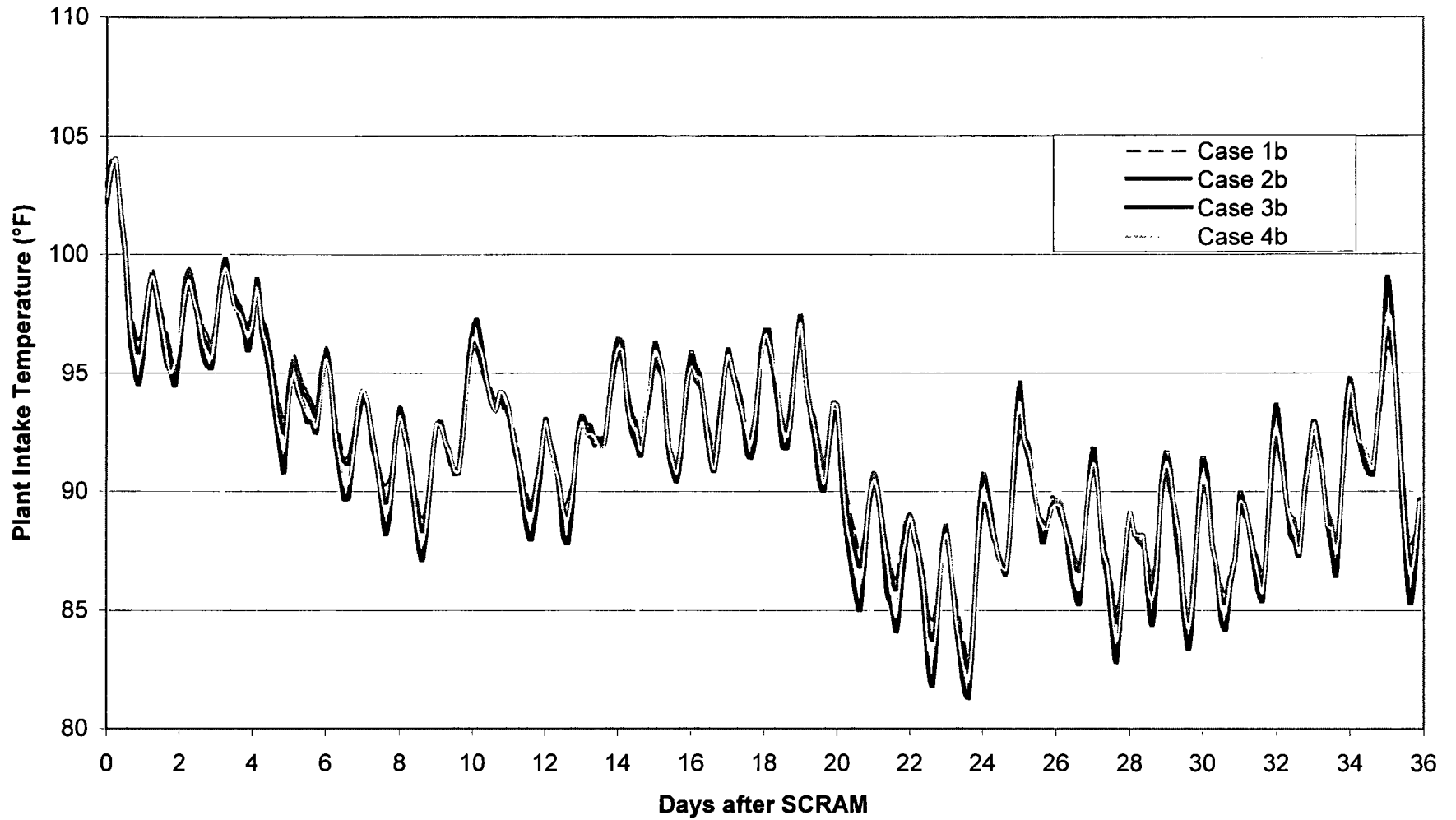
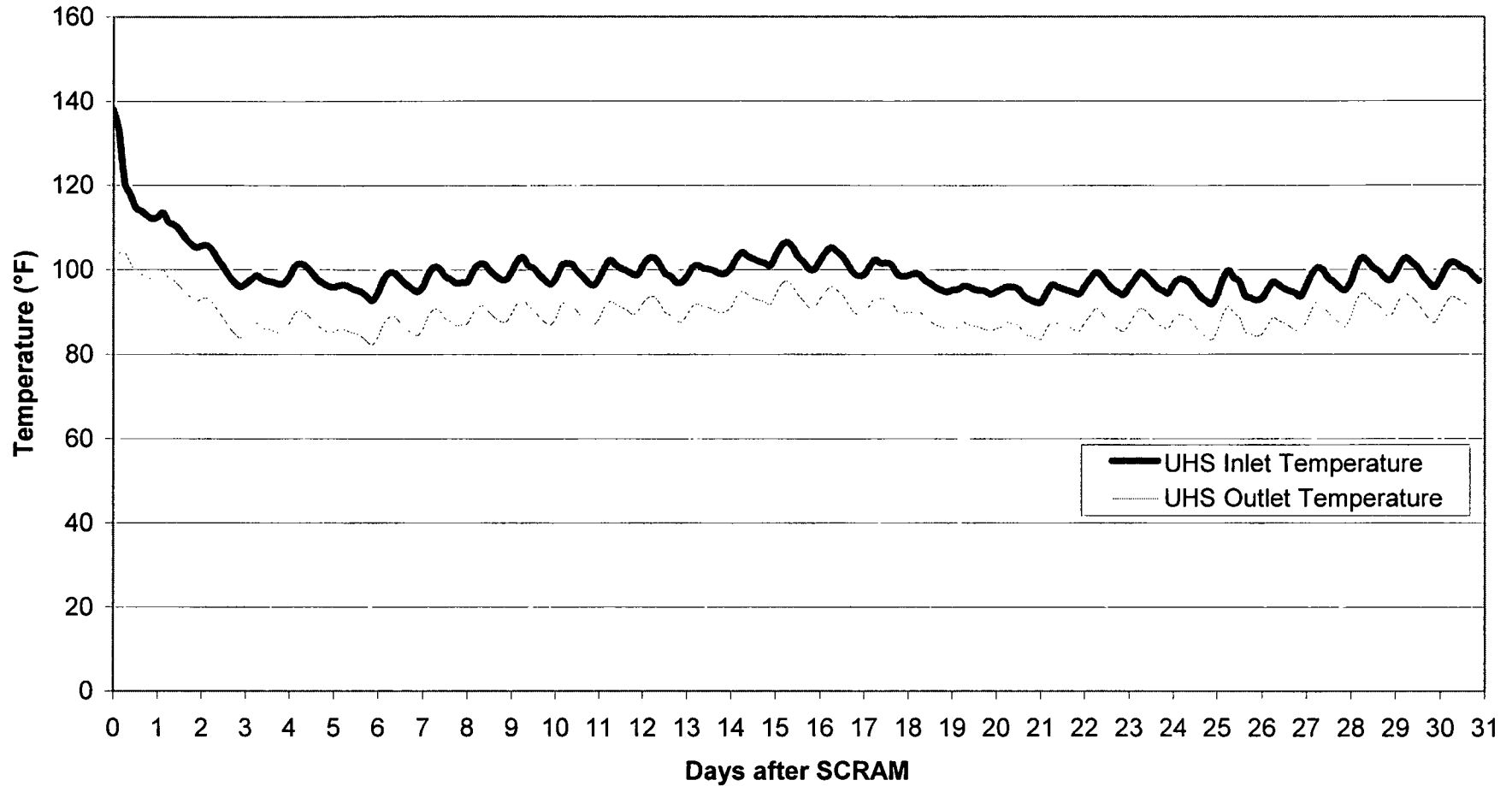


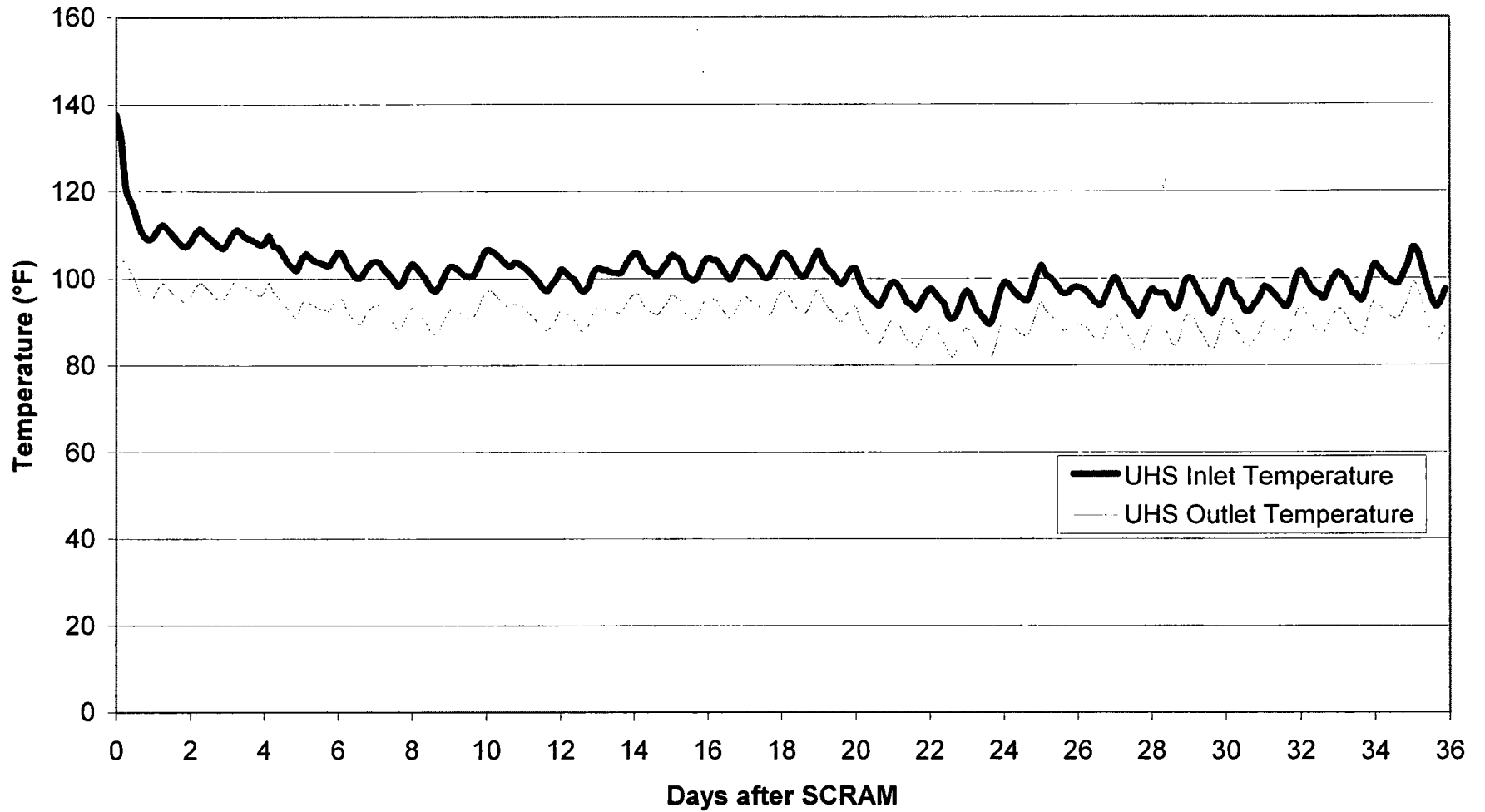
Figure H7.4: 5/1/30 Plant Outlet Temperature vs Day



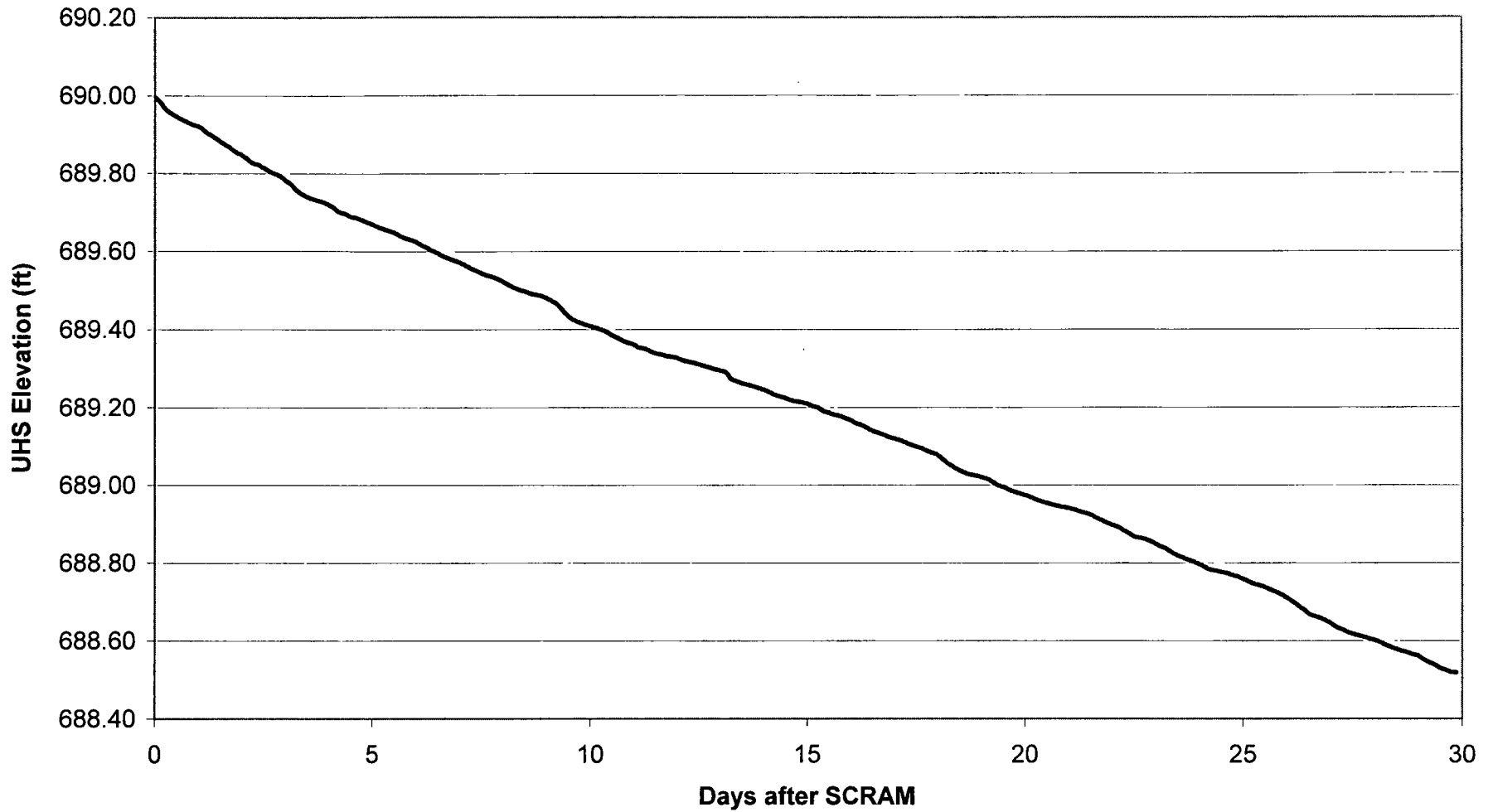
**Figure H7.5, Case 3a: UHS LOCA Temperature Transient  
Worst 31-Day Temperature Period  
(d = 18", t = 0900 hrs, Ti = 102.3F)**



**Figure H7.6, Case 3b: UHS LOCA Temperature Transient  
Worst 36-Day Temperature Period  
(d = 18", t = 0900 hrs, Ti = 102.9F)**



**Figure H7.7, Case 3c: UHS LOCA Drawdown  
Worst 30 Day Evaporation Weather Period  
(d = 18", t=1200 hrs, Ti = 102.3F)**



**Table H7.13 Table of Output Files**

WEATHER FILES	REV.	LAKET-PC Software Version	Start Pg. No.	No. of Pages
5-1-30days9am.txt	5	LAKET-PC Version 2.2	H31	16
30dayevap.txt	5	LAKET-PC Version 2.2	H47	14
worstday-9am.txt	5	LAKET-PC Version 2.2	H61	16
<b>OUTPUT FILES</b>				
1a.out	5	LAKET-PC Version 2.2	H77	16
1b.out	5	LAKET-PC Version 2.2	H93	16
1c.out	5	LAKET-PC Version 2.2	H109	16
2a.out	5	LAKET-PC Version 2.2	H125	16
2b.out	5	LAKET-PC Version 2.2	H141	16
2c.out	5	LAKET-PC Version 2.2	H157	16
3a.out	5	LAKET-PC Version 2.2	H173	16
3b.out	5	LAKET-PC Version 2.2	H189	16
3c.out	5	LAKET-PC Version 2.2	H205	16
4a.out	6	LAKET-PC Version 2.2	H221	21
4b.out	6	LAKET-PC Version 2.2	H242	21
4c.out	6	LAKET-PC Version 2.2	H263	21
<b>VERIFICATION RUNS</b>				
C00e.out	5	LAKET-PC Version 2.2	H284	15
C06e.out	5	LAKET-PC Version 2.2	H299	15
C18e.out	5	LAKET-PC Version 2.2	H314	15
C0609.out	5	LAKET-PC Version 2.2	H329	16



03/29/06  
Page 1 of 1

SEAG Number: 06-000100

To:  
Manuel Vega  
Sargent and Lundy, LLC

From:  
Mike Peters  
Engineer  
LaSalle Station


Subject: Requested Input for L-002457 Revision 5

Revision 5 to Design Analysis L-002457 should be performed with a maximum UHS outlet temperature of 104°F consistent with Design Analysis L-002857. This temperature limit of 104°F is also consistent with License Amendment Request RS-06-021.

There are no limitations or unverified information associated with this document.

Prepared by: M.A.Peters /  / 03/29/06

Reviewed by: D.Schmit /  / 03/29/06

Approved by: L.Lehman /  / 03/29/06

References:

1. L-002857, LSCS RHR Heat Exchanger K Factor Sensitivity Study, 1(2)RH01A&B, Rev. 0A.
2. RS-06-021, Request for a License Amendment to Technical Specification 3.7.3, "Ultimate Heat Sink." Dated 03/13/06.

SEAG 03-000103

From: MICHAEL E DUFFY/Sargentlundy To: NICHOLAS H LEE  
Subject: Fw: Uhsavg Program Capabilitie... cc:

See attached.

Michael E. Duffy  
(312) 269-6638  
Fax (312) 269-7041

— Forwarded by MICHAEL E DUFFY/Sargentlundy on 05/05/2006 02:56 PM —

**PAUL N  
DEREZOTES/Sargentlundy**  
05/05/2006 02:51 PM

To: MICHAEL E DUFFY/Sargentlundy@Sargentlundy  
cc: WILLARD L BOWARD/Sargentlundy@Sargentlundy  
Subject: Uhsavg Program Capabilities Summary for LaSalle



## 1 Request

Request was to briefly summarize relevance of the S&L Uhsavg program to U. S. Nuclear Regulatory Commission (US NRC) regulatory guidance for ultimate heat sinks.

## 2 Summary

### UHSAVG Program Implementation versus RG 1.27 Rev 2

The S&L mainframe computer program "Uhsavg" (S&L 1997) produces output that allows an analyst to implement the cooling lake worst temperature and worst evaporation period analysis procedures recommended by US NRC Regulatory Guide 1.27 Revision 2 (US NRC 1976) as listed in Table I.

The specific method used by Uhsavg to identify worst temperature and evaporation periods is via calculations of one-day, five-day, 30-day, and 36-day mean lake temp. and 30-day mean lake evaporation. Those calculations are done on a rolling average basis, using a user-requested period of historical meteorological record as input. Program output includes a list of starting and ending date and hour for each worst period identified.

The analyst manually extracts hourly meteorological data from the historical weather file for worst periods identified by Uhsavg. After extraction, the analyst can input those data into the Laket program as needed to satisfy Regulatory Guide 1.27 Revision 2. For example, the analyst can combine hourly weather data for the identified worst five, one, and 30 day temp periods into a single file, in that order, for input to Laket analysis.

### UHSAVG Program Implementation versus RG 1.27 Rev1

The S&L mainframe computer program "Uhsavg" (S&L 1997) also produces output that allows an analyst to implement the cooling lake worst temperature procedures recommended by US NRC Regulatory Guide 1.27 Revision 1 (US NRC 1974) as listed in Table I.

The specific method used by Uhsavg to identify worst temperature periods is via calculations of one-day and 30-day mean lake temperature. Those calculations are done on a rolling average basis, using a user-requested period of historical meteorological record as input. Program output includes a list of starting and ending date and hour for each worst period identified.

The analyst manually extracts hourly meteorological data from the historical weather file for worst periods identified by Uhsavg. After extraction,

the analyst can input those data into the Laket program as needed to satisfy Regulatory Guide 1.27 Revision 1. For example, the analyst can combine hourly weather data for the identified worst one and 30 day temp periods into a single 30-day file for input to Laket analysis.

### Uhsavg versus Laket Algorithms

Table 2 presents a short list comparing some of the major calculation algorithms, terms, and flows used in Laket and Uhsavg.

## 3 References

Sargent & Lundy (S&L). "User Manual. UHSAVG, Determination of Worst Average Weather Periods for Cooling Pond and Wet Cooling Tower Ultimate Heat Sinks", S&L (mainframe computer) Program No. 03.7.642-1.0, September 1997.

U. S. Nuclear Regulatory Commission (US NRC). "Regulatory Guide 1.27, Ultimate Heat Sink for Nuclear Power Plants". Revision 1, March 1974.

U. S. Nuclear Regulatory Commission (US NRC). "Regulatory Guide 1.27, Ultimate Heat Sink for Nuclear Power Plants", Revision 2, January 1976.

**Table 1**

**Procedural Options Recommended by US NRC Regulatory Guide 1.27 Revisions 1 and 2 for Selecting Meteorological Conditions to Be Considered in the Design of a Cooling Lake that Will Be Used as an Ultimate Heat Sink**

US NRC RG 1.27 rev 2 guidance recommends use of either (1) or (2) below ) as guidance for identifying the worst cooling lake temp period, and the use of (3) as guidance for identifying the worst cooling lake evaporation period.

Procedural Option (1): Identify three critical time periods: five days, one day, and 30 days for use as a design basis, including:

- (a) Five warmest temp days on record during which cooling water reaches a maximum temp after reactor shutdown
- (b) Single warmest temp day on record
- (c) Thirty days with the warmest temp on record

These three periods need not be assumed to occur contiguously for analysis, but may be combined in the indicated order (five, one, 30) to produce a synthetic 36-day period which may be used as a design basis for the lake.

Procedural Option (2): Identify the 36-consecutive-day period from historical climate records with the highest temp for use as a design basis. This period may or may not include the worst five, one, or 30-day periods.

Procedural Option (2): Identify the worst 30-day average combination of parameters that control maximum evaporation and drift losses for use as a design basis.

US NRC RG 1.27 rev 1 guidance recommends use of (1) below as guidance for identifying the worst cooling lake temp period, and the use of (2) as guidance for identifying the worst cooling lake evaporation period.

Assumptions of the NRC guidance included the following:

- (1) Analysis of worst lake temp should analyze historical regional weather measurements. It should identify the worst one day period and the worst 30 day period that result in minimum heat transfer to the atmosphere and maximum plant intake temp. The worst one day should be assumed to be the first day of the worst 30-day period of record. Diurnal temp variations should be included in the analysis.
- (2) Analysis of worst case availability of a 30 day cooling water supply should analyze historical regional weather measurements. It should identify the worst recorded 30 day mean of maximum difference between dry bulb temp and dew point temp (delta-T) and the highest simultaneous wind speeds, such that the combination of delta-T and simultaneous wind speeds results in the maximum amount of evaporation and drift loss.

**Table 2****Selected Major Calculation Algorithms, Terms, and Flows Used in Laket and Uhsavg**

<b>Parameter</b>	<b>Description</b>	<b>Included In Laket Algorithm?</b>	<b>Included in Uhsavg Algorithm?</b>
Qai	Incident (incoming) long-wave radiation from atmosphere	Yes	Yes
Qar	Long wave radiation reflected back from lake surface	Yes	No
Qsi	Incident (incoming) solar (short-wave) radiation	Yes	Yes
Qsr	Short wave radiation reflected back from lake surface	Yes	No
Qbr	Long wave (outgoing or back) radiation emitted by lake surface	Yes	Yes
Qe	Evaporative heat flux	Yes	Yes
Qc	Conductive (sensible) heat flux to or from lake surface	Yes	Yes
	Variation of pond volume	Yes	No
	Runoff / Precipitation	Yes	Optional
	Makeup	Yes	No
	Evaporation	Yes	Yes
	Plant heat rejection	Yes	Yes
	Simulation capability for a "natural" lake	Yes	No
	Essential service water flow	Yes	Yes
	Condenser specific characteristics	Yes	No

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.	
					(feet)	Temp(F)	Temp(F)	Temp(F)	Precip.	Radiat.	Wat. Vap.(in Hg)									
0.	1900.	7.	1.		.00 35000.00	9.00	8.00	85.00	78.32	75.95	75.00	29.26	.00	.00	.00	215.60	126.66	.92		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		3.00 35000.00	8.00	8.00	92.00	81.26	77.69	64.00	29.24	4.00	.00	.00	288.37	140.45	.97		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		6.00 35000.00	9.00	9.00	95.00	83.23	79.53	62.00	29.22	6.00	.00	.00	212.03	149.90	1.03		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		9.00 35000.00	9.00	8.00	93.00	82.14	78.64	64.00	29.19	.00	.00	.00	45.43	138.23	1.00		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		12.00 35000.00	9.00	4.00	86.00	79.82	77.74	77.00	29.20	.00	.00	.00	.00	128.06	.97		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		15.00 35000.00	9.00	10.00	82.00	78.23	76.92	85.00	29.20	.00	.00	.00	.00	122.53	.94		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		18.00 35000.00	9.00	6.00	79.00	77.57	77.08	94.00	29.21	.00	.00	.00	.00	118.52	.95		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		21.00 35000.00	9.00	5.00	79.00	78.29	78.06	97.00	29.25	.00	.00	.00	50.89	118.52	.98		
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	1.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 35000.00	10.00	9.00	88.00	81.69	79.68	77.00	29.26	.00	.00	.00	215.16	130.90	1.03		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		3.00 35000.00	10.00	8.00	95.00	83.23	79.53	62.00	29.25	.00	.00	.00	281.23	141.26	1.03		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		6.00 35000.00	10.00	9.00	99.00	83.32	78.30	53.00	29.24	.00	.00	.00	211.11	147.47	1.00		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		9.00 35000.00	11.00	7.00	95.00	81.79	77.43	58.00	29.23	.00	.00	.00	45.22	141.26	.97		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		12.00 35000.00	9.00	5.00	86.00	79.82	77.74	77.00	29.24	.00	.00	.00	.00	128.06	.97		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		15.00 35000.00	10.00	5.00	82.00	78.23	76.92	85.00	29.26	.00	.00	.00	.00	122.53	.94		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		18.00 35000.00	11.00	4.00	80.00	77.83	77.07	91.00	29.29	.00	.00	.00	.00	119.84	.95		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		21.00 35000.00	9.00	5.00	79.00	77.58	77.08	94.00	29.34	.00	.00	.00	50.22	118.52	.95		
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	2.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	3.		.00 35000.00	12.00	7.00	90.00	82.35	79.93	73.00	29.33	.00	.00	.00	214.70	133.79	1.04		
0.	1900.	7.	3.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	3.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	3.		3.00 35000.00	11.00	10.00	95.00	81.80	77.43	58.00	29.32	.00	.00	.00	280.99	141.26	.97		
0.	1900.	7.	3.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	3.		.00 .00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	3.		6.00 35000.00	10.00	8.00	96.00	80.79	75.53	53.00	29.28	.00	.00	.00	210.96	142.79	.91		

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)							
			(feet)	Dir.	V(knts)		(%)	(in Hg)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)							
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	9.00	35000.00	11.00	6.00	93.00	79.35	74.46	56.00	29.25	.00	.00	.00	44.99	138.23	.88	
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	12.00	35000.00	9.00	5.00	85.00	78.32	75.95	75.00	29.25	.00	.00	.00	.00	126.66	.92	
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	15.00	35000.00	12.00	3.00	81.00	77.28	75.93	85.00	29.29	.00	.00	.00	.00	121.18	.91	
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	18.00	35000.00	.00	.00	76.00	74.63	74.09	94.00	29.29	.00	.00	.00	.00	114.61	.86	
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	21.00	35000.00	11.00	3.00	78.00	75.88	75.08	91.00	29.31	1.00	.00	.00	50.24	117.40	.89	
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	35000.00	12.00	5.00	88.00	79.59	76.69	70.00	29.32	4.00	.00	219.49	134.46	.94	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	3.00	35000.00	15.00	8.00	91.00	79.71	75.76	62.00	29.28	5.00	.00	.00	285.50	141.00	.91	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	6.00	35000.00	12.00	8.00	94.00	78.72	73.09	52.00	29.24	1.00	.00	.00	213.84	139.97	.84	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	9.00	35000.00	11.00	6.00	91.00	76.20	70.32	52.00	29.18	.00	.00	.00	44.74	135.26	.77	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	12.00	35000.00	10.00	3.00	82.00	75.26	72.63	74.00	29.23	5.00	.00	.00	.00	127.74	.82	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	15.00	35000.00	.00	.00	78.00	73.65	71.88	82.00	29.25	1.00	.00	.00	.00	117.40	.80	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	18.00	35000.00	.00	.00	74.00	72.66	72.10	94.00	29.23	4.00	.00	.00	.00	115.12	.80	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	21.00	35000.00	9.00	3.00	74.00	72.66	72.10	94.00	29.23	5.00	.00	.00	49.64	116.83	.80	
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	35000.00	12.00	7.00	85.00	77.45	74.68	72.00	29.23	1.00	.00	216.83	126.87	.88	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	3.00	35000.00	12.00	8.00	90.00	76.78	71.67	56.00	29.23	8.00	.00	.00	269.51	148.35	.80	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	6.00	7500.00	15.00	11.00	82.00	72.69	68.68	65.00	29.20	10.00	.00	.00	69.52	143.36	.72	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	9.00	35000.00	12.00	4.00	81.00	75.70	73.67	79.00	29.18	8.00	.00	.00	42.72	134.36	.85	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	12.00	35000.00	14.00	4.00	76.00	75.32	75.06	97.00	29.23	4.00	.00	.00	.00	117.73	.88	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPT.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
						Temp(F)	Temp(F)	(%) (in Hg)	Cov.(I)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)						
					(feet)	Temp(F)	Temp(F)												
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	5.	15.00	35000.00	15.00	5.00	71.00	68.83	67.81	90.00	29.24	1.00	.00	.00	.00	108.53	.69	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	5.	18.00	35000.00	13.00	3.00	67.00	66.39	66.06	97.00	29.23	3.00	.00	.00	.00	105.12	.65	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	5.	21.00	35000.00	13.00	4.00	70.00	68.51	67.79	93.00	29.25	1.00	.00	.00	48.77	107.31	.69	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.		.00	35000.00	15.00	8.00	91.00	79.71	75.76	62.00	29.28	5.00	.00	.00	285.50	141.00	.91
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.	3.00	35000.00	12.00	8.00	94.00	78.72	73.09	52.00	29.24	1.00	.00	.00	213.84	139.97	.84	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.	6.00	35000.00	11.00	6.00	91.00	76.20	70.32	52.00	29.18	.00	.00	.00	44.74	135.26	.77	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.	9.00	35000.00	10.00	3.00	82.00	75.26	72.63	74.00	29.23	5.00	.00	.00	.00	127.74	.82	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.	12.00	35000.00	.00	.00	78.00	73.65	71.88	82.00	29.25	1.00	.00	.00	.00	117.40	.80	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.	15.00	35000.00	.00	.00	74.00	72.66	72.10	94.00	29.23	4.00	.00	.00	.00	115.12	.80	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.	18.00	35000.00	9.00	3.00	74.00	72.66	72.10	94.00	29.23	5.00	.00	.00	49.64	116.83	.80	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.	21.00	35000.00	12.00	7.00	85.00	77.45	74.68	72.00	29.23	1.00	.00	.00	216.83	126.87	.88	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.		.00	35000.00	8.00	6.00	90.00	71.28	62.24	41.00	29.31	.00	.00	.00	211.46	133.79	.59
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.	3.00	35000.00	9.00	5.00	87.00	72.88	66.63	52.00	29.28	.00	.00	.00	45.79	129.47	.68	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.	6.00	35000.00	8.00	6.00	78.00	68.87	64.43	64.00	29.30	.00	.00	.00	.00	117.20	.62	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.	9.00	35000.00	9.00	4.00	72.00	65.83	62.58	73.00	29.30	.00	.00	.00	.00	109.58	.58	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.	12.00	35000.00	10.00	3.00	68.00	63.97	61.74	81.00	29.29	.00	.00	.00	.00	104.72	.56	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.	15.00	35000.00	.00	.00	68.00	65.28	63.83	87.00	29.33	2.00	.00	.00	53.39	105.44	.60	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.	18.00	35000.00	12.00	7.00	83.00	73.59	69.63	65.00	29.35	.00	.00	.00	216.03	123.89	.74	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.	
						Temp(F)	Temp(F)	Cov(,l)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)								
				Dircc.	V(knts)	Temp(F)	Temp(F)	(%)(in Hg)												
				(feet)																
0.	1900.	7.	7.		21.00	35000.00	11.00	11.00	89.00	74.55	68.47	52.00	29.30	4.00	.00	.00	288.58	135.94	.72	
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	35000.00	11.00	10.00	92.00	75.94	69.43	49.00	29.28	.00	.00	.00	211.35	136.74	.75	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		3.00	35000.00	10.00	6.00	89.00	75.24	69.62	54.00	29.28	2.00	.00	.00	46.69	133.24	.75	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		6.00	35000.00	10.00	5.00	79.00	71.97	68.91	72.00	29.30	.00	.00	.00	.00	118.52	.72	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		9.00	35000.00	12.00	5.00	77.00	70.67	67.80	74.00	29.33	3.00	.00	.00	.00	117.68	.70	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		12.00	35000.00	15.00	5.00	73.00	69.39	67.71	84.00	29.34	.00	.00	.00	.00	110.82	.69	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		15.00	35000.00	1.00	7.00	73.00	67.48	64.73	76.00	29.39	3.00	.00	.00	52.92	112.51	.63	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		18.00	35000.00	3.00	10.00	81.00	68.22	61.66	53.00	29.43	.00	.00	.00	215.60	121.18	.57	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		21.00	35000.00	1.00	6.00	86.00	69.99	62.05	46.00	29.42	.00	.00	.00	281.45	128.06	.58	
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	8.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	35000.00	2.00	5.00	89.00	70.52	61.34	41.00	29.39	5.00	.00	.00	214.81	137.96	.57	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		3.00	35000.00	1.00	5.00	87.00	69.70	60.96	43.00	29.38	1.00	.00	.00	46.09	129.69	.56	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		6.00	35000.00	1.00	5.00	78.00	67.18	61.52	58.00	29.40	.00	.00	.00	.00	117.20	.56	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		9.00	35000.00	3.00	5.00	74.00	65.88	61.54	66.00	29.42	.00	.00	.00	.00	112.07	.56	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		12.00	35000.00	5.00	5.00	73.00	64.48	59.69	64.00	29.42	.00	.00	.00	.00	110.82	.53	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		15.00	35000.00	7.00	5.00	74.00	63.76	57.78	58.00	29.46	.00	.00	.00	50.89	112.07	.49	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		18.00	35000.00	7.00	9.00	82.00	68.42	61.44	51.00	29.45	2.00	.00	.00	220.18	123.36	.57	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		21.00	35000.00	9.00	7.00	88.00	73.73	67.55	52.00	29.44	5.00	.00	.00	285.99	136.46	.70	
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	9.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	35000.00	9.00	6.00	89.00	76.29	71.28	57.00	29.40	9.00	.00	.00	196.56	150.56	.79	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		3.00	35000.00	6.00	4.00	89.00	76.29	71.28	57.00	29.39	10.00	.00	.00	40.51	154.83	.79	



5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
					(feet)	Temp(F)	Temp(F)	(%) (in Hg)	Cov.(1)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)						
					Dirac.	V(knts)	Temp(F)	Temp(F)											
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	6.00	35000.00	7.00	4.00	83.00	75.63	72.76	72.00	29.39	10.00	.00	.00	.00	144.95	.82	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	9.00	35000.00	9.00	4.00	78.00	70.25	66.67	69.00	29.39	8.00	.00	.00	.00	129.96	.67	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	12.00	35000.00	6.00	3.00	77.00	72.71	70.90	82.00	29.38	8.00	.00	.00	.00	128.51	.77	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	15.00	7500.00	.00	.00	75.00	72.02	70.74	87.00	29.40	7.00	.00	.00	37.18	122.78	.77	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	18.00	35000.00	13.00	4.00	86.00	75.64	71.52	63.00	29.41	1.00	.00	.00	217.80	128.27	.79	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	21.00	35000.00	11.00	5.00	91.00	76.23	70.32	52.00	29.39	10.00	.00	.00	251.72	158.25	.77	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	30000.00	11.00	5.00	91.00	76.94	71.48	54.00	29.35	10.00	.00	.00	188.99	158.25	.80
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	3.00	35000.00	8.00	3.00	88.00	74.06	68.13	53.00	29.33	10.00	.00	.00	40.30	153.15	.71	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	6.00	30000.00	9.00	5.00	88.00	76.09	71.40	59.00	29.33	10.00	.00	.00	.00	153.15	.79	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	9.00	25000.00	9.00	3.00	78.00	72.37	69.97	77.00	29.32	10.00	.00	.00	.00	137.13	.75	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	12.00	23000.00	6.00	3.00	75.00	71.53	70.03	85.00	29.30	10.00	.00	.00	.00	132.60	.75	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	15.00	24000.00	6.00	4.00	75.00	70.81	68.95	82.00	29.31	9.00	.00	.00	38.55	128.94	.72	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	18.00	4000.00	9.00	7.00	82.00	74.71	71.79	72.00	29.32	7.00	.00	.00	158.59	132.74	.80	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	21.00	11000.00	10.00	9.00	86.00	75.63	71.52	63.00	29.33	10.00	.00	.00	116.51	149.83	.79	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.		.00	12000.00	9.00	10.00	90.00	75.38	69.40	52.00	29.29	10.00	.00	.00	87.48	156.53	.74
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	3.00	12000.00	9.00	8.00	86.00	74.99	70.54	61.00	29.26	10.00	.00	.00	18.57	149.83	.77	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	6.00	25000.00	9.00	5.00	80.00	71.49	67.69	67.00	29.27	10.00	.00	.00	.00	140.22	.70	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	9.00	35000.00	9.00	5.00	75.00	69.33	66.67	76.00	29.28	5.00	.00	.00	.00	118.15	.67	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
					(feet)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	(%)	(in Hg)						
					Dirac.	V(knts)	Temp(F)	Cov(1)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)						
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	12.00	35000.00	9.00	5.00	72.00	68.44	66.73	84.00	29.29	6.00	.00	.00	.00	116.28	.67
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	15.00	35000.00	12.00	4.00	72.00	69.13	67.78	87.00	29.33	7.00	.00	.00	48.08	118.70	.69
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	18.00	35000.00	13.00	9.00	84.00	73.87	69.63	63.00	29.35	4.00	.00	.00	219.00	128.68	.74
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	21.00	3700.00	11.00	9.00	89.00	75.60	70.18	55.00	29.33	7.00	.00	.00	207.65	143.36	.76
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	35000.00	12.00	5.00	90.00	75.38	69.40	52.00	29.29	8.00	.00	.00	202.38	148.35	.74
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	3.00	35000.00	11.00	7.00	88.00	74.74	69.26	55.00	29.28	4.00	.00	.00	45.56	134.46	.74
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	6.00	35000.00	10.00	4.00	79.00	71.97	68.91	72.00	29.30	4.00	.00	.00	.00	121.74	.72
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	9.00	35000.00	10.00	4.00	74.00	70.34	68.69	84.00	29.33	.00	.00	.00	.00	112.07	.72
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	12.00	35000.00	9.00	5.00	72.00	69.13	67.78	87.00	29.32	.00	.00	.00	.00	109.58	.69
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	15.00	35000.00	9.00	3.00	72.00	69.80	68.80	90.00	29.35	3.00	.00	.00	49.36	111.25	.72
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	18.00	35000.00	13.00	11.00	86.00	74.36	69.52	59.00	29.37	4.00	.00	.00	218.49	131.54	.74
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	21.00	35000.00	13.00	8.00	91.00	74.37	67.24	47.00	29.32	2.00	.00	.00	286.77	136.18	.69
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	35000.00	12.00	10.00	93.00	75.60	68.41	46.00	29.29	4.00	.00	.00	215.61	141.99	.72
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	3.00	35000.00	13.00	5.00	90.00	74.66	68.21	50.00	29.28	1.00	.00	.00	44.81	134.02	.71
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	6.00	35000.00	.00	.00	80.00	72.88	69.87	72.00	29.31	.00	.00	.00	.00	119.84	.75
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	9.00	35000.00	.00	.00	74.00	71.05	69.75	87.00	29.31	.00	.00	.00	.00	112.07	.74
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	12.00	7000.00	.00	.00	75.00	69.33	66.67	76.00	29.31	8.00	.00	.00	.00	125.67	.67
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	15.00	35000.00	10.00	3.00	74.00	69.87	67.97	82.00	29.33	10.00	.00	.00	42.40	131.12	.70
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)							
						Temp(F)	(%)	(in Hg)	Cov(,l)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)					
			(feet)	Dircc.	V(knts)													
0.	1900.	7.	14.	18.00	35000.00	16.00	3.00	82.00	74.71	71.79	72.00	29.34	10.00	.00	.00	190.57	143.36	.80
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	21.00	10000.00	9.00	5.00	89.00	76.96	72.34	59.00	29.34	8.00	.00	.00	189.00	146.74	.82
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	35000.00	13.00	8.00	92.00	77.78	72.41	54.00	29.31	5.00	.00	.00	213.80	142.55	.82
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	3.00	35000.00	12.00	5.00	90.00	77.13	72.21	57.00	29.27	9.00	.00	.00	40.83	152.21	.81
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	6.00	35000.00	3.00	5.00	82.00	74.71	71.79	72.00	29.32	4.00	.00	.00	.00	125.86	.80
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	9.00	35000.00	5.00	4.00	80.00	72.88	69.87	72.00	29.33	.00	.00	.00	.00	119.84	.75
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	12.00	35000.00	.00	.00	74.00	71.05	69.75	87.00	29.32	2.00	.00	.00	.00	112.83	.74
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	15.00	35000.00	12.00	7.00	77.00	72.71	70.90	82.00	29.35	3.00	.00	.00	47.80	117.68	.77
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	18.00	35000.00	13.00	9.00	90.00	78.50	74.31	61.00	29.36	1.00	.00	.00	215.27	134.02	.87
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	21.00	4300.00	14.00	10.00	96.00	80.03	74.33	51.00	29.37	7.00	.00	.00	207.04	154.68	.88
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	35000.00	13.00	8.00	98.00	79.23	72.27	45.00	29.32	5.00	.00	.00	213.57	152.10	.82
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	3.00	35000.00	13.00	4.00	93.00	80.07	75.56	58.00	29.29	1.00	.00	.00	44.14	138.46	.91
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	6.00	35000.00	9.00	3.00	85.00	78.90	76.77	77.00	29.32	6.00	.00	.00	.00	134.41	.94
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	9.00	35000.00	5.00	9.00	80.00	70.93	66.79	65.00	29.38	3.00	.00	.00	.00	121.68	.68
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	12.00	35000.00	11.00	5.00	76.00	69.75	66.84	74.00	29.33	4.00	.00	.00	.00	117.73	.67
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	15.00	35000.00	9.00	3.00	74.00	69.14	66.85	79.00	29.38	4.00	.00	.00	46.90	115.12	.67
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	18.00	35000.00	11.00	7.00	87.00	76.52	72.47	63.00	29.38	.00	.00	.00	211.67	129.47	.82
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	21.00	35000.00	13.00	12.00	98.00	80.48	74.27	48.00	29.36	.00	.00	.00	279.36	145.90	.88
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	.00	35000.00	12.00	10.00	100.00	79.53	71.93	42.00	29.32	1.00	.00	.00	212.81	149.32	.81

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPT.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.
					(feet)	Temp(F)	Temp(F)	(%) (in Hg)	Cov.(1)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)						
					Dirac.	V(knts)	Temp(F)	Temp(F)											
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		3.00	35000.00	13.00	7.00	97.00	78.84	72.04	46.00	29.30	2.00	.00	.00	44.16	145.32	.82
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		6.00	35000.00	.00	.00	85.00	77.45	74.68	72.00	29.33	1.00	.00	.00	.00	126.87	.88
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		9.00	35000.00	12.00	6.00	84.00	75.08	71.51	67.00	29.34	.00	.00	.00	.00	125.27	.79
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		12.00	35000.00	12.00	5.00	80.00	72.88	69.87	72.00	29.32	.00	.00	.00	.00	119.84	.75
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		15.00	35000.00	12.00	7.00	79.00	72.51	69.73	74.00	29.36	.00	.00	.00	44.97	118.52	.74
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		18.00	35000.00	12.00	8.00	91.00	78.35	73.68	58.00	29.36	.00	.00	.00	211.11	135.26	.86
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		21.00	35000.00	12.00	10.00	98.00	78.39	70.86	43.00	29.33	.00	.00	.00	279.05	145.90	.79
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	35000.00	13.00	10.00	100.00	78.18	69.65	39.00	29.28	.00	.00	.00	209.53	149.06	.76
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		3.00	35000.00	13.00	6.00	97.00	77.16	69.24	42.00	29.25	1.00	.00	.00	43.39	144.58	.74
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		6.00	35000.00	12.00	3.00	83.00	75.62	72.76	72.00	29.28	.00	.00	.00	.00	123.89	.82
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		9.00	35000.00	11.00	3.00	81.00	72.95	69.54	69.00	29.28	.00	.00	.00	.00	121.18	.74
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		12.00	35000.00	9.00	4.00	77.00	70.66	67.80	74.00	29.27	.00	.00	.00	.00	115.90	.70
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		15.00	35000.00	10.00	3.00	76.00	70.25	67.64	76.00	29.27	.00	.00	.00	44.15	114.61	.69
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		18.00	35000.00	13.00	8.00	91.00	76.22	70.32	52.00	29.29	.00	.00	.00	210.55	135.26	.77
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		21.00	35000.00	11.00	7.00	99.00	78.29	70.29	41.00	29.26	.00	.00	.00	278.73	147.47	.77
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	35000.00	12.00	8.00	102.00	76.81	66.29	33.00	29.21	.00	.00	.00	209.26	152.29	.68
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		3.00	35000.00	11.00	4.00	99.00	78.28	70.30	41.00	29.18	.00	.00	.00	42.36	147.47	.77
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		6.00	35000.00	10.00	4.00	86.00	74.99	70.54	61.00	29.19	1.00	.00	.00	.00	128.27	.77
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.		
					(feet)	Temp(F)	Temp(F)	Temp(F)	(%) (in Hg)	Cov(1)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)						
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.	9.00	35000.00	13.00	5.00	82.00	73.27	69.60	67.00	29.20	4.00	.00	.00	.00	125.86	.74	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.	12.00	35000.00	1.00	7.00	80.00	73.42	70.70	74.00	29.21	9.00	.00	.00	.00	136.34	.77	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.	15.00	35000.00	12.00	3.00	79.00	73.30	70.94	77.00	29.21	5.00	.00	.00	44.05	123.55	.77	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.	18.00	35000.00	11.00	5.00	87.00	77.13	73.44	65.00	29.21	1.00	.00	.00	213.00	129.69	.85	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.	21.00	35000.00	13.00	10.00	97.00	79.64	73.36	48.00	29.19	7.00	.00	.00	274.23	156.36	.85	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	35000.00	13.00	9.00	100.00	79.06	71.19	41.00	29.15	8.00	.00	.00	200.79	165.28	.80	.00
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.	3.00	10000.00	16.00	12.00	89.00	78.26	74.36	63.00	29.16	10.00	.00	.00	17.40	154.83	.87	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.	6.00	10000.00	1.00	7.00	84.00	70.69	64.43	53.00	29.19	10.00	.00	.00	.00	146.56	.63	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.	9.00	10000.00	16.00	4.00	78.00	70.78	67.52	71.00	29.21	10.00	.00	.00	.00	137.13	.69	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.	12.00	7500.00	12.00	5.00	74.00	70.34	68.69	84.00	29.24	10.00	.00	.00	.00	131.12	.72	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.	15.00	35000.00	15.00	5.00	73.00	70.09	68.77	87.00	29.25	5.00	.00	.00	43.18	115.53	.72	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.	18.00	35000.00	3.00	7.00	82.00	71.50	66.77	61.00	29.27	3.00	.00	.00	214.98	124.40	.68	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.	21.00	10000.00	1.00	6.00	87.00	71.48	64.23	48.00	29.26	7.00	.00	.00	216.41	140.26	.62	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.		.00	10000.00	2.00	10.00	89.00	70.88	62.06	42.00	29.24	7.00	.00	.00	162.41	143.36	.58	.00
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.	3.00	9000.00	1.00	10.00	81.00	68.51	62.21	54.00	29.26	10.00	.00	.00	13.69	141.78	.58	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.	6.00	10000.00	1.00	9.00	74.00	67.91	64.91	74.00	29.29	10.00	.00	.00	.00	131.12	.63	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.	9.00	6500.00	2.00	5.00	72.00	65.34	61.76	71.00	29.29	10.00	.00	.00	.00	128.20	.57	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.	12.00	10000.00	16.00	4.00	70.00	65.85	63.69	81.00	29.29	10.00	.00	.00	.00	125.34	.60	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)						
							(%) (in Hg)	Cov(1)	Precip.	Radiat.	Radiat.	Wat. Vap (in Hg)						
0.	1900.	7.	21.	15.00	7500.00	2.00	6.00	71.00	67.48	65.75	84.00	29.31	8.00	.00	.00	25.94	120.13	.65
0.	1900.	7.	21.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	18.00	35000.00	2.00	8.00	80.00	68.89	63.39	58.00	29.34	2.00	.00	.00	213.65	120.66	.60
0.	1900.	7.	21.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	21.00	35000.00	2.00	10.00	85.00	69.18	61.15	46.00	29.35	4.00	.00	.00	284.51	130.10	.56
0.	1900.	7.	21.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	35000.00	3.00	9.00	87.00	69.69	60.96	43.00	29.31	4.00	.00	.00	213.47	132.99	.56
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	3.00	35000.00	2.00	6.00	84.00	69.05	61.49	48.00	29.32	2.00	.00	.00	41.96	126.12	.57
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	6.00	35000.00	3.00	5.00	74.00	65.35	60.64	64.00	29.35	.00	.00	.00	.00	112.07	.55
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	9.00	35000.00	3.00	5.00	70.00	64.71	61.82	76.00	29.36	.00	.00	.00	.00	107.13	.57
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	12.00	35000.00	3.00	3.00	65.00	62.40	60.88	87.00	29.37	.00	.00	.00	.00	101.21	.54
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	15.00	35000.00	2.00	5.00	66.00	62.73	60.84	84.00	29.38	.00	.00	.00	40.72	102.37	.54
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	18.00	35000.00	4.00	5.00	78.00	69.71	65.79	67.00	29.39	.00	.00	.00	208.17	117.20	.65
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	21.00	3000.00	7.00	10.00	86.00	71.72	65.12	51.00	29.38	6.00	.00	.00	232.17	135.89	.64
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	5500.00	8.00	9.00	87.00	70.78	62.96	46.00	29.34	7.00	.00	.00	153.99	140.26	.60
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	3.00	35000.00	8.00	6.00	85.00	69.87	62.40	48.00	29.33	5.00	.00	.00	41.19	132.04	.59
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	6.00	35000.00	7.00	5.00	76.00	67.65	63.44	66.00	29.33	2.00	.00	.00	.00	115.39	.60
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	9.00	35000.00	7.00	5.00	72.00	64.60	60.50	68.00	29.33	.00	.00	.00	.00	109.58	.54
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	12.00	35000.00	8.00	9.00	73.00	63.16	57.34	59.00	29.33	4.00	.00	.00	.00	113.83	.49
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	15.00	35000.00	9.00	4.00	69.00	62.62	58.88	71.00	29.35	6.00	.00	.00	39.98	112.40	.51
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	18.00	35000.00	8.00	9.00	82.00	69.67	63.68	55.00	29.36	2.00	.00	.00	212.38	123.36	.61
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	21.00	35000.00	9.00	11.00	90.00	71.29	62.24	41.00	29.34	7.00	.00	.00	272.79	144.93	.59

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.
						Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.
					(feet)	Dir.	Temp(F)	Temp(F)	Temp(F)	(%)	(in Hg)	Cov.(I)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)			
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	35000.00	9.00	13.00	90.00	71.67	62.96	42.00	29.29	9.00	.00	.00	193.34	152.21	.60	.60
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	3.00	35000.00	9.00	12.00	87.00	72.18	65.45	50.00	29.26	2.00	.00	.00	40.91	130.35	.65	.65
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	6.00	35000.00	9.00	13.00	82.00	71.50	66.77	61.00	29.27	.00	.00	.00	.00	122.53	.68	.68
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	9.00	35000.00	9.00	10.00	79.00	71.15	67.63	69.00	29.27	.00	.00	.00	.00	118.52	.69	.69
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	12.00	35000.00	9.00	8.00	76.00	68.44	64.75	69.00	29.25	1.00	.00	.00	.00	114.81	.63	.63
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	15.00	35000.00	9.00	6.00	74.00	68.40	65.70	76.00	29.28	.00	.00	.00	38.92	112.07	.65	.65
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	18.00	35000.00	10.00	8.00	87.00	76.51	72.47	63.00	29.28	.00	.00	.00	206.90	129.47	.82	.82
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	21.00	35000.00	9.00	9.00	96.00	80.79	75.53	53.00	29.28	3.00	.00	.00	283.92	144.97	.91	.91
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	35000.00	10.00	14.00	102.00	80.19	72.21	40.00	29.26	5.00	.00	.00	210.78	158.76	.82	.82
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	3.00	35000.00	9.00	10.00	95.00	79.18	73.41	51.00	29.26	8.00	.00	.00	37.89	156.62	.85	.85
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	6.00	35000.00	8.00	11.00	89.00	78.28	74.36	63.00	29.32	7.00	.00	.00	.00	143.36	.87	.87
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	9.00	35000.00	9.00	7.00	82.00	76.10	73.86	77.00	29.32	3.00	.00	.00	.00	124.40	.85	.85
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	12.00	25000.00	9.00	6.00	81.00	75.70	73.67	79.00	29.35	9.00	.00	.00	.00	137.87	.85	.85
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	15.00	12000.00	9.00	5.00	79.00	74.60	72.86	82.00	29.36	10.00	.00	.00	15.77	138.66	.82	.82
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	18.00	35000.00	8.00	5.00	86.00	77.78	74.77	70.00	29.37	10.00	.00	.00	184.77	149.83	.88	.88
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	21.00	35000.00	10.00	8.00	95.00	80.33	75.19	54.00	29.38	10.00	.00	.00	247.36	165.27	.90	.90
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	35000.00	11.00	9.00	98.00	78.39	70.86	43.00	29.36	7.00	.00	.00	203.79	158.05	.79	.79
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	3.00	5000.00	15.00	5.00	75.00	72.72	71.77	90.00	29.40	10.00	.00	.00	12.83	132.60	.79	.79
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)							
					(feet)	Dir.	Dir.	Dir.	Dir.	Dir.	Dir.	Dir.							
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)							
						(knts)	(knts)	(knts)	(knts)	(knts)	(knts)	(knts)							
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)							
						(%)	(%)	(%)	(%)	(%)	(%)	(%)							
						(in Hg)	(in Hg)	(in Hg)	(in Hg)	(in Hg)	(in Hg)	(in Hg)							
						Cov(1)	Cov(1)	Cov(1)	Cov(1)	Cov(1)	Cov(1)	Cov(1)							
						Precip.	Precip.	Precip.	Precip.	Precip.	Precip.	Precip.							
						Radiat.	Radiat.	Radiat.	Radiat.	Radiat.	Radiat.	Radiat.							
						Wat. Vap.	Wat. Vap.	Wat. Vap.	Wat. Vap.	Wat. Vap.	Wat. Vap.	Wat. Vap.							
						(in Hg)	(in Hg)	(in Hg)	(in Hg)	(in Hg)	(in Hg)	(in Hg)							
0.	1900.	7.	26.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	6.00	11000.00	11.00	3.00	75.00	72.72	71.77	90.00	29.43	10.00	.00	.00	.00	132.60	.79	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	9.00	9000.00	8.00	4.00	74.00	71.75	70.78	90.00	29.43	9.00	.00	.00	.00	127.50	.77	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	12.00	11000.00	14.00	6.00	74.00	71.75	70.78	90.00	29.43	10.00	.00	.00	.00	131.12	.77	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	15.00	11000.00	1.00	5.00	75.00	72.02	70.74	87.00	29.43	9.00	.00	.00	20.54	128.94	.77	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	18.00	8000.00	11.00	4.00	79.00	75.37	73.97	85.00	29.45	10.00	.00	.00	67.86	138.66	.85	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	21.00	2500.00	9.00	4.00	86.00	77.18	73.87	68.00	29.42	10.00	.00	.00	90.99	149.83	.86	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	3400.00	14.00	8.00	82.00	77.45	75.80	82.00	29.38	10.00	.00	.00	68.14	143.36	.91	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	3.00	8000.00	4.00	4.00	81.00	76.50	74.82	82.00	29.35	9.00	.00	.00	18.62	137.87	.88	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	6.00	35000.00	8.00	4.00	77.00	74.90	74.09	91.00	29.37	4.00	.00	.00	.00	119.05	.86	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	9.00	35000.00	10.00	5.00	76.00	73.69	72.76	90.00	29.34	.00	.00	.00	.00	114.61	.82	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	12.00	35000.00	10.00	4.00	75.00	73.64	73.09	94.00	29.31	.00	.00	.00	.00	113.34	.83	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	15.00	35000.00	9.00	3.00	74.00	72.66	72.10	94.00	29.33	1.00	.00	.00	36.66	112.26	.80	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	18.00	35000.00	12.00	7.00	85.00	77.45	74.68	72.00	29.32	.00	.00	.00	204.93	126.66	.88	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	21.00	3600.00	11.00	10.00	91.00	77.65	72.60	56.00	29.31	7.00	.00	.00	203.77	146.52	.83	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	35000.00	13.00	11.00	94.00	73.13	63.53	38.00	29.25	3.00	.00	.00	211.53	141.87	.61	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	3.00	35000.00	14.00	9.00	89.00	73.83	67.29	50.00	29.24	4.00	.00	.00	38.57	135.94	.69	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	6.00	35000.00	16.00	7.00	78.00	66.00	59.43	54.00	29.29	.00	.00	.00	.00	117.20	.53	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	9.00	35000.00	14.00	4.00	69.00	63.78	60.86	76.00	29.32	.00	.00	.00	.00	105.92	.55	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00



5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)						
						Temp(F)	(%)	(in Hg)	Precip.	Radiat.	Radiat.	Wat. Vap.	(in Hg)					
						Temp(F)												
0.	1900.	7.	28.	12.00	35000.00	14.00	4.00	66.00	62.09	59.79	81.00	29.33	.00	.00	.00	.00	102.37	.52
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	15.00	35000.00	16.00	7.00	66.00	62.09	59.79	81.00	29.37	.00	.00	.00	35.19	102.37	.52
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	18.00	35000.00	1.00	7.00	77.00	67.45	62.54	62.00	29.41	.00	.00	.00	204.24	115.90	.58
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	21.00	35000.00	1.00	8.00	84.00	67.70	58.93	44.00	29.42	1.00	.00	.00	278.77	125.48	.52
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	35000.00	16.00	8.00	87.00	68.60	58.83	40.00	29.40	1.00	.00	.00	208.53	129.69	.52
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	3.00	35000.00	1.00	5.00	85.00	68.84	60.50	45.00	29.40	2.00	.00	.00	37.86	127.52	.55
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	6.00	35000.00	.00	.00	74.00	67.92	64.91	74.00	29.43	1.00	.00	.00	.00	112.26	.63
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	9.00	35000.00	.00	.00	69.00	65.58	63.78	84.00	29.46	.00	.00	.00	.00	105.92	.60
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	12.00	35000.00	4.00	3.00	66.00	63.98	62.86	90.00	29.45	.00	.00	.00	.00	102.37	.58
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	15.00	35000.00	5.00	4.00	67.00	63.68	61.82	84.00	29.50	1.00	.00	.00	34.73	103.72	.56
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	18.00	35000.00	9.00	6.00	80.00	69.49	64.39	60.00	29.52	.00	.00	.00	203.55	119.84	.62
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	21.00	35000.00	8.00	5.00	87.00	70.81	62.96	46.00	29.50	3.00	.00	.00	281.67	131.45	.60
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	35000.00	9.00	8.00	88.00	70.50	61.86	43.00	29.45	4.00	.00	.00	210.13	134.46	.58
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	3.00	35000.00	9.00	6.00	85.00	70.90	64.21	51.00	29.43	1.00	.00	.00	36.85	126.87	.62
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	6.00	35000.00	9.00	5.00	77.00	69.36	65.71	69.00	29.45	.00	.00	.00	.00	115.90	.65
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	9.00	35000.00	9.00	4.00	72.00	65.84	62.58	73.00	29.42	2.00	.00	.00	.00	110.32	.58
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	12.00	35000.00	9.00	8.00	72.00	65.83	62.58	73.00	29.39	2.00	.00	.00	.00	110.32	.58
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	15.00	35000.00	9.00	6.00	70.00	65.86	63.69	81.00	29.39	1.00	.00	.00	33.75	107.31	.60
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	18.00	35000.00	9.00	8.00	82.00	71.52	66.77	61.00	29.40	2.00	.00	.00	207.58	123.36	.68

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)							
					(feet)	Temp(F)	(%)	(in Hg)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)							
					Dirac.	V(knts)													
0.	1900.	7.	30.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	21.00	25000.00	10.00	10.00	91.00	75.13	68.51	49.00	29.39	7.00	.00	.00	269.77	146.52	.72	
0.	1900.	7.	30.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	35000.00	9.00	11.00	94.00	77.59	71.25	49.00	29.34	5.00	.00	208.06	145.67	.79	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	3.00	25000.00	9.00	7.00	89.00	76.95	72.34	59.00	29.29	7.00	.00	.00	35.10	143.36	.82	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	6.00	10000.00	15.00	13.00	78.00	73.65	71.88	82.00	29.36	10.00	.00	.00	.00	137.13	.80	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	9.00	5500.00	12.00	7.00	75.00	71.53	70.03	85.00	29.33	10.00	.00	.00	.00	132.60	.75	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	12.00	4000.00	12.00	11.00	75.00	72.01	70.74	87.00	29.36	10.00	.00	.00	.00	132.60	.77	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	15.00	9500.00	13.00	3.00	74.00	71.75	70.78	90.00	29.35	9.00	.00	.00	15.72	127.50	.77	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	18.00	9000.00	11.00	5.00	85.00	76.87	73.81	70.00	29.37	8.00	.00	.00	126.03	140.44	.85	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	21.00	8000.00	9.00	7.00	87.00	77.15	73.43	65.00	29.39	10.00	.00	.00	90.23	151.48	.85	
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	35000.00	9.00	8.00	89.00	79.25	75.81	66.00	29.36	.00	.00	204.08	132.34	.91	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.	3.00	35000.00	10.00	7.00	88.00	78.98	75.79	68.00	29.33	7.00	.00	.00	34.39	141.80	.91	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.	6.00	35000.00	9.00	5.00	81.00	77.28	75.93	85.00	29.36	4.00	.00	.00	.00	124.48	.91	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.	9.00	35000.00	3.00	5.00	77.00	74.90	74.09	91.00	29.38	6.00	.00	.00	.00	123.00	.86	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.	12.00	300.00	4.00	7.00	75.00	74.33	74.06	97.00	29.39	10.00	.00	.00	.00	132.60	.85	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.	15.00	300.00	5.00	5.00	74.00	73.33	73.06	97.00	29.41	10.00	.00	.00	10.33	131.12	.83	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.	18.00	35000.00	3.00	6.00	80.00	75.55	73.84	82.00	29.43	5.00	.00	.00	204.82	124.94	.85	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.	21.00	35000.00	15.00	5.00	87.00	79.29	76.61	72.00	29.42	7.00	.00	.00	268.79	140.26	.94	
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	3500.00	3.00	7.00	90.00	80.14	76.76	66.00	29.38	7.00	.00	150.68	144.93	.94	
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
			(feet)	Dirac.	V(knts)	Temp(F)	Temp(F)	(%) (in Hg)	Cov(.1)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)						
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		3.00	35000.00	1.00	8.00	85.00	78.33	75.95	75.00	29.38	.00	.00	34.17	126.66	.92	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		6.00	35000.00	3.00	6.00	79.00	74.60	72.86	82.00	29.40	.00	.00	.00	.00	118.52	.82
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		9.00	35000.00	15.00	4.00	73.00	71.45	70.78	93.00	29.41	.00	.00	.00	.00	110.82	.77
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		12.00	2300.00	.00	.00	72.00	69.81	68.80	90.00	29.39	10.00	.00	.00	.00	128.20	.72
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		15.00	35000.00	15.00	4.00	70.00	68.51	67.79	93.00	29.41	1.00	.00	.00	30.76	107.31	.69
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		18.00	35000.00	1.00	5.00	80.00	75.55	73.84	82.00	29.42	3.00	.00	.00	206.04	121.68	.85
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		21.00	3500.00	16.00	5.00	87.00	74.57	69.41	57.00	29.40	8.00	.00	.00	169.80	143.56	.74
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	35000.00	16.00	8.00	89.00	74.55	68.47	52.00	29.34	5.00	.00	.00	206.41	137.96	.72
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		3.00	35000.00	2.00	5.00	87.00	73.90	68.33	55.00	29.35	2.00	.00	.00	34.19	130.35	.72
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		6.00	35000.00	14.00	4.00	76.00	71.76	69.93	82.00	29.36	3.00	.00	.00	.00	116.37	.75
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		9.00	35000.00	16.00	5.00	74.00	70.34	68.69	84.00	29.35	.00	.00	.00	.00	112.07	.72
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		12.00	35000.00	.00	.00	70.00	68.51	67.79	93.00	29.34	.00	.00	.00	.00	107.13	.69
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		15.00	4400.00	1.00	4.00	72.00	69.80	68.80	90.00	29.36	9.00	.00	.00	14.28	124.66	.72
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		18.00	35000.00	1.00	5.00	83.00	75.06	71.90	70.00	29.36	.00	.00	.00	199.94	123.89	.80
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		21.00	35000.00	3.00	7.00	89.00	75.25	69.62	54.00	29.35	5.00	.00	.00	276.42	137.96	.75
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.		.00	35000.00	3.00	7.00	92.00	75.18	68.16	47.00	29.31	5.00	.00	.00	205.82	142.55	.71
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.		3.00	35000.00	2.00	5.00	90.00	73.93	66.97	48.00	29.28	.00	.00	.00	32.62	133.79	.69
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.		6.00	35000.00	2.00	3.00	81.00	72.38	68.65	67.00	29.29	.00	.00	.00	.00	121.18	.72
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

5-1-30days9am.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
						Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)	Temp(F)							
					(feet)	Dirac.	V(knts)	Cov(1)	Precip.	Radiat.	Radiat.	Wat. Vap(in Hg)							
0.	1900.	8.	4.	9.00	35000.00	.00	.00	72.00	69.80	68.80	90.00	29.29	.00	.00	.00	.00	109.58	.72	
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	12.00	35000.00	.00	.00	70.00	67.86	66.82	90.00	29.28	.00	.00	.00	.00	107.13	.67	
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	15.00	35000.00	.00	.00	69.00	66.89	65.83	90.00	29.29	.00	.00	.00	28.34	105.92	.65	
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	18.00	35000.00	12.00	6.00	85.00	75.36	71.53	65.00	29.29	2.00	.00	.00	203.83	127.52	.79	
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	21.00	35000.00	16.00	9.00	93.00	74.42	66.36	43.00	29.27	3.00	.00	.00	278.52	140.34	.67	
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	4.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	35000.00	.00	.00	96.00	75.09	66.09	39.00	29.24	.00	.00	.00	201.79	142.79	.67	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	3.00	35000.00	12.00	3.00	93.00	74.81	67.06	44.00	29.22	.00	.00	.00	31.80	138.23	.69	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	6.00	35000.00	13.00	4.00	81.00	72.95	69.54	69.00	29.25	.00	.00	.00	.00	121.18	.74	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	9.00	35000.00	16.00	9.00	79.00	71.97	68.91	72.00	29.27	.00	.00	.00	.00	118.52	.72	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	12.00	35000.00	4.00	10.00	77.00	69.34	65.71	69.00	29.30	.00	.00	.00	.00	115.90	.65	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	15.00	35000.00	5.00	10.00	76.00	66.02	60.64	60.00	29.33	.00	.00	.00	27.34	114.61	.55	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	18.00	35000.00	4.00	11.00	82.00	66.11	57.13	44.00	29.37	2.00	.00	.00	203.05	123.36	.49	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	21.00	35000.00	4.00	10.00	88.00	68.60	58.22	38.00	29.38	2.00	.00	.00	277.02	131.79	.51	
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00





		30dayevap.txt																		
Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.		
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)					(feet)	Dirac.	V(knts)	Temp(F)	Temp(F)	Temp(F) (%)	(in Hg)	Cov.(1)
93822.	1954.	6.	22.	12.00	35000.00	16.00	7.00	67.00	62.16	59.30	77.00	29.38	0.00	0.00	0.00	0.00	103.54	0.52		
93822.	1954.	6.	22.	13.00	35000.00	2.00	3.00	70.00	63.05	59.02	69.00	29.39	0.00	0.00	0.00	0.00	107.13	0.51		
93822.	1954.	6.	22.	14.00	35000.00	1.00	2.00	67.00	62.60	60.04	79.00	29.40	0.00	0.00	0.00	0.00	103.54	0.53		
93822.	1954.	6.	22.	15.00	35000.00	15.00	2.00	64.00	61.44	59.89	87.00	29.42	0.00	0.00	0.00	0.00	100.05	0.53		
93822.	1954.	6.	22.	16.00	35000.00	1.00	2.00	64.00	62.04	60.88	90.00	29.43	0.00	0.00	0.00	0.00	100.05	0.54		
93822.	1954.	6.	22.	17.00	35000.00	1.00	2.00	64.00	62.04	60.88	90.00	29.45	0.00	0.00	0.00	58.78	100.05	0.54		
93822.	1954.	6.	22.	18.00	35000.00	2.00	7.00	69.00	63.56	60.47	75.00	29.45	0.00	0.00	0.00	59.45	105.92	0.54		
93822.	1954.	6.	22.	19.00	35000.00	2.00	9.00	73.00	63.44	57.82	60.00	29.47	0.00	0.00	0.00	184.94	110.82	0.49		
93822.	1954.	6.	22.	20.00	35000.00	3.00	8.00	76.00	64.63	58.11	55.00	29.47	0.00	0.00	0.00	239.35	114.61	0.50		
93822.	1954.	6.	22.	21.00	35000.00	3.00	9.00	78.00	63.91	55.42	47.00	29.48	0.00	0.00	0.00	221.15	117.20	0.46		
93822.	1954.	6.	22.	22.00	35000.00	3.00	7.00	81.00	65.01	55.57	43.00	29.48	0.00	0.00	0.00	307.09	121.18	0.46		
93822.	1954.	6.	22.	23.00	35000.00	2.00	13.00	82.00	65.11	55.09	41.00	29.48	0.00	0.00	0.00	315.77	122.53	0.45		
93822.	1954.	6.	23.	0.00	35000.00	3.00	9.00	82.00	65.11	55.09	41.00	29.47	0.00	0.00	0.00	283.84	122.53	0.45		
93822.	1954.	6.	23.	1.00	35000.00	3.00	10.00	84.00	66.66	56.87	41.00	29.46	0.00	0.00	0.00	278.07	125.27	0.48		
93822.	1954.	6.	23.	2.00	35000.00	3.00	10.00	84.00	64.48	52.32	35.00	29.45	0.00	0.00	0.00	235.27	125.27	0.41		
93822.	1954.	6.	23.	3.00	35000.00	1.00	6.00	84.00	64.11	51.50	34.00	29.45	0.00	0.00	0.00	211.56	125.27	0.40		
93822.	1954.	6.	23.	4.00	35000.00	2.00	8.00	85.00	63.69	49.73	31.00	29.43	0.00	0.00	0.00	117.86	126.66	0.38		
93822.	1954.	6.	23.	5.00	35000.00	2.00	5.00	83.00	64.82	53.80	38.00	29.41	0.00	0.00	0.00	55.51	123.89	0.44		
93822.	1954.	6.	23.	6.00	35000.00	3.00	4.00	84.00	64.84	53.13	36.00	29.41	0.00	0.00	0.00	45.97	125.27	0.43		
93822.	1954.	6.	23.	7.00	35000.00	3.00	4.00	79.00	64.39	55.70	46.00	29.42	0.00	0.00	0.00	0.00	118.52	0.46		
93822.	1954.	6.	23.	8.00	35000.00	3.00	4.00	76.00	62.88	54.79	49.00	29.42	0.00	0.00	0.00	0.00	114.61	0.45		
93822.	1954.	6.	23.	9.00	35000.00	5.00	3.00	74.00	63.21	56.77	56.00	29.42	0.00	0.00	0.00	0.00	112.07	0.48		
93822.	1954.	6.	23.	10.00	35000.00	4.00	4.00	70.00	62.57	58.17	67.00	29.43	0.00	0.00	0.00	0.00	107.13	0.50		
93822.	1954.	6.	23.	11.00	35000.00	6.00	3.00	69.00	62.16	58.06	69.00	29.43	0.00	0.00	0.00	0.00	105.92	0.50		
93822.	1954.	6.	23.	12.00	35000.00	5.00	4.00	68.00	61.49	57.52	70.00	29.42	0.00	0.00	0.00	0.00	104.72	0.49		
93822.	1954.	6.	23.	13.00	35000.00	6.00	3.00	66.00	60.57	57.19	74.00	29.42	0.00	0.00	0.00	0.00	102.37	0.48		
93822.	1954.	6.	23.	14.00	35000.00	7.00	6.00	67.00	60.13	55.74	68.00	29.41	0.00	0.00	0.00	0.00	103.54	0.46		
93822.	1954.	6.	23.	15.00	35000.00	8.00	8.00	69.00	59.98	54.08	60.00	29.41	0.00	0.00	0.00	0.00	105.92	0.43		
93822.	1954.	6.	23.	16.00	35000.00	8.00	9.00	69.00	59.98	54.08	60.00	29.42	1.00	0.00	0.00	0.00	106.10	0.43		
93822.	1954.	6.	23.	17.00	35000.00	8.00	5.00	68.00	59.60	54.06	62.00	29.42	1.00	0.00	0.00	57.34	104.90	0.43		
93822.	1954.	6.	23.	18.00	35000.00	9.00	10.00	71.00	61.45	55.47	59.00	29.43	0.00	0.00	0.00	59.27	108.35	0.45		
93822.	1954.	6.	23.	19.00	35000.00	8.00	11.00	76.00	64.62	58.11	55.00	29.44	0.00	0.00	0.00	183.56	114.61	0.50		
93822.	1954.	6.	23.	20.00	35000.00	9.00	9.00	80.00	67.08	60.18	52.00	29.45	5.00	0.00	0.00	225.39	124.94	0.54		
93822.	1954.	6.	23.	21.00	35000.00	10.00	8.00	83.00	68.59	61.18	49.00	29.44	5.00	0.00	0.00	224.74	129.16	0.56		
93822.	1954.	6.	23.	22.00	35000.00	12.00	5.00	87.00	68.60	58.83	40.00	29.42	9.00	0.00	0.00	276.06	147.30	0.52		
93822.	1954.	6.	23.	23.00	35000.00	9.00	6.00	90.00	67.67	54.95	32.00	29.40	7.00	0.00	0.00	288.93	144.93	0.46		
93822.	1954.	6.	24.	0.00	35000.00	8.00	7.00	91.00	67.96	54.90	31.00	29.38	8.00	0.00	0.00	272.68	149.97	0.46		
93822.	1954.	6.	24.	1.00	35000.00	8.00	7.00	93.00	68.48	54.67	29.00	29.36	6.00	0.00	0.00	256.41	146.69	0.45		
93822.	1954.	6.	24.	2.00	35000.00	9.00	10.00	94.00	69.63	56.52	30.00	29.34	3.00	0.00	0.00	223.15	141.87	0.49		
93822.	1954.	6.	24.	3.00	35000.00	9.00	12.00	94.00	68.71	54.50	28.00	29.31	3.00	0.00	0.00	217.28	141.87	0.45		
93822.	1954.	6.	24.	4.00	35000.00	10.00	11.00	94.00	68.70	54.50	28.00	29.30	3.00	0.00	0.00	111.62	141.87	0.45		
93822.	1954.	6.	24.	5.00	35000.00	10.00	10.00	93.00	67.55	52.60	27.00	29.30	6.00	0.00	0.00	50.57	146.69	0.42		
93822.	1954.	6.	24.	6.00	35000.00	10.00	6.00	90.00	68.06	55.86	33.00	29.30	6.00	0.00	0.00	46.26	141.98	0.47		
93822.	1954.	6.	24.	7.00	35000.00	10.00	6.00	86.00	68.18	58.67	41.00	29.31	7.00	0.00	0.00	0.00	138.72	0.52		
93822.	1954.	6.	24.	8.00	35000.00	10.00	7.00	84.00	66.63	56.88	41.00	29.33	6.00	0.00	0.00	0.00	132.93	0.48		
93822.	1954.	6.	24.	9.00	35000.00	9.00	9.00	83.00	65.86	55.99	41.00	29.34	3.00	0.00	0.00	0.00	125.79	0.47		
93822.	1954.	6.	24.	10.00	35000.00	9.00	10.00	81.00	65.98	57.52	46.00	29.34	0.00	0.00	0.00	0.00	121.18	0.49		
93822.	1954.	6.	24.	11.00	35000.00	10.00	13.00	79.00	65.93	58.69	51.00	29.34	0.00	0.00	0.00	0.00	118.52	0.51		
93822.	1954.	6.	24.	12.00	35000.00	10.00	8.00	75.00	64.88	59.21	59.00	29.33	0.00	0.00	0.00	0.00	113.34	0.52		
93822.	1954.	6.	24.	13.00	35000.00	10.00	9.00	73.00	64.73	60.14	65.00	29.33	1.00	0.00	0.00	0.00	111.01	0.54		
93822.	1954.	6.	24.	14.00	35000.00	10.00	10.00	72.00	64.85	60.93	69.00	29.32	0.00	0.00	0.00	0.00	109.58	0.55		
93822.	1954.	6.	24.	15.00	35000.00	10.00	10.00	71.00	63.45	59.12	67.00	29.32	0.00	0.00	0.00	0.00	108.35	0.52		
93822.	1954.	6.	24.	16.00	35000.00	10.00	8.00	70.00	63.29	59.43	70.00	29.34	2.00	0.00	0.00	0.00	107.86	0.52		
93822.	1954.	6.	24.	17.00	35000.00	10.00	10.00	72.00	63.84	59.19	65.00	29.35	1.00	0.00	0.00	56.46	109.76	0.52		





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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud (feet)	Freezing Direc.	Rain V(knts)	Solar Temp(F)	Atmos. Temp(F)	Partial Press. (in Hg)
Precip.					Radiat.	Radiat.	Wat. Vap.(in Hg)											
93822.	1954.	6.	27.	0.00	35000.00	3.00	8.00	90.00	76.10	70.55	54.00	29.39	5.00	0.00	0.00	288.41	139.48	0.77
93822.	1954.	6.	27.	1.00	35000.00	3.00	6.00	91.00	75.50	69.12	50.00	29.38	3.00	0.00	0.00	266.00	137.33	0.74
93822.	1954.	6.	27.	2.00	35000.00	2.00	9.00	92.00	75.57	68.79	48.00	29.36	1.00	0.00	0.00	229.17	136.97	0.73
93822.	1954.	6.	27.	3.00	35000.00	4.00	12.00	93.00	76.00	69.07	47.00	29.35	1.00	0.00	0.00	214.84	138.46	0.74
93822.	1954.	6.	27.	4.00	35000.00	3.00	12.00	92.00	73.64	65.46	43.00	29.35	1.00	0.00	0.00	114.93	136.97	0.65
93822.	1954.	6.	27.	5.00	30000.00	5.00	9.00	89.00	71.65	63.44	44.00	29.36	6.00	0.00	0.00	51.56	140.44	0.61
93822.	1954.	6.	27.	6.00	25000.00	4.00	8.00	86.00	70.33	62.69	47.00	29.36	9.00	0.00	0.00	43.16	145.69	0.59
93822.	1954.	6.	27.	7.00	25000.00	3.00	10.00	84.00	66.99	57.58	42.00	29.36	9.00	0.00	0.00	0.00	142.52	0.50
93822.	1954.	6.	27.	8.00	25000.00	3.00	10.00	83.00	65.17	54.54	39.00	29.38	9.00	0.00	0.00	0.00	140.95	0.45
93822.	1954.	6.	27.	9.00	35000.00	5.00	18.00	78.00	61.68	50.83	40.00	29.39	2.00	0.00	0.00	0.00	118.00	0.39
93822.	1954.	6.	27.	10.00	35000.00	4.00	14.00	75.00	59.08	47.47	39.00	29.39	1.00	0.00	0.00	0.00	113.53	0.34
93822.	1954.	6.	27.	11.00	35000.00	4.00	13.00	72.00	57.67	46.86	42.00	29.42	0.00	0.00	0.00	0.00	109.58	0.33
93822.	1954.	6.	27.	12.00	35000.00	5.00	16.00	70.00	55.84	44.43	41.00	29.42	0.00	0.00	0.00	0.00	107.13	0.31
93822.	1954.	6.	27.	13.00	35000.00	5.00	9.00	67.00	54.04	43.06	43.00	29.44	0.00	0.00	0.00	0.00	103.54	0.29
93822.	1954.	6.	27.	14.00	35000.00	4.00	8.00	66.00	53.76	43.39	45.00	29.44	0.00	0.00	0.00	0.00	102.37	0.29
93822.	1954.	6.	27.	15.00	35000.00	4.00	9.00	64.00	52.17	41.60	45.00	29.43	1.00	0.00	0.00	0.00	100.22	0.27
93822.	1954.	6.	27.	16.00	35000.00	4.00	10.00	63.00	52.31	42.98	49.00	29.44	3.00	0.00	0.00	0.00	100.43	0.29
93822.	1954.	6.	27.	17.00	35000.00	4.00	6.00	62.00	52.85	45.18	55.00	29.45	6.00	0.00	0.00	53.97	103.77	0.31
93822.	1954.	6.	27.	18.00	35000.00	4.00	7.00	63.00	53.23	45.09	53.00	29.45	3.00	0.00	0.00	59.82	100.43	0.31
93822.	1954.	6.	27.	19.00	35000.00	6.00	5.00	69.00	56.67	47.27	47.00	29.46	3.00	0.00	0.00	179.36	107.54	0.34
93822.	1954.	6.	27.	20.00	35000.00	6.00	9.00	73.00	58.45	47.75	42.00	29.46	3.00	0.00	0.00	232.32	112.51	0.35
93822.	1954.	6.	27.	21.00	35000.00	7.00	10.00	78.00	60.39	47.87	36.00	29.45	3.00	0.00	0.00	226.13	119.00	0.35
93822.	1954.	6.	27.	22.00	35000.00	5.00	3.00	83.00	63.02	49.78	33.00	29.45	3.00	0.00	0.00	296.19	125.79	0.38
93822.	1954.	6.	27.	23.00	35000.00	7.00	7.00	87.00	65.12	51.45	31.00	29.44	1.00	0.00	0.00	309.30	129.69	0.40
93822.	1954.	6.	28.	0.00	35000.00	6.00	6.00	89.00	66.54	53.17	31.00	29.42	2.00	0.00	0.00	290.14	133.24	0.43
93822.	1954.	6.	28.	1.00	35000.00	5.00	4.00	92.00	68.67	55.76	31.00	29.40	2.00	0.00	0.00	268.15	137.67	0.47
93822.	1954.	6.	28.	2.00	35000.00	5.00	6.00	93.00	69.38	56.62	31.00	29.38	1.00	0.00	0.00	228.66	138.46	0.49
93822.	1954.	6.	28.	3.00	35000.00	4.00	7.00	95.00	71.26	59.28	32.00	29.35	3.00	0.00	0.00	217.48	143.42	0.53
93822.	1954.	6.	28.	4.00	35000.00	7.00	6.00	95.00	70.81	58.35	31.00	29.35	3.00	0.00	0.00	111.66	143.42	0.52
93822.	1954.	6.	28.	5.00	35000.00	5.00	7.00	94.00	70.98	59.33	33.00	29.34	1.00	0.00	0.00	53.37	139.97	0.53
93822.	1954.	6.	28.	6.00	35000.00	6.00	6.00	92.00	69.10	56.69	32.00	29.35	1.00	0.00	0.00	47.08	136.97	0.49
93822.	1954.	6.	28.	7.00	25000.00	5.00	6.00	86.00	67.08	56.45	38.00	29.35	6.00	0.00	0.00	0.00	135.89	0.48
93822.	1954.	6.	28.	8.00	25000.00	5.00	6.00	83.00	65.16	54.54	39.00	29.37	7.00	0.00	0.00	0.00	134.21	0.45
93822.	1954.	6.	28.	9.00	25000.00	5.00	6.00	82.00	63.70	52.15	37.00	29.37	7.00	0.00	0.00	0.00	132.74	0.41
93822.	1954.	6.	28.	10.00	35000.00	7.00	5.00	81.00	62.61	50.50	36.00	29.38	5.00	0.00	0.00	0.00	126.33	0.39
93822.	1954.	6.	28.	11.00	35000.00	7.00	10.00	79.00	62.78	52.42	41.00	29.38	0.00	0.00	0.00	0.00	118.52	0.41
93822.	1954.	6.	28.	12.00	35000.00	7.00	10.00	80.00	62.20	50.40	37.00	29.37	0.00	0.00	0.00	0.00	119.84	0.38
93822.	1954.	6.	28.	13.00	35000.00	7.00	7.00	78.00	61.03	49.39	38.00	29.37	0.00	0.00	0.00	0.00	117.20	0.37
93822.	1954.	6.	28.	14.00	35000.00	8.00	7.00	76.00	60.77	50.42	42.00	29.37	0.00	0.00	0.00	0.00	114.61	0.38
93822.	1954.	6.	28.	15.00	12000.00	8.00	8.00	75.00	60.59	50.83	44.00	29.38	8.00	0.00	0.00	0.00	125.67	0.39
93822.	1954.	6.	28.	16.00	35000.00	8.00	9.00	75.00	60.89	51.47	45.00	29.38	3.00	0.00	0.00	0.00	115.07	0.40
93822.	1954.	6.	28.	17.00	35000.00	8.00	10.00	75.00	60.89	51.47	45.00	29.40	1.00	0.00	0.00	54.59	113.53	0.40
93822.	1954.	6.	28.	18.00	35000.00	8.00	10.00	76.00	61.08	51.09	43.00	29.40	0.00	0.00	0.00	57.94	114.61	0.39
93822.	1954.	6.	28.	19.00	35000.00	9.00	11.00	79.00	63.43	53.77	43.00	29.41	1.00	0.00	0.00	179.04	118.72	0.43
93822.	1954.	6.	28.	20.00	35000.00	9.00	10.00	84.00	65.21	53.91	37.00	29.41	1.00	0.00	0.00	231.66	125.48	0.44
93822.	1954.	6.	28.	21.00	35000.00	9.00	10.00	88.00	68.60	58.22	38.00	29.40	1.00	0.00	0.00	223.19	131.12	0.51
93822.	1954.	6.	28.	22.00	35000.00	9.00	9.00	92.00	72.45	63.29	40.00	29.40	3.00	0.00	0.00	290.50	138.83	0.61
93822.	1954.	6.	28.	23.00	6500.00	10.00	21.00	89.00	69.36	59.10	38.00	29.40	9.00	0.00	0.00	283.05	150.56	0.53
93822.	1954.	6.	29.	0.00	6500.00	9.00	10.00	83.00	70.84	65.15	56.00	29.38	7.00	1000.00	0.00	209.83	134.21	0.64
93822.	1954.	6.	29.	1.00	35000.00	9.00	11.00	90.00	72.44	64.35	44.00	29.36	7.00	0.00	0.00	255.65	144.93	0.63
93822.	1954.	6.	29.	2.00	6000.00	9.00	9.00	92.00	74.03	66.16	44.00	29.34	8.00	0.00	0.00	213.06	151.61	0.67
93822.	1954.	6.	29.	3.00	6000.00	16.00	16.00	77.00	70.93	68.21	75.00	29.42	10.00	1023.00	0.00	69.92	135.61	0.71
93822.	1954.	6.	29.	4.00	5000.00	1.00	9.00	72.00	70.69	70.11	94.00	29.38	10.00	1024.00	0.00	103.96	128.20	0.75
93822.	1954.	6.	29.	5.00	5000.00	8.00	7.00	74.00	71.98	71.11	91.00	29.35	10.00	2300.00	0.00	48.90	131.12	0.78

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud (feet)	Freezing Direc.	Rain V(knts)	Solar Temp(F)	Atmos. Temp(F)	Partial (in Hg)	Press. Cov.(I)
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)											
93822.	1954.	6.	29.	6.00	5000.00	5.00	3.00	74.00	69.87	67.97	82.00	29.37	10.00	2300.00	0.00	15.33	131.12	0.70	
93822.	1954.	6.	29.	7.00	5000.00	9.00	3.00	73.00	70.09	68.77	87.00	29.37	8.00	0.00	0.00	0.00	122.87	0.72	
93822.	1954.	6.	29.	8.00	5000.00	10.00	10.00	72.00	68.21	66.37	83.00	29.38	9.00	0.00	0.00	0.00	124.66	0.66	
93822.	1954.	6.	29.	9.00	35000.00	10.00	9.00	71.00	67.26	65.39	83.00	29.38	2.00	0.00	0.00	0.00	109.08	0.64	
93822.	1954.	6.	29.	10.00	35000.00	10.00	5.00	71.00	67.03	65.04	82.00	29.37	3.00	0.00	0.00	0.00	110.00	0.63	
93822.	1954.	6.	29.	11.00	5500.00	12.00	14.00	71.00	67.94	66.45	86.00	29.41	6.00	0.00	0.00	0.00	114.98	0.66	
93822.	1954.	6.	29.	12.00	35000.00	11.00	13.00	72.00	67.98	66.01	82.00	29.39	2.00	0.00	0.00	0.00	110.32	0.65	
93822.	1954.	6.	29.	13.00	6000.00	1.00	17.00	72.00	67.98	66.01	82.00	29.41	6.00	1000.00	0.00	0.00	116.28	0.65	
93822.	1954.	6.	29.	14.00	10000.00	15.00	13.00	71.00	68.17	66.79	87.00	29.42	6.00	0.00	0.00	0.00	114.98	0.67	
93822.	1954.	6.	29.	15.00	11000.00	13.00	7.00	72.00	68.67	67.08	85.00	29.40	9.00	0.00	0.00	0.00	124.66	0.68	
93822.	1954.	6.	29.	16.00	35000.00	12.00	10.00	72.00	68.67	67.08	85.00	29.36	7.00	0.00	0.00	0.00	118.70	0.68	
93822.	1954.	6.	29.	17.00	35000.00	11.00	8.00	71.00	68.61	67.47	89.00	29.36	9.00	0.00	0.00	50.37	123.27	0.69	
93822.	1954.	6.	29.	18.00	9000.00	10.00	10.00	73.00	69.86	68.42	86.00	29.37	8.00	0.00	0.00	35.91	122.87	0.71	
93822.	1954.	6.	29.	19.00	9000.00	13.00	4.00	76.00	71.76	69.93	82.00	29.39	8.00	0.00	0.00	167.12	127.08	0.75	
93822.	1954.	6.	29.	20.00	9000.00	3.00	5.00	77.00	70.67	67.80	74.00	29.43	8.00	0.00	0.00	218.12	128.51	0.70	
93822.	1954.	6.	29.	21.00	35000.00	15.00	4.00	82.00	71.82	67.26	62.00	29.43	5.00	0.00	0.00	223.49	127.74	0.69	
93822.	1954.	6.	29.	22.00	35000.00	2.00	4.00	82.00	71.52	66.77	61.00	29.44	4.00	0.00	0.00	293.40	125.86	0.68	
93822.	1954.	6.	29.	23.00	9000.00	14.00	3.00	84.00	72.64	67.64	59.00	29.44	9.00	0.00	0.00	285.86	142.52	0.70	
93822.	1954.	6.	30.	0.00	15000.00	14.00	5.00	86.00	72.40	66.28	53.00	29.43	8.00	0.00	0.00	204.91	141.99	0.67	
93822.	1954.	6.	30.	1.00	30000.00	9.00	3.00	87.00	73.91	68.33	55.00	29.42	9.00	0.00	0.00	251.77	147.30	0.72	
93822.	1954.	6.	30.	2.00	15000.00	12.00	14.00	87.00	75.56	70.97	60.00	29.43	8.00	0.00	0.00	215.55	143.56	0.78	
93822.	1954.	6.	30.	3.00	35000.00	12.00	13.00	88.00	75.10	69.80	56.00	29.43	5.00	0.00	0.00	215.44	136.46	0.75	
93822.	1954.	6.	30.	4.00	35000.00	12.00	10.00	88.00	75.43	70.34	57.00	29.42	1.00	0.00	0.00	116.36	131.12	0.77	
93822.	1954.	6.	30.	5.00	35000.00	14.00	9.00	87.00	74.91	69.94	58.00	29.41	0.00	0.00	0.00	55.26	129.47	0.75	
93822.	1954.	6.	30.	6.00	35000.00	15.00	4.00	87.00	75.88	71.48	61.00	29.41	0.00	0.00	0.00	46.48	129.47	0.79	
93822.	1954.	6.	30.	7.00	35000.00	16.00	4.00	84.00	75.08	71.51	67.00	29.41	3.00	0.00	0.00	0.00	127.18	0.79	
93822.	1954.	6.	30.	8.00	35000.00	16.00	4.00	81.00	74.08	71.25	73.00	29.43	5.00	0.00	0.00	0.00	126.33	0.78	
93822.	1954.	6.	30.	9.00	35000.00	16.00	5.00	79.00	74.09	72.11	80.00	29.43	3.00	0.00	0.00	0.00	120.33	0.80	
93822.	1954.	6.	30.	10.00	35000.00	16.00	6.00	79.00	72.51	69.73	74.00	29.44	3.00	0.00	0.00	0.00	120.33	0.74	
93822.	1954.	6.	30.	11.00	35000.00	1.00	5.00	77.00	70.67	67.80	74.00	29.45	0.00	0.00	0.00	0.00	115.90	0.70	
93822.	1954.	6.	30.	12.00	35000.00	1.00	4.00	76.00	70.27	67.64	76.00	29.46	2.00	0.00	0.00	0.00	115.39	0.69	
93822.	1954.	6.	30.	13.00	7000.00	3.00	3.00	73.00	69.39	67.71	84.00	29.46	6.00	0.00	0.00	0.00	117.60	0.69	
93822.	1954.	6.	30.	14.00	35000.00	3.00	4.00	74.00	69.15	66.85	79.00	29.47	1.00	0.00	0.00	0.00	112.26	0.67	
93822.	1954.	6.	30.	15.00	35000.00	3.00	5.00	72.00	68.21	66.37	83.00	29.49	4.00	0.00	0.00	0.00	112.56	0.66	
93822.	1954.	6.	30.	16.00	35000.00	4.00	3.00	71.00	68.17	66.79	87.00	29.50	5.00	0.00	0.00	0.00	112.95	0.67	
93822.	1954.	6.	30.	17.00	35000.00	5.00	3.00	70.00	67.87	66.82	90.00	29.51	5.00	0.00	0.00	52.30	111.68	0.67	
93822.	1954.	6.	30.	18.00	25000.00	4.00	6.00	73.00	67.98	65.50	78.00	29.53	6.00	0.00	0.00	57.44	117.60	0.64	
93822.	1954.	6.	30.	19.00	35000.00	5.00	10.00	78.00	67.77	62.51	60.00	29.53	7.00	0.00	0.00	167.82	126.97	0.58	
93822.	1954.	6.	30.	20.00	35000.00	4.00	9.00	81.00	67.92	61.10	52.00	29.54	5.00	0.00	0.00	223.07	126.33	0.56	
93822.	1954.	6.	30.	21.00	35000.00	5.00	6.00	83.00	67.61	59.33	46.00	29.55	4.00	0.00	0.00	224.90	127.26	0.53	
93822.	1954.	6.	30.	22.00	35000.00	2.00	7.00	86.00	68.59	59.37	42.00	29.56	2.00	0.00	0.00	296.88	128.93	0.53	
93822.	1954.	6.	30.	23.00	35000.00	4.00	6.00	88.00	68.24	57.43	37.00	29.54	6.00	0.00	0.00	292.72	138.91	0.50	
93822.	1954.	7.	1.	0.00	35000.00	4.00	4.00	90.00	68.94	57.57	35.00	29.53	9.00	0.00	0.00	263.72	152.21	0.50	
93822.	1954.	7.	1.	1.00	35000.00	5.00	6.00	90.00	69.34	58.39	36.00	29.52	6.00	0.00	0.00	258.30	141.98	0.51	
93822.	1954.	7.	1.	2.00	35000.00	7.00	9.00	92.00	70.83	60.15	36.00	29.50	4.00	0.00	0.00	222.27	140.45	0.55	
93822.	1954.	7.	1.	3.00	35000.00	7.00	5.00	93.00	73.24	64.18	40.00	29.47	4.00	0.00	0.00	217.07	141.99	0.63	
93822.	1954.	7.	1.	4.00	35000.00	6.00	4.00	91.00	70.89	60.87	38.00	29.46	8.00	0.00	0.00	107.19	149.97	0.56	
93822.	1954.	7.	1.	5.00	25000.00	1.00	5.00	91.00	70.07	59.27	36.00	29.46	9.00	0.00	0.00	49.55	153.88	0.53	
93822.	1954.	7.	1.	6.00	4500.00	9.00	24.00	82.00	70.92	65.77	59.00	29.48	10.00	1000.00	0.00	15.34	143.36	0.65	
93822.	1954.	7.	1.	7.00	4500.00	11.00	9.00	79.00	68.91	63.95	61.00	29.48	9.00	1000.00	0.00	0.00	134.84	0.61	
93822.	1954.	7.	1.	8.00	4500.00	13.00	3.00	78.00	69.17	64.88	65.00	29.49	9.00	0.00	0.00	0.00	133.34	0.63	
93822.	1954.	7.	1.	9.00	35000.00	8.00	7.00	79.00	70.33	66.29	66.00	29.50	2.00	0.00	0.00	0.00	119.32	0.66	
93822.	1954.	7.	1.	10.00	35000.00	11.00	5.00	77.00	69.89	66.56	71.00	29.51	4.00	0.00	0.00	0.00	119.05	0.67	
93822.	1954.	7.	1.	11.00	35000.00	9.00	10.00	75.00	70.09	67.83	79.00	29.50	3.00	0.00	0.00	0.00	115.07	0.70	

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.		
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)					(feet)	Dirac.	V(knts)	Temp(F)	Temp(F)	Temp(F)	(%)	(in Hg)	Cov(1)
93822.	1954.	7.	1.	12.00	35000.00	9.00	9.00	76.00	68.98	65.60	71.00	29.48	0.00	0.00	0.00	0.00	114.61	0.65			
93822.	1954.	7.	1.	13.00	35000.00	10.00	10.00	74.00	68.17	65.30	75.00	29.47	0.00	0.00	0.00	0.00	112.07	0.64			
93822.	1954.	7.	1.	14.00	35000.00	10.00	8.00	73.00	68.21	65.88	79.00	29.47	1.00	0.00	0.00	0.00	111.01	0.65			
93822.	1954.	7.	1.	15.00	35000.00	15.00	4.00	72.00	68.21	66.37	83.00	29.47	3.00	0.00	0.00	0.00	111.25	0.66			
93822.	1954.	7.	1.	16.00	35000.00	7.00	5.00	71.00	67.72	66.10	85.00	29.47	3.00	0.00	0.00	0.00	110.00	0.65			
93822.	1954.	7.	1.	17.00	35000.00	7.00	5.00	72.00	68.21	66.37	83.00	29.47	2.00	0.00	0.00	53.23	110.32	0.66			
93822.	1954.	7.	1.	18.00	35000.00	7.00	5.00	75.00	70.09	67.83	79.00	29.49	1.00	0.00	0.00	57.65	113.53	0.70			
93822.	1954.	7.	1.	19.00	25000.00	8.00	10.00	79.00	71.44	68.05	70.00	29.50	8.00	0.00	0.00	165.30	131.41	0.70			
93822.	1954.	7.	1.	20.00	35000.00	9.00	12.00	80.00	71.22	67.24	66.00	29.50	5.00	0.00	0.00	223.22	124.94	0.69			
93822.	1954.	7.	1.	21.00	12000.00	9.00	15.00	85.00	74.14	69.60	61.00	29.49	8.00	0.00	0.00	148.00	140.44	0.74			
93822.	1954.	7.	1.	22.00	5000.00	13.00	17.00	87.00	74.92	69.94	58.00	29.50	10.00	0.00	0.00	256.82	151.48	0.75			
93822.	1954.	7.	1.	23.00	14000.00	15.00	16.00	85.00	73.83	69.09	60.00	29.49	10.00	0.00	0.00	266.23	148.19	0.73			
93822.	1954.	7.	2.	0.00	14000.00	13.00	6.00	86.00	73.73	68.47	57.00	29.48	10.00	1000.00	0.00	117.49	149.83	0.72			
93822.	1954.	7.	2.	1.00	25000.00	6.00	5.00	85.00	76.88	73.81	70.00	29.45	9.00	0.00	0.00	252.75	144.10	0.85			
93822.	1954.	7.	2.	2.00	25000.00	9.00	10.00	88.00	75.43	70.34	57.00	29.43	7.00	0.00	0.00	217.36	141.80	0.77			
93822.	1954.	7.	2.	3.00	25000.00	10.00	14.00	88.00	75.43	70.34	57.00	29.41	9.00	0.00	0.00	197.26	148.92	0.77			
93822.	1954.	7.	2.	4.00	12000.00	9.00	13.00	87.00	74.90	69.94	58.00	29.39	9.00	0.00	0.00	107.21	147.30	0.75			
93822.	1954.	7.	2.	5.00	11000.00	9.00	14.00	87.00	75.23	70.46	59.00	29.40	10.00	0.00	0.00	46.89	151.48	0.77			
93822.	1954.	7.	2.	6.00	11000.00	9.00	14.00	86.00	74.69	70.03	60.00	29.40	10.00	0.00	0.00	19.29	149.83	0.76			
93822.	1954.	7.	2.	7.00	35000.00	9.00	9.00	84.00	74.78	71.05	66.00	29.39	5.00	0.00	0.00	0.00	130.59	0.78			
93822.	1954.	7.	2.	8.00	30000.00	9.00	10.00	82.00	72.70	68.68	65.00	29.40	10.00	0.00	0.00	0.00	143.36	0.72			
93822.	1954.	7.	2.	9.00	16000.00	9.00	8.00	81.00	72.68	69.10	68.00	29.40	10.00	0.00	0.00	0.00	141.78	0.73			
93822.	1954.	7.	2.	10.00	16000.00	9.00	9.00	80.00	71.50	67.69	67.00	29.40	10.00	0.00	0.00	0.00	140.22	0.70			
93822.	1954.	7.	2.	11.00	16000.00	9.00	6.00	79.00	71.16	67.62	69.00	29.40	10.00	0.00	0.00	0.00	138.66	0.69			
93822.	1954.	7.	2.	12.00	9000.00	9.00	6.00	78.00	70.79	67.52	71.00	29.40	10.00	2300.00	0.00	0.00	0.00	137.13	0.69		
93822.	1954.	7.	2.	13.00	12000.00	9.00	5.00	77.00	70.67	67.80	74.00	29.38	10.00	0.00	0.00	0.00	135.61	0.70			
93822.	1954.	7.	2.	14.00	12000.00	9.00	3.00	77.00	70.67	67.80	74.00	29.38	10.00	0.00	0.00	0.00	135.61	0.70			
93822.	1954.	7.	2.	15.00	9000.00	9.00	8.00	76.00	70.01	67.24	75.00	29.37	8.00	0.00	0.00	0.00	127.08	0.68			
93822.	1954.	7.	2.	16.00	9000.00	9.00	10.00	75.00	69.83	67.44	78.00	29.38	8.00	0.00	0.00	0.00	125.67	0.69			
93822.	1954.	7.	2.	17.00	7000.00	10.00	8.00	75.00	69.83	67.44	78.00	29.37	8.00	1000.00	0.00	49.15	125.67	0.69			
93822.	1954.	7.	2.	18.00	5000.00	14.00	8.00	74.00	71.05	69.75	87.00	29.40	10.00	1023.00	0.00	18.62	131.12	0.74			
93822.	1954.	7.	2.	19.00	6000.00	6.00	6.00	74.00	71.52	70.44	89.00	29.39	9.00	0.00	0.00	164.90	127.50	0.76			
93822.	1954.	7.	2.	20.00	5000.00	4.00	7.00	80.00	72.89	69.87	72.00	29.40	6.00	0.00	0.00	220.58	127.18	0.75			
93822.	1954.	7.	2.	21.00	25000.00	1.00	4.00	84.00	74.18	70.11	64.00	29.40	8.00	0.00	0.00	210.36	138.90	0.76			
93822.	1954.	7.	2.	22.00	35000.00	3.00	5.00	86.00	74.69	70.03	60.00	29.40	8.00	0.00	0.00	278.38	141.99	0.76			
93822.	1954.	7.	2.	23.00	35000.00	15.00	6.00	91.00	75.13	68.51	49.00	29.39	9.00	0.00	0.00	281.35	153.88	0.72			
93822.	1954.	7.	3.	0.00	35000.00	8.00	5.00	93.00	74.83	67.06	44.00	29.37	5.00	0.00	0.00	287.78	144.10	0.69			
93822.	1954.	7.	3.	1.00	35000.00	9.00	14.00	95.00	76.01	68.17	43.00	29.34	2.00	0.00	0.00	266.14	142.22	0.72			
93822.	1954.	7.	3.	2.00	35000.00	11.00	12.00	96.00	75.96	67.61	41.00	29.32	1.00	0.00	0.00	226.94	143.03	0.70			
93822.	1954.	7.	3.	3.00	35000.00	12.00	10.00	98.00	76.64	67.87	39.00	29.30	5.00	0.00	0.00	215.44	152.10	0.71			
93822.	1954.	7.	3.	4.00	35000.00	11.00	9.00	97.00	77.58	69.96	43.00	29.28	2.00	0.00	0.00	112.06	145.32	0.76			
93822.	1954.	7.	3.	5.00	6000.00	13.00	9.00	97.00	76.73	68.50	41.00	29.27	6.00	0.00	0.00	49.93	153.17	0.73			
93822.	1954.	7.	3.	6.00	6000.00	3.00	4.00	94.00	77.97	71.88	50.00	29.27	7.00	0.00	0.00	34.39	151.37	0.81			
93822.	1954.	7.	3.	7.00	5000.00	1.00	12.00	76.00	69.75	66.84	74.00	29.32	9.00	1023.00	0.00	0.00	130.40	0.67			
93822.	1954.	7.	3.	8.00	5000.00	16.00	23.00	77.00	70.67	67.80	74.00	29.37	10.00	1025.00	0.00	0.00	135.61	0.70			
93822.	1954.	7.	3.	9.00	5000.00	9.00	10.00	74.00	69.14	66.85	79.00	29.34	10.00	1023.00	0.00	0.00	131.12	0.67			
93822.	1954.	7.	3.	10.00	6500.00	10.00	10.00	77.00	69.08	65.28	68.00	29.31	10.00	1000.00	0.00	0.00	135.61	0.64			
93822.	1954.	7.	3.	11.00	9500.00	11.00	7.00	77.00	70.14	66.98	72.00	29.31	10.00	0.00	0.00	0.00	135.61	0.68			
93822.	1954.	7.	3.	12.00	35000.00	2.00	5.00	78.00	71.85	69.18	75.00	29.32	5.00	0.00	0.00	0.00	122.18	0.73			
93822.	1954.	7.	3.	13.00	35000.00	11.00	4.00	75.00	70.81	68.95	82.00	29.32	5.00	0.00	0.00	0.00	118.15	0.72			
93822.	1954.	7.	3.	14.00	35000.00	11.00	5.00	75.00	70.81	68.95	82.00	29.33	5.00	0.00	0.00	0.00	118.15	0.72			
93822.	1954.	7.	3.	15.00	35000.00	11.00	5.00	75.00	70.57	68.58	81.00	29.32	5.00	1000.00	0.00	0.00	118.15	0.71			
93822.	1954.	7.	3.	16.00	5000.00	11.00	7.00	74.00	69.87	67.97	82.00	29.32	6.00	0.00	0.00	0.00	118.93	0.70			
93822.	1954.	7.	3.	17.00	35000.00	11.00	6.00	74.00	69.63	67.60	81.00	29.34	4.00	0.00	0.00	50.98	115.12	0.69			

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.	
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)					(feet)	Direc.	V(knts)	Temp(F)	Temp(F)	Temp(F) (%)	(in Hg)	Cov(I)
93822.	1954.	7.	3.	18.00	35000.00	5.00	4.00	75.00	71.54	70.03	85.00	29.35	8.00	0.00	0.00	53.77	125.67	0.75		
93822.	1954.	7.	3.	19.00	35000.00	8.00	4.00	79.00	71.97	68.91	72.00	29.35	6.00	0.00	0.00	168.15	125.77	0.72		
93822.	1954.	7.	3.	20.00	35000.00	11.00	12.00	83.00	75.06	71.90	70.00	29.36	8.00	0.00	0.00	214.20	137.37	0.80		
93822.	1954.	7.	3.	21.00	35000.00	11.00	11.00	85.00	75.37	71.53	65.00	29.36	7.00	0.00	0.00	215.36	137.21	0.79		
93822.	1954.	7.	3.	22.00	35000.00	13.00	10.00	87.00	75.55	70.97	60.00	29.36	6.00	0.00	0.00	283.64	137.39	0.78		
93822.	1954.	7.	3.	23.00	35000.00	12.00	11.00	90.00	77.48	72.75	58.00	29.35	2.00	0.00	0.00	303.50	134.70	0.83		
93822.	1954.	7.	4.	0.00	35000.00	13.00	10.00	92.00	77.42	71.83	53.00	29.34	0.00	0.00	0.00	282.86	136.74	0.81		
93822.	1954.	7.	4.	1.00	35000.00	11.00	8.00	94.00	77.97	71.88	50.00	29.32	0.00	0.00	0.00	272.14	139.74	0.81		
93822.	1954.	7.	4.	2.00	35000.00	14.00	6.00	96.00	78.03	71.14	46.00	29.31	0.00	0.00	0.00	229.16	142.79	0.79		
93822.	1954.	7.	4.	3.00	35000.00	13.00	12.00	98.00	77.08	68.64	40.00	29.29	3.00	0.00	0.00	217.49	148.13	0.73		
93822.	1954.	7.	4.	4.00	35000.00	12.00	17.00	96.00	75.95	67.61	41.00	29.28	0.00	0.00	0.00	114.62	142.79	0.70		
93822.	1954.	7.	4.	5.00	35000.00	12.00	10.00	96.00	79.62	73.71	50.00	29.28	0.00	0.00	0.00	53.21	142.79	0.86		
93822.	1954.	7.	4.	6.00	35000.00	12.00	5.00	94.00	79.47	74.26	54.00	29.27	2.00	0.00	0.00	47.50	140.69	0.87		
93822.	1954.	7.	4.	7.00	35000.00	13.00	4.00	90.00	77.48	72.75	58.00	29.27	2.00	0.00	0.00	0.00	134.70	0.83		
93822.	1954.	7.	4.	8.00	4000.00	1.00	11.00	87.00	80.18	77.88	75.00	29.29	6.00	0.00	0.00	0.00	137.39	0.98		
93822.	1954.	7.	4.	9.00	35000.00	2.00	10.00	83.00	77.03	74.83	77.00	29.31	0.00	8000.00	0.00	0.00	123.89	0.88		
93822.	1954.	7.	4.	10.00	35000.00	2.00	5.00	81.00	76.49	74.82	82.00	29.31	0.00	8000.00	0.00	0.00	121.18	0.88		
93822.	1954.	7.	4.	11.00	35000.00	2.00	8.00	80.00	76.32	74.95	85.00	29.32	0.00	8200.00	0.00	0.00	119.84	0.88		
93822.	1954.	7.	4.	12.00	35000.00	1.00	13.00	79.00	76.11	75.04	88.00	29.33	0.00	8100.00	0.00	0.00	118.52	0.88		
93822.	1954.	7.	4.	13.00	35000.00	1.00	10.00	76.00	73.45	72.42	89.00	29.33	0.00	8100.00	0.00	0.00	114.61	0.81		
93822.	1954.	7.	4.	14.00	35000.00	1.00	7.00	75.00	72.48	71.43	89.00	29.34	0.00	8100.00	0.00	0.00	113.34	0.78		
93822.	1954.	7.	4.	15.00	35000.00	1.00	5.00	73.00	71.00	70.12	91.00	29.33	0.00	8100.00	0.00	0.00	110.82	0.75		
93822.	1954.	7.	4.	16.00	35000.00	1.00	5.00	72.00	70.25	69.46	92.00	29.33	0.00	7200.00	0.00	0.00	109.58	0.73		
93822.	1954.	7.	4.	17.00	35000.00	1.00	6.00	71.00	69.49	68.79	93.00	29.35	0.00	7200.00	0.00	53.05	108.35	0.72		
93822.	1954.	7.	4.	18.00	35000.00	1.00	8.00	72.00	69.80	68.80	90.00	29.37	0.00	8100.00	0.00	55.49	109.58	0.72		
93822.	1954.	7.	4.	19.00	35000.00	2.00	11.00	76.00	70.26	67.64	76.00	29.38	0.00	0.00	0.00	179.58	114.61	0.69		
93822.	1954.	7.	4.	20.00	35000.00	2.00	13.00	78.00	70.52	67.10	70.00	29.40	1.00	0.00	0.00	232.50	117.40	0.68		
93822.	1954.	7.	4.	21.00	2800.00	1.00	12.00	81.00	72.39	68.65	67.00	29.41	7.00	0.00	0.00	161.61	131.27	0.72		
93822.	1954.	7.	4.	22.00	3000.00	1.00	10.00	81.00	70.94	66.32	62.00	29.41	7.00	0.00	0.00	283.77	131.27	0.67		
93822.	1954.	7.	4.	23.00	30000.00	2.00	7.00	84.00	71.69	66.08	56.00	29.40	6.00	0.00	0.00	294.55	132.93	0.66		
93822.	1954.	7.	5.	0.00	35000.00	3.00	5.00	85.00	71.89	65.92	54.00	29.39	7.00	0.00	0.00	278.49	137.21	0.66		
93822.	1954.	7.	5.	1.00	35000.00	3.00	8.00	86.00	72.06	65.71	52.00	29.37	6.00	0.00	0.00	260.31	135.89	0.66		
93822.	1954.	7.	5.	2.00	35000.00	1.00	6.00	88.00	72.31	65.14	48.00	29.36	5.00	0.00	0.00	221.85	136.46	0.64		
93822.	1954.	7.	5.	3.00	35000.00	3.00	5.00	89.00	72.76	65.42	47.00	29.34	0.00	0.00	0.00	211.80	132.34	0.65		
93822.	1954.	7.	5.	4.00	35000.00	1.00	8.00	88.00	71.22	63.21	45.00	29.33	0.00	0.00	0.00	117.22	130.90	0.60		
93822.	1954.	7.	5.	5.00	35000.00	2.00	9.00	87.00	71.49	64.23	48.00	29.32	0.00	0.00	0.00	54.81	129.47	0.62		
93822.	1954.	7.	5.	6.00	35000.00	3.00	5.00	85.00	70.88	64.21	51.00	29.32	0.00	0.00	0.00	46.36	126.66	0.62		
93822.	1954.	7.	5.	7.00	35000.00	3.00	7.00	82.00	69.98	64.22	56.00	29.32	0.00	0.00	0.00	0.00	122.53	0.62		
93822.	1954.	7.	5.	8.00	35000.00	3.00	6.00	79.00	69.76	65.37	64.00	29.35	0.00	0.00	0.00	0.00	118.52	0.64		
93822.	1954.	7.	5.	9.00	35000.00	3.00	5.00	77.00	68.54	64.39	66.00	29.37	0.00	0.00	0.00	0.00	115.90	0.62		
93822.	1954.	7.	5.	10.00	35000.00	2.00	3.00	75.00	68.58	65.47	73.00	29.37	0.00	0.00	0.00	0.00	113.34	0.64		
93822.	1954.	7.	5.	11.00	35000.00	10.00	3.00	71.00	67.03	65.04	82.00	29.38	0.00	0.00	0.00	0.00	108.35	0.63		
93822.	1954.	7.	5.	12.00	35000.00	10.00	3.00	70.00	66.76	65.12	85.00	29.37	0.00	0.00	0.00	0.00	107.13	0.63		
93822.	1954.	7.	5.	13.00	35000.00	10.00	3.00	68.00	65.71	64.50	89.00	29.37	0.00	0.00	0.00	0.00	104.72	0.62		
93822.	1954.	7.	5.	14.00	35000.00	3.00	3.00	69.00	66.24	64.82	87.00	29.36	0.00	0.00	0.00	0.00	105.92	0.63		
93822.	1954.	7.	5.	15.00	35000.00	6.00	4.00	67.00	64.95	63.85	90.00	29.37	0.00	0.00	0.00	0.00	103.54	0.60		
93822.	1954.	7.	5.	16.00	35000.00	6.00	5.00	67.00	63.68	61.82	84.00	29.37	0.00	0.00	0.00	0.00	103.54	0.56		
93822.	1954.	7.	5.	17.00	35000.00	8.00	6.00	68.00	63.75	61.38	80.00	29.38	0.00	0.00	0.00	52.95	104.72	0.56		
93822.	1954.	7.	5.	18.00	35000.00	9.00	10.00	71.00	64.92	61.62	73.00	29.38	0.00	0.00	0.00	55.00	108.35	0.56		
93822.	1954.	7.	5.	19.00	35000.00	10.00	8.00	76.00	66.84	62.07	63.00	29.37	0.00	0.00	0.00	179.11	114.61	0.57		
93822.	1954.	7.	5.	20.00	35000.00	7.00	7.00	81.00	69.14	63.28	56.00	29.36	0.00	0.00	0.00	233.03	121.18	0.60		
93822.	1954.	7.	5.	21.00	35000.00	9.00	8.00	83.00	68.91	61.78	50.00	29.36	0.00	0.00	0.00	217.96	123.89	0.57		
93822.	1954.	7.	5.	22.00	35000.00	10.00	10.00	86.00	71.03	63.93	49.00	29.35	0.00	0.00	0.00	301.86	128.06	0.62		
93822.	1954.	7.	5.	23.00	35000.00	10.00	9.00	87.00	71.84	64.85	49.00	29.33	0.00	0.00	0.00	311.28	129.47	0.64		

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud (feet)	Freezing Direc.	Rain V(knts) Temp(F)	Solar Temp(F)	Atmos. Temp(F) (%)	Partial Press. (in Hg)	Press. Cov.(I)
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)											
93822.	1954.	7.	6.	0.00	35000.00	10.00	10.00	89.00	72.01	64.12	45.00	29.28	0.00	0.00	0.00	282.57	132.34	0.62	
93822.	1954.	7.	6.	1.00	35000.00	11.00	10.00	93.00	74.81	67.06	44.00	29.25	0.00	0.00	0.00	272.57	138.23	0.69	
93822.	1954.	7.	6.	2.00	35000.00	10.00	10.00	94.00	74.79	66.55	42.00	29.23	1.00	0.00	0.00	227.83	139.97	0.68	
93822.	1954.	7.	6.	3.00	35000.00	10.00	17.00	94.00	72.70	62.73	37.00	29.21	1.00	0.00	0.00	214.81	139.97	0.60	
93822.	1954.	7.	6.	4.00	35000.00	11.00	13.00	95.00	73.44	63.62	37.00	29.18	1.00	0.00	0.00	113.58	141.50	0.62	
93822.	1954.	7.	6.	5.00	35000.00	10.00	16.00	95.00	73.01	62.80	36.00	29.15	3.00	0.00	0.00	51.53	143.42	0.60	
93822.	1954.	7.	6.	6.00	35000.00	10.00	15.00	91.00	72.03	63.14	41.00	29.14	5.00	0.00	0.00	47.06	141.00	0.60	
93822.	1954.	7.	6.	7.00	35000.00	10.00	11.00	89.00	73.09	66.06	48.00	29.13	4.00	0.00	0.00	0.00	135.94	0.66	
93822.	1954.	7.	6.	8.00	35000.00	10.00	11.00	86.00	71.68	65.13	51.00	29.12	1.00	0.00	0.00	0.00	128.27	0.64	
93822.	1954.	7.	6.	9.00	35000.00	10.00	14.00	85.00	70.85	64.21	51.00	29.10	1.00	0.00	0.00	0.00	126.87	0.62	
93822.	1954.	7.	6.	10.00	35000.00	10.00	13.00	82.00	69.96	64.22	56.00	29.11	3.00	0.00	0.00	0.00	124.40	0.62	
93822.	1954.	7.	6.	11.00	35000.00	10.00	12.00	82.00	70.26	64.74	57.00	29.10	3.00	0.00	0.00	0.00	124.40	0.63	
93822.	1954.	7.	6.	12.00	35000.00	10.00	15.00	83.00	68.87	61.78	50.00	29.08	0.00	0.00	0.00	0.00	123.89	0.57	
93822.	1954.	7.	6.	13.00	35000.00	11.00	16.00	82.00	68.68	62.02	52.00	29.05	0.00	0.00	0.00	0.00	122.53	0.58	
93822.	1954.	7.	6.	14.00	35000.00	11.00	16.00	81.00	68.79	62.75	55.00	29.05	0.00	0.00	0.00	0.00	121.18	0.59	
93822.	1954.	7.	6.	15.00	35000.00	15.00	11.00	81.00	68.80	62.75	55.00	29.10	3.00	0.00	0.00	0.00	123.03	0.59	
93822.	1954.	7.	6.	16.00	8000.00	2.00	16.00	72.00	65.57	62.17	72.00	29.14	8.00	0.00	0.00	0.00	121.50	0.57	
93822.	1954.	7.	6.	17.00	3000.00	4.00	7.00	70.00	69.36	69.06	97.00	29.14	10.00	1023.00	0.00	44.36	125.34	0.72	
93822.	1954.	7.	6.	18.00	5000.00	9.00	10.00	70.00	68.51	67.79	93.00	29.14	10.00	1023.00	0.00	17.98	125.34	0.69	
93822.	1954.	7.	6.	19.00	12000.00	8.00	4.00	73.00	71.00	70.12	91.00	29.11	9.00	0.00	0.00	163.65	126.08	0.75	
93822.	1954.	7.	6.	20.00	5000.00	10.00	7.00	75.00	71.29	69.67	84.00	29.13	9.00	0.00	0.00	214.32	128.94	0.74	
93822.	1954.	7.	6.	21.00	12000.00	10.00	8.00	77.00	71.94	69.78	79.00	29.12	10.00	0.00	0.00	90.30	135.61	0.74	
93822.	1954.	7.	6.	22.00	12000.00	11.00	11.00	79.00	72.49	69.73	74.00	29.13	10.00	0.00	0.00	259.98	138.66	0.74	
93822.	1954.	7.	6.	23.00	12000.00	11.00	15.00	83.00	72.97	68.69	63.00	29.13	10.00	0.00	0.00	266.61	144.95	0.72	
93822.	1954.	7.	7.	0.00	10000.00	11.00	8.00	83.00	72.97	68.69	63.00	29.13	10.00	0.00	0.00	117.20	144.95	0.72	
93822.	1954.	7.	7.	1.00	35000.00	12.00	4.00	88.00	75.74	70.88	58.00	29.12	3.00	0.00	0.00	267.29	132.90	0.78	
93822.	1954.	7.	7.	2.00	25000.00	16.00	8.00	87.00	73.88	68.33	55.00	29.12	7.00	1000.00	0.00	217.51	140.26	0.72	
93822.	1954.	7.	7.	3.00	10000.00	3.00	13.00	80.00	75.28	73.46	81.00	29.13	6.00	1000.00	0.00	182.83	127.18	0.84	
93822.	1954.	7.	7.	4.00	2500.00	3.00	14.00	80.00	73.69	71.11	75.00	29.15	10.00	1000.00	0.00	101.52	140.22	0.78	
93822.	1954.	7.	7.	5.00	2000.00	3.00	17.00	76.00	71.26	69.18	80.00	29.19	10.00	0.00	0.00	47.90	134.10	0.73	
93822.	1954.	7.	7.	6.00	8000.00	3.00	14.00	73.00	67.72	65.12	77.00	29.21	6.00	0.00	0.00	38.67	117.60	0.63	
93822.	1954.	7.	7.	7.00	8000.00	3.00	10.00	71.00	65.86	63.18	77.00	29.26	6.00	0.00	0.00	0.00	114.98	0.59	
93822.	1954.	7.	7.	8.00	3700.00	3.00	13.00	70.00	64.47	61.44	75.00	29.28	10.00	0.00	0.00	0.00	125.34	0.56	
93822.	1954.	7.	7.	9.00	35000.00	3.00	16.00	68.00	62.63	59.51	75.00	29.30	3.00	0.00	0.00	0.00	106.33	0.52	
93822.	1954.	7.	7.	10.00	35000.00	2.00	14.00	65.00	59.00	55.06	71.00	29.32	0.00	0.00	0.00	0.00	101.21	0.44	
93822.	1954.	7.	7.	11.00	35000.00	2.00	9.00	62.00	56.07	51.80	70.00	29.34	0.00	0.00	0.00	0.00	97.78	0.39	
93822.	1954.	7.	7.	12.00	35000.00	3.00	6.00	60.00	55.66	52.53	77.00	29.34	0.00	0.00	0.00	0.00	95.56	0.40	
93822.	1954.	7.	7.	13.00	35000.00	1.00	4.00	58.00	53.81	50.60	77.00	29.34	0.00	0.00	0.00	0.00	93.37	0.38	
93822.	1954.	7.	7.	14.00	35000.00	1.00	3.00	56.00	52.86	50.41	82.00	29.34	0.00	0.00	0.00	0.00	91.23	0.37	
93822.	1954.	7.	7.	15.00	35000.00	1.00	8.00	55.00	51.92	49.44	82.00	29.35	0.00	0.00	0.00	0.00	90.18	0.36	
93822.	1954.	7.	7.	16.00	35000.00	1.00	7.00	54.00	51.49	49.44	85.00	29.36	0.00	0.00	0.00	0.00	89.13	0.36	
93822.	1954.	7.	7.	17.00	35000.00	2.00	7.00	54.00	51.83	50.08	87.00	29.37	0.00	0.00	0.00	53.63	89.13	0.37	
93822.	1954.	7.	7.	18.00	35000.00	4.00	11.00	58.00	53.62	50.24	76.00	29.39	0.00	0.00	0.00	53.94	93.37	0.37	
93822.	1954.	7.	7.	19.00	35000.00	4.00	6.00	64.00	57.01	52.06	66.00	29.40	0.00	0.00	0.00	182.33	100.05	0.40	
93822.	1954.	7.	7.	20.00	35000.00	2.00	10.00	67.00	57.77	51.26	58.00	29.41	0.00	0.00	0.00	238.41	103.54	0.39	
93822.	1954.	7.	7.	21.00	35000.00	2.00	10.00	71.00	60.15	52.96	54.00	29.42	7.00	0.00	0.00	213.98	117.37	0.42	
93822.	1954.	7.	7.	22.00	35000.00	3.00	9.00	73.00	61.00	53.19	51.00	29.41	1.00	0.00	0.00	305.66	111.01	0.42	
93822.	1954.	7.	7.	23.00	35000.00	3.00	10.00	76.00	61.38	51.73	44.00	29.40	0.00	0.00	0.00	317.42	114.61	0.40	
93822.	1954.	7.	8.	0.00	35000.00	4.00	11.00	77.00	60.28	48.51	38.00	29.39	0.00	0.00	0.00	282.23	115.90	0.36	
93822.	1954.	7.	8.	1.00	35000.00	3.00	8.00	80.00	62.54	51.15	38.00	29.37	0.00	0.00	0.00	279.85	119.84	0.39	
93822.	1954.	7.	8.	2.00	35000.00	3.00	4.00	78.00	60.70	48.64	37.00	29.36	0.00	0.00	0.00	238.11	117.20	0.36	
93822.	1954.	7.	8.	3.00	35000.00	3.00	7.00	81.00	61.54	48.05	33.00	29.35	0.00	0.00	0.00	211.63	121.18	0.35	
93822.	1954.	7.	8.	4.00	35000.00	4.00	5.00	81.00	61.90	48.89	34.00	29.34	0.00	0.00	0.00	118.87	121.18	0.36	
93822.	1954.	7.	8.	5.00	35000.00	2.00	6.00	80.00	60.81	47.19	33.00	29.34	0.00	0.00	0.00	55.43	119.84	0.34	

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud (feet)	Freezing Direc.	Rain V(knts)	Solar Temp(F)	Atmos. Temp(F)	Partial Temp(F)	Press. Cov.(l)
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)											
93822.	1954.	7.	8.	6.00	35000.00	2.00	9.00	79.00	60.77	47.96	35.00	29.34	0.00	0.00	0.00	46.07	118.52	0.35	
93822.	1954.	7.	8.	7.00	35000.00	2.00	7.00	76.00	62.28	53.60	47.00	29.34	0.00	0.00	0.00	0.00	114.61	0.43	
93822.	1954.	7.	8.	8.00	35000.00	3.00	6.00	71.00	60.14	52.96	54.00	29.35	0.00	0.00	0.00	0.00	108.35	0.42	
93822.	1954.	7.	8.	9.00	35000.00	3.00	5.00	69.00	60.22	54.54	61.00	29.37	0.00	0.00	0.00	0.00	105.92	0.44	
93822.	1954.	7.	8.	10.00	35000.00	4.00	6.00	67.00	59.66	54.89	66.00	29.37	0.00	0.00	0.00	0.00	103.54	0.44	
93822.	1954.	7.	8.	11.00	35000.00	5.00	7.00	66.00	59.01	54.37	67.00	29.38	0.00	0.00	0.00	0.00	102.37	0.43	
93822.	1954.	7.	8.	12.00	35000.00	5.00	6.00	64.00	57.88	53.70	70.00	29.38	0.00	0.00	0.00	0.00	100.05	0.42	
93822.	1954.	7.	8.	13.00	35000.00	5.00	7.00	64.00	57.88	53.70	70.00	29.37	0.00	0.00	0.00	0.00	100.05	0.42	
93822.	1954.	7.	8.	14.00	35000.00	7.00	6.00	64.00	57.66	53.30	69.00	29.37	0.00	0.00	0.00	0.00	100.05	0.42	
93822.	1954.	7.	8.	15.00	35000.00	7.00	5.00	64.00	57.22	52.47	67.00	29.38	0.00	0.00	0.00	0.00	100.05	0.40	
93822.	1954.	7.	8.	16.00	35000.00	5.00	4.00	63.00	57.19	53.14	71.00	29.40	0.00	0.00	0.00	0.00	98.91	0.41	
93822.	1954.	7.	8.	17.00	35000.00	6.00	5.00	61.00	55.99	52.39	74.00	29.41	1.00	0.00	0.00	51.69	96.83	0.40	
93822.	1954.	7.	8.	18.00	35000.00	7.00	3.00	63.00	58.24	55.06	76.00	29.42	3.00	0.00	0.00	54.80	100.43	0.44	
93822.	1954.	7.	8.	19.00	35000.00	6.00	5.00	70.00	59.83	53.06	56.00	29.42	4.00	0.00	0.00	172.59	110.04	0.42	
93822.	1954.	7.	8.	20.00	35000.00	7.00	8.00	75.00	61.48	52.69	47.00	29.41	3.00	0.00	0.00	227.48	115.07	0.41	
93822.	1954.	7.	8.	21.00	35000.00	7.00	5.00	77.00	63.09	54.51	47.00	29.41	7.00	0.00	0.00	213.60	125.56	0.44	
93822.	1954.	7.	8.	22.00	35000.00	9.00	5.00	80.00	63.89	54.00	42.00	29.43	2.00	0.00	0.00	298.44	120.66	0.44	
93822.	1954.	7.	8.	23.00	35000.00	6.00	8.00	82.00	63.71	52.15	37.00	29.42	1.00	0.00	0.00	310.50	122.74	0.41	
93822.	1954.	7.	9.	0.00	35000.00	10.00	5.00	84.00	64.10	51.50	34.00	29.40	2.00	0.00	0.00	288.63	126.12	0.40	
93822.	1954.	7.	9.	1.00	35000.00	9.00	8.00	85.00	64.07	50.64	32.00	29.40	5.00	0.00	0.00	262.98	132.04	0.39	
93822.	1954.	7.	9.	2.00	35000.00	9.00	5.00	87.00	65.50	52.36	32.00	29.39	4.00	0.00	0.00	224.06	132.99	0.42	
93822.	1954.	7.	9.	3.00	35000.00	9.00	4.00	87.00	65.50	52.36	32.00	29.38	9.00	0.00	0.00	196.97	147.30	0.42	
93822.	1954.	7.	9.	4.00	35000.00	9.00	5.00	86.00	65.94	54.07	35.00	29.37	8.00	0.00	0.00	107.71	141.99	0.44	
93822.	1954.	7.	9.	5.00	25000.00	8.00	6.00	84.00	65.56	54.68	38.00	29.36	9.00	0.00	0.00	49.57	142.52	0.45	
93822.	1954.	7.	9.	6.00	25000.00	8.00	4.00	83.00	66.56	57.36	43.00	29.36	8.00	0.00	0.00	44.14	137.37	0.49	
93822.	1954.	7.	9.	7.00	25000.00	9.00	6.00	81.00	66.30	58.14	47.00	29.35	6.00	0.00	0.00	0.00	128.60	0.50	
93822.	1954.	7.	9.	8.00	35000.00	9.00	6.00	78.00	63.89	55.42	47.00	29.37	6.00	0.00	0.00	0.00	124.38	0.46	
93822.	1954.	7.	9.	9.00	35000.00	8.00	4.00	77.00	64.58	57.41	52.00	29.37	4.00	0.00	0.00	0.00	119.05	0.49	
93822.	1954.	7.	9.	10.00	35000.00	7.00	7.00	75.00	64.61	58.71	58.00	29.38	0.00	0.00	0.00	0.00	113.34	0.51	
93822.	1954.	7.	9.	11.00	35000.00	7.00	10.00	74.00	63.75	57.78	58.00	29.39	0.00	0.00	0.00	0.00	112.07	0.49	
93822.	1954.	7.	9.	12.00	35000.00	7.00	5.00	73.00	63.96	58.77	62.00	29.40	0.00	0.00	0.00	0.00	110.82	0.51	
93822.	1954.	7.	9.	13.00	35000.00	8.00	11.00	72.00	63.34	58.29	63.00	29.39	0.00	0.00	0.00	0.00	109.58	0.50	
93822.	1954.	7.	9.	14.00	35000.00	8.00	5.00	71.00	62.97	58.25	65.00	29.39	0.00	0.00	0.00	0.00	108.35	0.50	
93822.	1954.	7.	9.	15.00	35000.00	8.00	9.00	71.00	62.97	58.25	65.00	29.39	0.00	0.00	0.00	0.00	108.35	0.50	
93822.	1954.	7.	9.	16.00	35000.00	8.00	13.00	71.00	62.46	57.34	63.00	29.39	2.00	0.00	0.00	0.00	109.08	0.49	
93822.	1954.	7.	9.	17.00	35000.00	8.00	10.00	70.00	62.08	57.30	65.00	29.39	8.00	0.00	0.00	46.42	118.78	0.48	
93822.	1954.	7.	9.	18.00	35000.00	8.00	13.00	72.00	61.78	55.42	57.00	29.40	10.00	0.00	0.00	47.29	128.20	0.45	
93822.	1954.	7.	9.	19.00	35000.00	8.00	12.00	75.00	62.64	55.01	51.00	29.40	10.00	0.00	0.00	150.84	132.60	0.45	
93822.	1954.	7.	9.	20.00	25000.00	8.00	14.00	77.00	64.00	56.28	50.00	29.42	10.00	0.00	0.00	198.17	135.61	0.47	
93822.	1954.	7.	9.	21.00	25000.00	9.00	15.00	80.00	64.87	55.98	45.00	29.42	10.00	0.00	0.00	193.90	140.22	0.47	
93822.	1954.	7.	9.	22.00	25000.00	9.00	12.00	81.00	64.67	54.89	42.00	29.43	10.00	0.00	0.00	258.07	141.78	0.45	
93822.	1954.	7.	9.	23.00	25000.00	9.00	11.00	83.00	66.22	56.68	42.00	29.42	8.00	0.00	0.00	287.72	137.37	0.48	
93822.	1954.	7.	10.	0.00	25000.00	7.00	9.00	84.00	66.65	56.88	41.00	29.42	8.00	0.00	0.00	270.82	138.90	0.48	
93822.	1954.	7.	10.	1.00	25000.00	8.00	9.00	86.00	66.71	55.67	37.00	29.40	7.00	0.00	0.00	256.70	138.72	0.47	
93822.	1954.	7.	10.	2.00	25000.00	7.00	7.00	87.00	66.68	54.94	35.00	29.37	7.00	0.00	0.00	216.86	140.26	0.46	
93822.	1954.	7.	10.	3.00	25000.00	8.00	8.00	86.00	67.82	57.94	40.00	29.37	7.00	0.00	0.00	208.30	138.72	0.50	
93822.	1954.	7.	10.	4.00	25000.00	10.00	9.00	87.00	67.84	57.33	38.00	29.37	7.00	0.00	0.00	108.34	140.26	0.49	
93822.	1954.	7.	10.	5.00	25000.00	10.00	9.00	85.00	67.77	58.47	42.00	29.36	7.00	0.00	0.00	50.23	137.21	0.51	
93822.	1954.	7.	10.	6.00	25000.00	9.00	11.00	83.00	66.21	56.68	42.00	29.36	8.00	0.00	0.00	44.00	137.37	0.48	
93822.	1954.	7.	10.	7.00	25000.00	9.00	8.00	80.00	64.86	55.98	45.00	29.36	8.00	0.00	0.00	0.00	132.88	0.47	
93822.	1954.	7.	10.	8.00	10000.00	9.00	8.00	79.00	64.69	56.32	47.00	29.37	10.00	0.00	0.00	0.00	138.66	0.47	
93822.	1954.	7.	10.	9.00	35000.00	9.00	10.00	79.00	64.69	56.32	47.00	29.37	8.00	0.00	0.00	0.00	131.41	0.47	
93822.	1954.	7.	10.	10.00	35000.00	9.00	12.00	79.00	64.69	56.32	47.00	29.36	8.00	0.00	0.00	0.00	131.41	0.47	
93822.	1954.	7.	10.	11.00	10000.00	8.00	11.00	79.00	64.38	55.70	46.00	29.36	10.00	0.00	0.00	0.00	138.66	0.46	

30dayevap.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud (feet)	Freezing Direc.	Rain V(knts)	Solar Temp(F)	Atmos. Temp(F)	Partial Press. (in Hg)	Press. Cov.(1)	
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)												
93822.	1954.	7.	10.	12.00	10000.00	7.00	14.00	79.00	63.74	54.43	44.00	29.34	10.00	0.00	0.00	0.00	138.66	0.44		
93822.	1954.	7.	10.	13.00	7000.00	9.00	17.00	78.00	63.89	55.42	47.00	29.35	10.00	0.00	0.00	0.00	137.13	0.46		
93822.	1954.	7.	10.	14.00	7000.00	9.00	9.00	76.00	63.46	55.93	51.00	29.37	10.00	0.00	0.00	0.00	134.10	0.46		
93822.	1954.	7.	10.	15.00	35000.00	9.00	3.00	74.00	63.75	57.78	58.00	29.37	2.00	0.00	0.00	0.00	112.83	0.49		
93822.	1954.	7.	10.	16.00	35000.00	9.00	5.00	72.00	63.34	58.29	63.00	29.38	1.00	0.00	0.00	0.00	109.76	0.50		
93822.	1954.	7.	10.	17.00	35000.00	8.00	6.00	73.00	63.69	58.30	61.00	29.40	5.00	0.00	0.00	46.98	115.53	0.50		
93822.	1954.	7.	10.	18.00	6000.00	7.00	5.00	74.00	64.03	58.28	59.00	29.41	7.00	0.00	0.00	38.63	121.41	0.50		
93822.	1954.	7.	10.	19.00	35000.00	7.00	8.00	76.00	66.02	60.64	60.00	29.41	3.00	0.00	0.00	171.25	116.37	0.55		
93822.	1954.	7.	10.	20.00	6000.00	8.00	7.00	80.00	66.14	58.44	49.00	29.40	6.00	0.00	0.00	217.39	127.18	0.51		
93822.	1954.	7.	10.	21.00	35000.00	9.00	13.00	82.00	68.41	61.44	51.00	29.40	4.00	0.00	0.00	221.34	125.86	0.57		
93822.	1954.	7.	10.	22.00	35000.00	8.00	14.00	86.00	67.83	57.94	40.00	29.39	6.00	0.00	0.00	282.26	135.89	0.50		
93822.	1954.	7.	10.	23.00	35000.00	9.00	11.00	88.00	68.21	57.44	37.00	29.38	7.00	0.00	0.00	287.66	141.80	0.50		
93822.	1954.	7.	11.	0.00	12000.00	9.00	12.00	90.00	69.31	58.39	36.00	29.37	6.00	0.00	0.00	243.26	141.98	0.51		
93822.	1954.	7.	11.	1.00	35000.00	9.00	10.00	93.00	70.25	58.46	33.00	29.34	5.00	0.00	0.00	257.96	144.10	0.52		
93822.	1954.	7.	11.	2.00	35000.00	9.00	13.00	94.00	70.08	57.49	31.00	29.32	4.00	0.00	0.00	219.96	143.54	0.50		
93822.	1954.	7.	11.	3.00	35000.00	10.00	13.00	95.00	71.25	59.28	32.00	29.31	4.00	0.00	0.00	216.55	145.10	0.53		
93822.	1954.	7.	11.	4.00	35000.00	9.00	13.00	95.00	70.79	58.35	31.00	29.29	4.00	0.00	0.00	108.99	145.10	0.52		
93822.	1954.	7.	11.	5.00	35000.00	9.00	11.00	94.00	70.08	57.49	31.00	29.29	4.00	0.00	0.00	49.94	143.54	0.50		
93822.	1954.	7.	11.	6.00	35000.00	9.00	9.00	93.00	70.24	58.46	33.00	29.28	4.00	0.00	0.00	46.74	141.99	0.52		
93822.	1954.	7.	11.	7.00	35000.00	9.00	8.00	89.00	68.54	57.52	36.00	29.28	2.00	0.00	0.00	0.00	133.24	0.50		
93822.	1954.	7.	11.	8.00	35000.00	9.00	10.00	88.00	68.58	58.22	38.00	29.28	2.00	0.00	0.00	0.00	131.79	0.51		
93822.	1954.	7.	11.	9.00	35000.00	9.00	13.00	86.00	67.06	56.45	38.00	29.29	1.00	0.00	0.00	0.00	128.27	0.48		
93822.	1954.	7.	11.	10.00	35000.00	9.00	15.00	84.00	66.62	56.88	41.00	29.29	1.00	0.00	0.00	0.00	125.48	0.48		
93822.	1954.	7.	11.	11.00	35000.00	9.00	14.00	83.00	65.85	55.99	41.00	29.28	1.00	0.00	0.00	0.00	124.10	0.47		
93822.	1954.	7.	11.	12.00	35000.00	9.00	13.00	82.00	65.76	56.47	43.00	29.27	1.00	0.00	0.00	0.00	122.74	0.48		
93822.	1954.	7.	11.	13.00	35000.00	9.00	15.00	80.00	66.12	58.44	49.00	29.27	0.00	0.00	0.00	0.00	119.84	0.51		
93822.	1954.	7.	11.	14.00	35000.00	9.00	13.00	79.00	66.22	59.25	52.00	29.27	0.00	0.00	0.00	0.00	118.52	0.52		
93822.	1954.	7.	11.	15.00	35000.00	9.00	11.00	78.00	66.87	61.01	57.00	29.27	0.00	0.00	0.00	0.00	117.20	0.55		
93822.	1954.	7.	11.	16.00	35000.00	9.00	10.00	77.00	67.15	62.06	61.00	29.27	2.00	0.00	0.00	0.00	116.69	0.57		
93822.	1954.	7.	11.	17.00	35000.00	9.00	13.00	76.00	66.83	62.07	63.00	29.27	8.00	0.00	0.00	44.57	127.08	0.57		
93822.	1954.	7.	11.	18.00	35000.00	9.00	13.00	77.00	66.87	61.58	60.00	29.27	9.00	0.00	0.00	47.99	131.86	0.56		
93822.	1954.	7.	11.	19.00	35000.00	10.00	15.00	84.00	69.38	62.10	49.00	29.25	5.00	0.00	0.00	164.28	130.59	0.58		
93822.	1954.	7.	11.	20.00	35000.00	11.00	17.00	88.00	70.46	61.86	43.00	29.23	4.00	0.00	0.00	217.78	134.46	0.58		
93822.	1954.	7.	11.	21.00	35000.00	11.00	16.00	93.00	72.36	62.65	38.00	29.21	4.00	0.00	0.00	220.90	141.99	0.60		
93822.	1954.	7.	11.	22.00	35000.00	10.00	19.00	96.00	73.32	62.83	35.00	29.21	1.00	0.00	0.00	290.48	143.03	0.60		
93822.	1954.	7.	11.	23.00	35000.00	11.00	16.00	97.00	72.67	61.02	32.00	29.19	0.00	0.00	0.00	302.91	144.34	0.57		
93822.	1954.	7.	12.	0.00	35000.00	12.00	16.00	100.00	74.84	63.62	32.00	29.17	0.00	0.00	0.00	281.45	149.06	0.62		
93822.	1954.	7.	12.	1.00	35000.00	13.00	13.00	103.00	75.99	64.26	30.00	29.16	1.00	0.00	0.00	261.97	154.18	0.64		
93822.	1954.	7.	12.	2.00	35000.00	14.00	12.00	105.00	76.32	63.87	28.00	29.15	1.00	0.00	0.00	219.99	157.50	0.63		
93822.	1954.	7.	12.	3.00	35000.00	16.00	14.00	105.00	77.41	65.98	30.00	29.14	2.00	0.00	0.00	216.17	158.30	0.67		
93822.	1954.	7.	12.	4.00	35000.00	16.00	13.00	103.00	77.53	67.16	33.00	29.14	1.00	0.00	0.00	109.20	154.18	0.70		
93822.	1954.	7.	12.	5.00	35000.00	16.00	10.00	100.00	79.50	71.94	42.00	29.14	0.00	0.00	0.00	50.49	149.06	0.81		
93822.	1954.	7.	12.	6.00	35000.00	16.00	13.00	97.00	77.14	69.25	42.00	29.15	0.00	0.00	0.00	45.43	144.34	0.74		
93822.	1954.	7.	12.	7.00	35000.00	16.00	8.00	93.00	78.61	73.33	54.00	29.16	0.00	0.00	0.00	0.00	138.23	0.85		
93822.	1954.	7.	12.	8.00	35000.00	1.00	7.00	91.00	78.67	74.21	59.00	29.18	0.00	0.00	0.00	0.00	135.26	0.87		
93822.	1954.	7.	12.	9.00	35000.00	1.00	6.00	89.00	78.91	75.34	65.00	29.20	0.00	0.00	0.00	0.00	132.34	0.90		
93822.	1954.	7.	12.	10.00	35000.00	1.00	5.00	86.00	77.77	74.77	70.00	29.20	0.00	0.00	0.00	0.00	128.06	0.88		
93822.	1954.	7.	12.	11.00	35000.00	2.00	4.00	85.00	77.74	75.11	73.00	29.20	0.00	0.00	0.00	0.00	126.66	0.89		
93822.	1954.	7.	12.	12.00	35000.00	2.00	4.00	82.00	76.36	74.25	78.00	29.20	1.00	0.00	0.00	0.00	122.74	0.86		
93822.	1954.	7.	12.	13.00	35000.00	2.00	5.00	81.00	75.70	73.67	79.00	29.20	1.00	0.00	0.00	0.00	121.39	0.85		
93822.	1954.	7.	12.	14.00	35000.00	2.00	7.00	78.00	74.15	72.62	84.00	29.22	0.00	0.00	0.00	0.00	117.20	0.82		
93822.	1954.	7.	12.	15.00	35000.00	1.00	4.00	76.00	72.49	71.01	85.00	29.24	0.00	0.00	0.00	0.00	114.61	0.77		
93822.	1954.	7.	12.	16.00	35000.00	1.00	5.00	75.00	72.25	71.08	88.00	29.24	7.00	0.00	0.00	0.00	122.78	0.78		
93822.	1954.	7.	12.	17.00	35000.00	1.00	9.00	75.00	70.81	68.95	82.00	29.25	7.00	0.00	0.00	44.63	122.78	0.72		

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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud (feet)	Freezing Direc.	Rain V(knts)	Solar Temp(F)	Atmos. Temp(F)	Partial Press. (in Hg)
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)										
93822.	1954.	7.	12.	18.00	35000.00	2.00	6.00	76.00	70.25	67.64	76.00	29.25	6.00	0.00	0.00	51.08	121.63	0.69
93822.	1954.	7.	12.	19.00	35000.00	3.00	4.00	80.00	72.33	69.02	70.00	29.26	7.00	0.00	0.00	161.78	129.82	0.73
93822.	1954.	7.	12.	20.00	35000.00	2.00	6.00	83.00	73.88	70.10	66.00	29.28	9.00	0.00	0.00	208.28	140.95	0.76
93822.	1954.	7.	12.	21.00	35000.00	1.00	10.00	88.00	76.41	71.91	60.00	29.29	10.00	0.00	0.00	192.75	153.15	0.81
93822.	1954.	7.	12.	22.00	35000.00	1.00	8.00	89.00	75.94	70.74	56.00	29.28	10.00	0.00	0.00	253.04	154.83	0.78
93822.	1954.	7.	12.	23.00	35000.00	3.00	9.00	93.00	74.02	65.65	42.00	29.29	10.00	0.00	0.00	259.56	161.73	0.66
93822.	1954.	7.	13.	0.00	35000.00	2.00	11.00	93.00	74.02	65.66	42.00	29.28	9.00	0.00	0.00	261.85	157.26	0.66
93822.	1954.	7.	13.	1.00	30000.00	3.00	10.00	95.00	73.90	64.42	38.00	29.27	6.00	0.00	0.00	253.55	149.90	0.63
93822.	1954.	7.	13.	2.00	35000.00	4.00	9.00	98.00	74.81	64.58	35.00	29.24	5.00	0.00	0.00	214.94	152.10	0.64
93822.	1954.	7.	13.	3.00	25000.00	4.00	7.00	100.00	75.82	65.46	34.00	29.22	7.00	0.00	0.00	207.95	161.48	0.66
93822.	1954.	7.	13.	4.00	35000.00	4.00	3.00	98.00	74.34	63.71	34.00	29.21	8.00	0.00	0.00	102.87	161.77	0.62
93822.	1954.	7.	13.	5.00	35000.00	8.00	6.00	99.00	76.02	66.32	36.00	29.20	6.00	0.00	0.00	47.31	156.50	0.68
93822.	1954.	7.	13.	6.00	35000.00	8.00	6.00	97.00	75.41	66.19	38.00	29.19	6.00	0.00	0.00	45.39	153.17	0.67
93822.	1954.	7.	13.	7.00	35000.00	13.00	4.00	92.00	75.55	68.80	48.00	29.19	4.00	0.00	0.00	0.00	140.45	0.73
93822.	1954.	7.	13.	8.00	35000.00	12.00	5.00	86.00	74.67	70.03	60.00	29.21	4.00	0.00	0.00	0.00	131.54	0.76
93822.	1954.	7.	13.	9.00	35000.00	11.00	3.00	84.00	73.86	69.63	63.00	29.21	3.00	0.00	0.00	0.00	127.18	0.74
93822.	1954.	7.	13.	10.00	35000.00	8.00	3.00	83.00	73.58	69.63	65.00	29.21	2.00	0.00	0.00	0.00	124.74	0.74
93822.	1954.	7.	13.	11.00	35000.00	10.00	3.00	81.00	72.37	68.65	67.00	29.19	0.00	0.00	0.00	0.00	121.18	0.72
93822.	1954.	7.	13.	12.00	35000.00	9.00	4.00	81.00	72.66	69.10	68.00	29.18	0.00	0.00	0.00	0.00	121.18	0.73
93822.	1954.	7.	13.	13.00	35000.00	12.00	3.00	78.00	71.31	68.36	73.00	29.18	0.00	0.00	0.00	0.00	117.20	0.71
93822.	1954.	7.	13.	14.00	35000.00	9.00	3.00	78.00	71.31	68.36	73.00	29.18	0.00	0.00	0.00	0.00	117.20	0.71
93822.	1954.	7.	13.	15.00	35000.00	10.00	8.00	79.00	71.96	68.91	72.00	29.16	0.00	0.00	0.00	0.00	118.52	0.72
93822.	1954.	7.	13.	16.00	35000.00	10.00	10.00	79.00	71.69	68.48	71.00	29.16	0.00	0.00	0.00	0.00	118.52	0.71
93822.	1954.	7.	13.	17.00	35000.00	11.00	7.00	76.00	71.26	69.18	80.00	29.17	2.00	0.00	0.00	46.29	115.39	0.73
93822.	1954.	7.	13.	18.00	35000.00	11.00	9.00	79.00	72.76	70.14	75.00	29.17	2.00	0.00	0.00	51.39	119.32	0.75
93822.	1954.	7.	13.	19.00	35000.00	11.00	13.00	87.00	75.21	70.46	59.00	29.17	0.00	0.00	0.00	170.58	129.47	0.77
93822.	1954.	7.	13.	20.00	35000.00	11.00	14.00	93.00	76.74	70.34	49.00	29.16	0.00	0.00	0.00	223.20	138.23	0.77
93822.	1954.	7.	13.	21.00	35000.00	11.00	16.00	97.00	76.71	68.51	41.00	29.16	0.00	0.00	0.00	214.70	144.34	0.73
93822.	1954.	7.	13.	22.00	35000.00	12.00	12.00	100.00	77.69	68.85	38.00	29.15	0.00	0.00	0.00	289.84	149.06	0.74
93822.	1954.	7.	13.	23.00	35000.00	12.00	15.00	104.00	78.77	68.95	34.00	29.14	0.00	0.00	0.00	297.00	155.57	0.74
93822.	1954.	7.	14.	0.00	35000.00	12.00	14.00	106.00	77.02	64.73	28.00	29.12	0.00	0.00	0.00	280.99	158.91	0.65
93822.	1954.	7.	14.	1.00	35000.00	14.00	10.00	109.00	76.72	62.57	24.00	29.10	0.00	0.00	0.00	259.62	164.03	0.61
93822.	1954.	7.	14.	2.00	35000.00	12.00	14.00	111.00	75.46	58.69	20.00	29.09	0.00	0.00	0.00	217.60	167.52	0.54
93822.	1954.	7.	14.	3.00	35000.00	15.00	13.00	110.00	75.48	59.35	21.00	29.09	0.00	0.00	0.00	210.96	165.77	0.55
93822.	1954.	7.	14.	4.00	35000.00	16.00	17.00	105.00	77.40	65.98	30.00	29.10	0.00	0.00	0.00	108.82	157.23	0.67
93822.	1954.	7.	14.	5.00	35000.00	16.00	17.00	101.00	79.84	72.09	41.00	29.10	0.00	0.00	0.00	49.54	150.67	0.82
93822.	1954.	7.	14.	6.00	35000.00	16.00	16.00	97.00	80.03	74.01	49.00	29.11	0.00	0.00	0.00	44.99	144.34	0.87
93822.	1954.	7.	14.	7.00	35000.00	1.00	14.00	91.00	77.63	72.60	56.00	29.13	0.00	0.00	0.00	0.00	135.26	0.83
93822.	1954.	7.	14.	8.00	35000.00	16.00	17.00	87.00	76.50	72.47	63.00	29.18	0.00	0.00	0.00	0.00	129.47	0.82
93822.	1954.	7.	14.	9.00	35000.00	2.00	13.00	84.00	70.70	64.43	53.00	29.24	0.00	0.00	0.00	0.00	125.27	0.63
93822.	1954.	7.	14.	10.00	12000.00	2.00	12.00	82.00	70.59	65.26	58.00	29.25	10.00	0.00	0.00	0.00	143.36	0.64
93822.	1954.	7.	14.	11.00	35000.00	2.00	13.00	80.00	69.76	64.89	61.00	29.25	0.00	0.00	0.00	0.00	119.84	0.63
93822.	1954.	7.	14.	12.00	35000.00	4.00	20.00	77.00	68.80	64.84	67.00	29.26	0.00	0.00	0.00	0.00	115.90	0.63
93822.	1954.	7.	14.	13.00	35000.00	4.00	11.00	73.00	64.47	59.69	64.00	29.31	0.00	0.00	0.00	0.00	110.82	0.53
93822.	1954.	7.	14.	14.00	35000.00	3.00	7.00	71.00	63.45	59.12	67.00	29.32	0.00	0.00	0.00	0.00	108.35	0.52
93822.	1954.	7.	14.	15.00	35000.00	3.00	5.00	68.00	62.17	58.73	73.00	29.34	3.00	0.00	0.00	0.00	106.33	0.51
93822.	1954.	7.	14.	16.00	15000.00	3.00	8.00	68.00	62.17	58.73	73.00	29.34	6.00	0.00	0.00	0.00	111.13	0.51
93822.	1954.	7.	14.	17.00	15000.00	3.00	10.00	68.00	62.18	58.73	73.00	29.36	7.00	0.00	0.00	0.00	113.45	0.51
93822.	1954.	7.	14.	18.00	35000.00	3.00	8.00	70.00	63.29	59.43	70.00	29.39	3.00	0.00	0.00	50.85	108.77	0.52
93822.	1954.	7.	14.	19.00	35000.00	4.00	13.00	73.00	63.69	58.30	61.00	29.40	1.00	0.00	0.00	173.60	111.01	0.50
93822.	1954.	7.	14.	20.00	35000.00	4.00	14.00	75.00	63.21	56.12	53.00	29.40	2.00	0.00	0.00	226.91	114.11	0.47
93822.	1954.	7.	14.	21.00	35000.00	4.00	12.00	78.00	64.20	56.02	48.00	29.41	2.00	0.00	0.00	219.23	118.00	0.47
93822.	1954.	7.	14.	22.00	35000.00	3.00	16.00	82.00	64.41	53.65	39.00	29.42	0.00	0.00	0.00	301.14	122.53	0.43
93822.	1954.	7.	14.	23.00	35000.00	3.00	13.00	83.00	64.82	53.80	38.00	29.42	0.00	0.00	0.00	311.08	123.89	0.44



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Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.		
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)					(feet)	Dirac.	V(knts)	Temp(F)	Temp(F)	Temp(F)	(%)	(in Hg)	Cov(.1)
93822.	1954.	7.	15.	0.00	35000.00	4.00	12.00	85.00	65.59	54.00	36.00	29.40	0.00	0.00	0.00	280.75	126.66	0.44			
93822.	1954.	7.	15.	1.00	35000.00	4.00	12.00	86.00	65.95	54.07	35.00	29.40	0.00	0.00	0.00	274.56	128.06	0.44			
93822.	1954.	7.	15.	2.00	35000.00	3.00	11.00	85.00	64.45	51.51	33.00	29.40	0.00	0.00	0.00	232.71	126.66	0.40			
93822.	1954.	7.	15.	3.00	35000.00	3.00	14.00	85.00	64.45	51.51	33.00	29.40	0.00	0.00	0.00	210.80	126.66	0.40			
93822.	1954.	7.	15.	4.00	35000.00	3.00	9.00	86.00	64.79	51.50	32.00	29.39	0.00	0.00	0.00	115.02	128.06	0.40			
93822.	1954.	7.	15.	5.00	35000.00	3.00	10.00	85.00	64.45	51.51	33.00	29.40	0.00	0.00	0.00	52.12	126.66	0.40			
93822.	1954.	7.	15.	6.00	35000.00	3.00	7.00	84.00	65.21	53.91	37.00	29.41	0.00	0.00	0.00	44.74	125.27	0.44			
93822.	1954.	7.	15.	7.00	35000.00	3.00	7.00	80.00	64.54	55.33	44.00	29.42	0.00	0.00	0.00	0.00	119.84	0.46			
93822.	1954.	7.	15.	8.00	35000.00	4.00	7.00	76.00	64.05	57.04	53.00	29.43	0.00	0.00	0.00	0.00	114.61	0.48			
93822.	1954.	7.	15.	9.00	35000.00	4.00	9.00	74.00	63.21	56.77	56.00	29.44	0.00	0.00	0.00	0.00	112.07	0.48			
93822.	1954.	7.	15.	10.00	35000.00	4.00	10.00	72.00	61.52	54.91	56.00	29.45	0.00	0.00	0.00	0.00	109.58	0.45			
93822.	1954.	7.	15.	11.00	35000.00	5.00	8.00	70.00	60.85	55.01	60.00	29.47	0.00	0.00	0.00	0.00	107.13	0.45			
93822.	1954.	7.	15.	12.00	35000.00	5.00	6.00	68.00	59.60	54.06	62.00	29.47	1.00	0.00	0.00	0.00	104.90	0.43			
93822.	1954.	7.	15.	13.00	35000.00	5.00	7.00	66.00	57.87	52.19	62.00	29.48	1.00	0.00	0.00	0.00	102.54	0.40			
93822.	1954.	7.	15.	14.00	35000.00	5.00	6.00	66.00	57.17	50.80	59.00	29.50	1.00	0.00	0.00	0.00	102.54	0.38			
93822.	1954.	7.	15.	15.00	35000.00	5.00	4.00	65.00	57.00	51.25	62.00	29.50	1.00	0.00	0.00	0.00	101.38	0.39			
93822.	1954.	7.	15.	16.00	35000.00	5.00	4.00	62.00	55.66	50.99	68.00	29.51	2.00	0.00	0.00	0.00	98.45	0.38			
93822.	1954.	7.	15.	17.00	35000.00	4.00	4.00	61.00	56.00	52.39	74.00	29.52	1.00	0.00	0.00	47.33	96.83	0.40			
93822.	1954.	7.	15.	18.00	35000.00	4.00	3.00	64.00	56.79	51.63	65.00	29.52	1.00	0.00	0.00	49.52	100.22	0.39			
93822.	1954.	7.	15.	19.00	35000.00	3.00	4.00	71.00	59.63	51.89	52.00	29.52	0.00	0.00	0.00	175.41	108.35	0.40			
93822.	1954.	7.	15.	20.00	35000.00	4.00	6.00	74.00	59.24	48.64	42.00	29.52	0.00	0.00	0.00	231.39	112.07	0.36			
93822.	1954.	7.	15.	21.00	35000.00	4.00	6.00	76.00	56.98	41.15	30.00	29.52	0.00	0.00	0.00	213.74	114.61	0.27			
93822.	1954.	7.	15.	22.00	35000.00	3.00	5.00	78.00	57.00	38.96	26.00	29.53	4.00	0.00	0.00	290.85	120.39	0.25			
93822.	1954.	7.	15.	23.00	30000.00	4.00	7.00	80.00	57.99	39.55	25.00	29.52	6.00	0.00	0.00	293.70	127.18	0.26			
93822.	1954.	7.	16.	0.00	30000.00	3.00	6.00	82.00	58.15	37.73	22.00	29.50	8.00	0.00	0.00	269.51	135.86	0.24			
93822.	1954.	7.	16.	1.00	35000.00	3.00	6.00	85.00	60.92	42.57	24.00	29.49	5.00	0.00	0.00	261.00	132.04	0.29			
93822.	1954.	7.	16.	2.00	35000.00	16.00	3.00	85.00	60.50	41.39	23.00	29.47	5.00	0.00	0.00	220.69	132.04	0.28			
93822.	1954.	7.	16.	3.00	35000.00	3.00	6.00	87.00	60.49	39.17	20.00	29.44	3.00	0.00	0.00	216.26	131.45	0.26			
93822.	1954.	7.	16.	4.00	35000.00	4.00	12.00	87.00	60.48	39.17	20.00	29.40	5.00	0.00	0.00	108.55	134.97	0.26			
93822.	1954.	7.	16.	5.00	10000.00	4.00	9.00	87.00	62.20	44.23	24.00	29.37	7.00	0.00	0.00	47.72	140.26	0.31			
93822.	1954.	7.	16.	6.00	12000.00	4.00	6.00	87.00	62.63	45.36	25.00	29.40	8.00	0.00	0.00	30.02	143.56	0.33			
93822.	1954.	7.	16.	7.00	35000.00	5.00	5.00	82.00	62.28	48.91	33.00	29.42	1.00	0.00	0.00	0.00	122.74	0.37			
93822.	1954.	7.	16.	8.00	35000.00	4.00	8.00	77.00	60.61	49.23	39.00	29.43	0.00	0.00	0.00	0.00	115.90	0.37			
93822.	1954.	7.	16.	9.00	35000.00	5.00	5.00	74.00	60.40	51.18	46.00	29.44	0.00	0.00	0.00	0.00	112.07	0.39			
93822.	1954.	7.	16.	10.00	35000.00	5.00	6.00	73.00	60.16	51.47	48.00	29.44	0.00	0.00	0.00	0.00	110.82	0.40			
93822.	1954.	7.	16.	11.00	35000.00	6.00	6.00	71.00	59.62	51.89	52.00	29.42	0.00	0.00	0.00	0.00	108.35	0.40			
93822.	1954.	7.	16.	12.00	35000.00	6.00	6.00	72.00	59.08	49.98	47.00	29.42	0.00	0.00	0.00	0.00	109.58	0.37			
93822.	1954.	7.	16.	13.00	35000.00	6.00	5.00	68.00	57.64	50.19	54.00	29.41	0.00	0.00	0.00	0.00	104.72	0.38			
93822.	1954.	7.	16.	14.00	35000.00	6.00	4.00	68.00	57.89	50.71	55.00	29.41	0.00	0.00	0.00	0.00	104.72	0.38			
93822.	1954.	7.	16.	15.00	35000.00	6.00	4.00	66.00	56.92	50.33	58.00	29.41	1.00	0.00	0.00	0.00	102.54	0.38			
93822.	1954.	7.	16.	16.00	25000.00	7.00	5.00	65.00	56.76	50.80	61.00	29.40	7.00	0.00	0.00	0.00	109.64	0.38			
93822.	1954.	7.	16.	17.00	12000.00	6.00	6.00	66.00	57.86	52.19	62.00	29.40	7.00	0.00	0.00	43.30	110.89	0.40			
93822.	1954.	7.	16.	18.00	12000.00	6.00	3.00	68.00	58.87	52.67	59.00	29.40	9.00	0.00	0.00	26.64	119.15	0.41			
93822.	1954.	7.	16.	19.00	12000.00	8.00	9.00	72.00	59.90	51.71	50.00	29.38	8.00	0.00	0.00	160.53	121.50	0.40			
93822.	1954.	7.	16.	20.00	35000.00	8.00	8.00	77.00	61.86	51.98	43.00	29.38	4.00	0.00	0.00	220.37	119.05	0.40			
93822.	1954.	7.	16.	21.00	35000.00	8.00	12.00	85.00	66.32	55.56	38.00	29.38	4.00	0.00	0.00	218.49	130.10	0.46			
93822.	1954.	7.	16.	22.00	35000.00	8.00	10.00	87.00	65.90	53.25	33.00	29.38	5.00	0.00	0.00	282.40	134.97	0.43			
93822.	1954.	7.	16.	23.00	35000.00	8.00	6.00	90.00	67.24	54.04	31.00	29.37	6.00	0.00	0.00	287.51	141.98	0.44			
93822.	1954.	7.	17.	0.00	25000.00	11.00	5.00	91.00	66.64	51.95	28.00	29.36	8.00	0.00	0.00	269.25	149.97	0.41			
93822.	1954.	7.	17.	1.00	25000.00	7.00	5.00	93.00	67.56	52.60	27.00	29.32	7.00	0.00	0.00	250.73	149.74	0.42			
93822.	1954.	7.	17.	2.00	25000.00	9.00	10.00	92.00	68.21	54.81	30.00	29.29	7.00	0.00	0.00	212.27	148.13	0.46			
93822.	1954.	7.	17.	3.00	35000.00	8.00	15.00	93.00	67.08	51.51	26.00	29.25	10.00	0.00	0.00	188.52	161.73	0.41			
93822.	1954.	7.	17.	4.00	35000.00	8.00	13.00	95.00	69.38	55.35	28.00	29.23	9.00	0.00	0.00	101.17	160.71	0.47			
93822.	1954.	7.	17.	5.00	10000.00	8.00	10.00	94.00	68.68	54.50	28.00	29.22	9.00	0.00	0.00	45.11	158.98	0.45			

30dayevap.txt

Station	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.		
Precip.						Radiat.	Radiat.	Wat. Vap.(in Hg)					(feet)	Dirac.	V(knts)	Temp(F)	Temp(F)	Temp(F)	(%)	(in Hg)	Cov(I)
93822.	1954.	7.	17.	6.00	10000.00	9.00	9.00	92.00	69.50	57.59	33.00	29.22	10.00	0.00	0.00	18.33	159.98	0.50			
93822.	1954.	7.	17.	7.00	10000.00	8.00	6.00	91.00	68.77	56.72	33.00	29.22	8.00	0.00	0.00	0.00	149.97	0.49			
93822.	1954.	7.	17.	8.00	35000.00	8.00	12.00	89.00	68.53	57.52	36.00	29.22	5.00	0.00	0.00	0.00	137.96	0.50			
93822.	1954.	7.	17.	9.00	12000.00	7.00	8.00	87.00	68.19	58.09	39.00	29.22	8.00	0.00	0.00	0.00	143.56	0.51			
93822.	1954.	7.	17.	10.00	12000.00	8.00	12.00	86.00	67.05	56.45	38.00	29.22	6.00	0.00	0.00	0.00	135.89	0.48			
93822.	1954.	7.	17.	11.00	35000.00	8.00	10.00	85.00	66.66	56.32	39.00	29.21	2.00	0.00	0.00	0.00	127.52	0.48			
93822.	1954.	7.	17.	12.00	35000.00	8.00	13.00	84.00	66.25	56.16	40.00	29.19	0.00	0.00	0.00	0.00	125.27	0.47			
93822.	1954.	7.	17.	13.00	35000.00	8.00	12.00	83.00	66.52	57.37	43.00	29.18	4.00	0.00	0.00	0.00	127.26	0.49			
93822.	1954.	7.	17.	14.00	35000.00	9.00	11.00	82.00	66.74	58.43	46.00	29.16	0.00	0.00	0.00	0.00	122.53	0.51			
93822.	1954.	7.	17.	15.00	35000.00	9.00	10.00	80.00	66.73	59.61	51.00	29.16	3.00	0.00	0.00	0.00	121.68	0.53			
93822.	1954.	7.	17.	16.00	35000.00	10.00	11.00	80.00	68.26	62.35	56.00	29.16	5.00	0.00	0.00	0.00	124.94	0.58			
93822.	1954.	7.	17.	17.00	35000.00	10.00	12.00	79.00	68.88	63.95	61.00	29.16	5.00	0.00	0.00	42.01	123.55	0.61			
93822.	1954.	7.	17.	18.00	35000.00	10.00	11.00	80.00	69.75	64.89	61.00	29.15	5.00	0.00	0.00	48.13	124.94	0.63			
93822.	1954.	7.	17.	19.00	35000.00	11.00	10.00	85.00	73.16	68.07	58.00	29.15	4.00	0.00	0.00	162.25	130.10	0.71			
93822.	1954.	7.	17.	20.00	35000.00	14.00	7.00	91.00	75.10	68.51	49.00	29.17	7.00	0.00	0.00	206.59	146.52	0.72			
93822.	1954.	7.	17.	21.00	35000.00	11.00	6.00	93.00	74.80	67.06	44.00	29.17	7.00	0.00	0.00	209.55	149.74	0.69			
93822.	1954.	7.	17.	22.00	35000.00	10.00	7.00	96.00	75.93	67.61	41.00	29.16	5.00	0.00	0.00	276.44	148.86	0.70			
93822.	1954.	7.	17.	23.00	35000.00	13.00	11.00	101.00	77.04	67.22	35.00	29.17	4.00	0.00	0.00	285.85	154.77	0.70			
93822.	1954.	7.	18.	0.00	35000.00	15.00	5.00	101.00	76.55	66.33	34.00	29.15	4.00	0.00	0.00	286.84	154.77	0.68			
93822.	1954.	7.	18.	1.00	35000.00	15.00	10.00	103.00	76.50	65.25	31.00	29.14	3.00	0.00	0.00	254.70	156.28	0.66			
93822.	1954.	7.	18.	2.00	35000.00	1.00	5.00	103.00	77.02	66.23	32.00	29.14	3.00	0.00	0.00	214.73	156.28	0.68			
93822.	1954.	7.	18.	3.00	35000.00	1.00	7.00	103.00	77.02	66.23	32.00	29.14	3.00	0.00	0.00	215.86	156.28	0.68			
93822.	1954.	7.	18.	4.00	35000.00	2.00	10.00	103.00	75.98	64.26	30.00	29.14	2.00	0.00	0.00	105.65	154.97	0.64			
93822.	1954.	7.	18.	5.00	35000.00	1.00	11.00	102.00	75.27	63.40	30.00	29.13	1.00	0.00	0.00	47.03	152.55	0.62			
93822.	1954.	7.	18.	6.00	35000.00	1.00	6.00	99.00	76.01	66.32	36.00	29.14	1.00	0.00	0.00	44.49	147.73	0.68			
93822.	1954.	7.	18.	7.00	35000.00	1.00	13.00	94.00	75.59	67.96	44.00	29.16	0.00	0.00	0.00	0.00	139.74	0.71			
93822.	1954.	7.	18.	8.00	35000.00	1.00	8.00	88.00	74.39	68.70	54.00	29.17	0.00	0.00	0.00	0.00	130.90	0.72			
93822.	1954.	7.	18.	9.00	35000.00	3.00	5.00	84.00	73.86	69.63	63.00	29.19	0.00	0.00	0.00	0.00	125.27	0.74			
93822.	1954.	7.	18.	10.00	35000.00	2.00	6.00	82.00	72.98	69.15	66.00	29.19	0.00	0.00	0.00	0.00	122.53	0.73			
93822.	1954.	7.	18.	11.00	35000.00	3.00	4.00	80.00	72.60	69.44	71.00	29.21	2.00	0.00	0.00	0.00	120.66	0.74			
93822.	1954.	7.	18.	12.00	35000.00	2.00	3.00	79.00	72.50	69.73	74.00	29.21	2.00	0.00	0.00	0.00	119.32	0.74			
93822.	1954.	7.	18.	13.00	35000.00	2.00	4.00	76.00	71.75	69.93	82.00	29.20	1.00	0.00	0.00	0.00	114.81	0.75			
93822.	1954.	7.	18.	14.00	35000.00	3.00	3.00	76.00	71.75	69.93	82.00	29.21	2.00	0.00	0.00	0.00	115.39	0.75			
93822.	1954.	7.	18.	15.00	35000.00	3.00	3.00	75.00	71.77	70.39	86.00	29.21	0.00	0.00	0.00	0.00	113.34	0.76			
93822.	1954.	7.	18.	16.00	35000.00	3.00	4.00	74.00	71.05	69.75	87.00	29.22	0.00	0.00	0.00	0.00	112.07	0.74			
93822.	1954.	7.	18.	17.00	35000.00	3.00	4.00	73.00	71.00	70.12	91.00	29.22	0.00	0.00	0.00	44.35	110.82	0.75			
93822.	1954.	7.	18.	18.00	35000.00	4.00	5.00	75.00	72.48	71.43	89.00	29.22	0.00	0.00	0.00	46.56	113.34	0.78			
93822.	1954.	7.	18.	19.00	35000.00	4.00	5.00	81.00	74.89	72.48	76.00	29.24	0.00	0.00	0.00	169.94	121.18	0.82			
93822.	1954.	7.	18.	20.00	35000.00	5.00	6.00	86.00	76.55	72.95	66.00	29.24	1.00	0.00	0.00	221.90	128.27	0.83			
93822.	1954.	7.	18.	21.00	35000.00	4.00	7.00	90.00	76.78	71.67	56.00	29.23	8.00	0.00	0.00	203.89	148.35	0.80			
93822.	1954.	7.	18.	22.00	30000.00	2.00	4.00	93.00	76.37	69.71	48.00	29.25	9.00	0.00	0.00	266.20	157.26	0.75			
93822.	1954.	7.	18.	23.00	30000.00	16.00	14.00	93.00	76.38	69.71	48.00	29.27	10.00	0.00	0.00	257.58	161.73	0.75			

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind Temp(F)	Wind Cov(1)	Wind Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	1.		.00	35000.00	12.00	5.00	88.00	79.59	76.69	70.00	29.32	4.00	.00	.00	219.49	134.46	.94
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.	3.00	35000.00	15.00	8.00	8.00	91.00	79.71	75.76	62.00	29.28	5.00	.00	.00	285.50	141.00	.91
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.	6.00	35000.00	12.00	8.00	8.00	94.00	78.72	73.09	52.00	29.24	1.00	.00	.00	213.84	139.97	.84
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.	9.00	35000.00	11.00	6.00	6.00	91.00	76.20	70.32	52.00	29.18	.00	.00	.00	44.74	135.26	.77
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.	12.00	35000.00	10.00	3.00	3.00	82.00	75.26	72.63	74.00	29.23	5.00	.00	.00	.00	127.74	.82
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.	15.00	35000.00	.00	.00	.00	78.00	73.65	71.88	82.00	29.25	1.00	.00	.00	.00	117.40	.80
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.	18.00	35000.00	.00	.00	.00	74.00	72.66	72.10	94.00	29.23	4.00	.00	.00	.00	115.12	.80
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.	21.00	35000.00	9.00	3.00	3.00	74.00	72.66	72.10	94.00	29.23	5.00	.00	.00	49.64	116.83	.80
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	1.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	35000.00	12.00	7.00	85.00	77.45	74.68	72.00	29.23	1.00	.00	.00	216.83	126.87	.88
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.	3.00	35000.00	12.00	8.00	8.00	90.00	76.78	71.67	56.00	29.23	8.00	.00	.00	269.51	148.35	.80
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.	6.00	7500.00	15.00	11.00	11.00	82.00	72.69	68.68	65.00	29.20	10.00	.00	.00	69.52	143.36	.72
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.	9.00	35000.00	12.00	4.00	4.00	81.00	75.70	73.67	79.00	29.18	8.00	.00	.00	42.72	134.36	.85
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.	12.00	35000.00	14.00	4.00	4.00	76.00	75.32	75.06	97.00	29.23	4.00	.00	.00	.00	117.73	.88
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.	15.00	35000.00	15.00	5.00	5.00	71.00	68.83	67.81	90.00	29.24	1.00	.00	.00	.00	108.53	.69
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.	18.00	35000.00	13.00	3.00	3.00	67.00	66.39	66.06	97.00	29.23	3.00	.00	.00	.00	105.12	.65
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.	21.00	35000.00	13.00	4.00	4.00	70.00	68.51	67.79	93.00	29.25	1.00	.00	.00	48.77	107.31	.69
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	35000.00	14.00	9.00	81.00	72.38	68.65	67.00	29.23	.00	.00	.00	213.24	121.18	.72
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	3.00	35000.00	14.00	15.00	15.00	83.00	69.22	62.37	51.00	29.24	1.00	.00	.00	284.27	124.10	.58
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	6.00	35000.00	14.00	14.00	14.00	84.00	65.53	54.68	38.00	29.22	.00	.00	.00	210.44	125.27	.45
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind Temp(F)	Wind (%)	Wind (in Hg)	Cov.(I)	Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.	Humidity (in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	9.00	35000.00	14.00	11.00	81.00	64.62	54.89	42.00	29.20	.00	.00	.00	.00	.00	.00	.00	44.17	121.18	.45
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	12.00	35000.00	15.00	5.00	69.00	62.61	58.88	71.00	29.23	.00	.00	.00	.00	.00	.00	.00	.00	105.92	.51
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	15.00	35000.00	13.00	8.00	68.00	61.71	57.93	71.00	29.24	.00	.00	.00	.00	.00	.00	.00	.00	104.72	.49
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	18.00	35000.00	15.00	7.00	64.00	60.20	57.84	81.00	29.23	.00	.00	.00	.00	.00	.00	.00	.00	100.05	.49
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.	21.00	35000.00	14.00	7.00	67.00	62.37	59.67	78.00	29.25	5.00	.00	.00	.00	.00	.00	.00	48.13	107.94	.52
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	35000.00	14.00	8.00	78.00	66.58	60.49	56.00	29.27	.00	.00	.00	.00	.00	.00	212.73	117.20	.54
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	3.00	35000.00	15.00	13.00	84.00	66.26	56.16	40.00	29.26	.00	.00	.00	.00	.00	.00	.00	279.95	125.27	.47
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	6.00	35000.00	15.00	10.00	84.00	65.54	54.68	38.00	29.26	1.00	.00	.00	.00	.00	.00	.00	213.27	125.48	.45
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	9.00	35000.00	15.00	8.00	81.00	64.63	54.89	42.00	29.25	.00	.00	.00	.00	.00	.00	.00	43.85	121.18	.45
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	12.00	35000.00	.00	.00	70.00	64.00	60.65	73.00	29.26	3.00	.00	.00	.00	.00	.00	.00	.00	108.77	.54
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	15.00	35000.00	.00	.00	64.00	61.43	59.89	87.00	29.30	1.00	.00	.00	.00	.00	.00	.00	.00	100.22	.53
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	18.00	35000.00	.00	.00	62.00	60.10	58.90	90.00	29.31	1.00	.00	.00	.00	.00	.00	.00	.00	97.95	.51
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.	21.00	35000.00	.00	.00	64.00	61.43	59.89	87.00	29.32	1.00	.00	.00	.00	.00	.00	.00	47.23	100.22	.53
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	35000.00	9.00	5.00	80.00	67.67	61.28	54.00	29.30	2.00	.00	.00	.00	.00	.00	217.16	120.66	.56
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	3.00	35000.00	8.00	5.00	85.00	66.67	56.32	39.00	29.28	.00	.00	.00	.00	.00	.00	.00	279.66	126.66	.48
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	6.00	35000.00	10.00	11.00	87.00	67.81	57.34	38.00	29.24	1.00	.00	.00	.00	.00	.00	.00	213.05	129.69	.49
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	9.00	35000.00	11.00	5.00	83.00	67.55	59.33	46.00	29.21	4.00	.00	.00	.00	.00	.00	.00	44.59	127.26	.53
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	12.00	25000.00	9.00	6.00	75.00	66.75	62.49	66.00	29.18	9.00	.00	.00	.00	.00	.00	.00	.00	128.94	.58
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	15.00	25000.00	11.00	6.00	75.00	66.21	61.58	64.00	29.16	8.00	.00	.00	.00	.00	.00	.00	.00	125.67	.56

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind Temp(F)	Wind Dir	Wind V(knts)	Wind Cov(1)	Wind Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	18.00	25000.00	9.00	4.00	73.00	65.73	61.88	69.00	29.15	10.00	.00	.00	.00	.00	.00	129.66	.57	
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.	21.00	11000.00	10.00	6.00	72.00	66.54	63.76	76.00	29.16	10.00	.00	.00	.00	19.00	128.20	.61		
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	11000.00	11.00	6.00	72.00	69.12	67.78	87.00	29.17	10.00	.00	.00	.00	87.84	128.20	.69	
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.	3.00	6000.00	9.00	6.00	72.00	69.80	68.80	90.00	29.17	10.00	.00	.00	.00	92.20	128.20	.72		
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.	6.00	1900.00	9.00	7.00	73.00	70.77	69.79	90.00	29.16	10.00	.00	.00	.00	69.24	129.66	.74		
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.	9.00	35000.00	9.00	7.00	75.00	70.80	68.95	82.00	29.14	5.00	.00	.00	.00	43.88	118.15	.72		
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.	12.00	13000.00	6.00	4.00	70.00	69.37	69.06	97.00	29.16	8.00	.00	.00	.00	.00	118.78	.72		
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.	15.00	700.00	15.00	3.00	69.00	69.00	68.97	100.00	29.17	10.00	.00	.00	.00	.00	123.93	.72		
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.	18.00	300.00	15.00	6.00	68.00	68.00	67.97	100.00	29.18	10.00	.00	.00	.00	.00	122.53	.69		
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.	21.00	200.00	1.00	6.00	67.00	67.00	66.96	100.00	29.22	10.00	.00	.00	.00	14.84	121.14	.67		
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	6.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	35000.00	1.00	4.00	78.00	71.05	67.95	72.00	29.24	3.00	.00	.00	216.75	119.00	.70		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.	3.00	35000.00	2.00	4.00	83.00	69.22	62.37	51.00	29.24	5.00	.00	.00	.00	283.78	129.16	.58		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.	6.00	35000.00	9.00	7.00	85.00	68.81	60.50	45.00	29.21	6.00	.00	.00	.00	210.32	134.41	.55		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.	9.00	35000.00	11.00	4.00	83.00	69.21	62.37	51.00	29.18	5.00	.00	.00	.00	43.49	129.16	.58		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.	12.00	35000.00	8.00	5.00	74.00	68.40	65.70	76.00	29.17	5.00	.00	.00	.00	.00	116.83	.65		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.	15.00	35000.00	9.00	6.00	72.00	67.26	64.91	79.00	29.18	6.00	.00	.00	.00	.00	116.28	.63		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.	18.00	35000.00	9.00	5.00	71.00	67.48	65.75	84.00	29.15	2.00	.00	.00	.00	.00	109.08	.65		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.	21.00	35000.00	8.00	7.00	71.00	68.83	67.81	90.00	29.12	10.00	.00	.00	.00	39.55	126.77	.69		
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	7.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling	Wind (%)(in Hg)	Wind Cov.(I)	Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0. 1900.	7.	8.	.00	25000.00	9.00	5.00	76.00	73.21	72.07	88.00	29.10	10.00	.00	.00	.00	188.62	134.10	.80	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	3.00	25000.00	13.00	3.00	80.00	74.22	71.91	77.00	29.07	8.00	.00	.00	.00	267.81	132.88	.80	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	6.00	25000.00	12.00	7.00	82.00	73.26	69.60	67.00	29.06	7.00	.00	.00	.00	206.13	132.74	.74	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	9.00	15000.00	11.00	7.00	81.00	73.78	70.83	72.00	29.03	8.00	.00	.00	.00	30.64	134.36	.77	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	12.00	35000.00	10.00	5.00	74.00	71.74	70.78	90.00	29.08	3.00	.00	.00	.00	.00	113.79	.77	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	15.00	35000.00	14.00	3.00	71.00	71.00	70.98	100.00	29.10	2.00	.00	.00	.00	.00	109.08	.77	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	18.00	35000.00	8.00	3.00	70.00	70.00	69.98	100.00	29.08	.00	.00	.00	.00	.00	107.13	.74	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	21.00	35000.00	.00	.00	72.00	72.00	71.99	100.00	29.08	10.00	.00	.00	.00	38.80	128.20	.80	
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	8.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	2700.00	10.00	5.00	69.00	68.37	68.06	97.00	29.14	10.00	.00	.00	.00	69.30	123.93	.70	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	3.00	25000.00	11.00	5.00	78.00	72.88	70.75	79.00	29.13	9.00	.00	.00	.00	259.21	133.34	.77	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	6.00	35000.00	4.00	7.00	84.00	73.84	69.64	63.00	29.07	9.00	.00	.00	.00	194.58	142.52	.74	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	9.00	25000.00	11.00	4.00	82.00	73.84	70.50	69.00	29.08	8.00	.00	.00	.00	40.29	135.86	.76	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	12.00	15000.00	12.00	5.00	76.00	73.92	73.10	91.00	29.11	10.00	.00	.00	.00	.00	134.10	.83	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	15.00	35000.00	11.00	4.00	71.00	69.49	68.79	93.00	29.10	3.00	.00	.00	.00	.00	110.00	.72	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	18.00	35000.00	.00	.00	67.00	67.00	66.96	100.00	29.09	.00	.00	.00	.00	.00	103.54	.67	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	21.00	35000.00	.00	.00	69.00	67.53	66.80	93.00	29.13	2.00	.00	.00	.00	43.45	106.64	.67	
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	9.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	10.	.00	35000.00	12.00	6.00	79.00	72.50	69.73	74.00	29.16	7.00	.00	.00	.00	206.25	128.39	.74	
0. 1900.	7.	10.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	10.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	10.	3.00	35000.00	14.00	5.00	85.00	71.53	65.36	53.00	29.16	10.00	.00	.00	.00	249.08	148.19	.65	
0. 1900.	7.	10.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	10.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	10.	6.00	25000.00	10.00	7.00	83.00	73.57	69.63	65.00	29.14	10.00	.00	.00	.00	186.94	144.95	.74	
0. 1900.	7.	10.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind Temp(F)	Wind (%)	Wind (in Hg)	Wind Cov(1)	Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	9.00	15000.00	12.00	11.00	80.00	73.41	70.70	74.00	29.11	10.00	.00	.00	20.51	140.22	.77	.00	.00	.00	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	12.00	25000.00	13.00	3.00	71.00	68.16	66.79	87.00	29.13	8.00	.00	.00	.00	.00	120.13	.67	.00	.00	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	15.00	35000.00	15.00	5.00	70.00	67.20	65.81	87.00	29.14	3.00	.00	.00	.00	.00	108.77	.65	.00	.00	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	18.00	15000.00	9.00	3.00	69.00	68.37	68.06	97.00	29.15	10.00	.00	.00	.00	.00	123.93	.70	.00	.00	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.	21.00	35000.00	9.00	5.00	69.00	68.37	68.06	97.00	29.17	2.00	.00	.00	42.57	106.64	.70	.00	.00	.00	
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	10.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	35000.00	13.00	6.00	79.00	73.29	70.94	77.00	29.18	.00	.00	.00	.00	208.78	118.52	.77	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	3.00	35000.00	12.00	5.00	87.00	73.21	67.21	53.00	29.18	3.00	.00	.00	285.11	131.45	.69	.00	.00	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	6.00	13000.00	12.00	8.00	85.00	73.48	68.58	59.00	29.18	9.00	.00	.00	115.42	144.10	.72	.00	.00	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	9.00	35000.00	11.00	4.00	80.00	74.22	71.91	77.00	29.14	4.00	.00	.00	42.01	123.10	.80	.00	.00	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	12.00	35000.00	9.00	5.00	72.00	69.12	67.78	87.00	29.17	1.00	.00	.00	.00	.00	109.76	.69	.00	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	15.00	25000.00	12.00	5.00	71.00	68.83	67.81	90.00	29.17	10.00	.00	.00	.00	.00	126.77	.69	.00	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	18.00	15000.00	7.00	5.00	67.00	66.39	66.06	97.00	29.16	10.00	.00	.00	.00	.00	121.14	.65	.00	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.	21.00	35000.00	10.00	3.00	66.00	66.00	65.96	100.00	29.19	3.00	.00	.00	41.81	103.93	.65	.00	.00	.00	
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	11.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.		.00	35000.00	11.00	6.00	77.00	70.66	67.80	74.00	29.18	5.00	.00	.00	211.69	120.83	.70	.00	.00	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	3.00	35000.00	10.00	7.00	86.00	73.04	67.40	55.00	29.19	6.00	.00	.00	278.35	135.89	.69	.00	.00	.00	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	6.00	4500.00	11.00	4.00	88.00	75.40	70.34	57.00	29.14	6.00	.00	.00	174.15	138.91	.77	.00	.00	.00	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	9.00	6000.00	11.00	7.00	83.00	75.04	71.90	70.00	29.15	9.00	.00	.00	19.71	140.95	.80	.00	.00	.00	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	12.00	35000.00	8.00	3.00	75.00	72.01	70.74	87.00	29.19	1.00	.00	.00	.00	.00	113.53	.77	.00	.00	
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	15.00	35000.00	.00	.00	71.00	70.36	70.06	97.00	29.19	.00	.00	.00	.00	.00	108.35	.75	.00	.00	

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind Temp(F)	Wind (%)	Wind (in Hg)	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	18.00	35000.00	.00	.00	.00	69.00	68.37	68.06	97.00	29.18	.00	.00	.00	.00	105.92	.70
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.	21.00	35000.00	.00	.00	.00	70.00	69.37	69.06	97.00	29.18	.00	.00	.00	39.83	107.13	.72
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	12.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.		.00	35000.00	8.00	5.00	82.00	75.26	72.63	74.00	29.18	1.00	.00	.00	210.54	122.74	.82
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	3.00	35000.00	9.00	15.00	.00	89.00	77.60	73.37	61.00	29.16	1.00	.00	.00	280.92	132.56	.84
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	6.00	35000.00	9.00	15.00	.00	90.00	77.80	73.28	59.00	29.08	3.00	.00	.00	213.20	135.84	.84
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	9.00	25000.00	9.00	12.00	.00	86.00	77.76	74.77	70.00	29.05	10.00	.00	.00	35.81	149.83	.88
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	12.00	5500.00	8.00	12.00	.00	82.00	76.09	73.86	77.00	29.08	10.00	.00	.00	.00	143.36	.85
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	15.00	35000.00	14.00	3.00	.00	77.00	75.61	75.09	94.00	29.08	7.00	.00	.00	.00	125.56	.88
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	18.00	35000.00	15.00	6.00	.00	71.00	70.36	70.06	97.00	29.10	.00	.00	.00	.00	108.35	.75
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.	21.00	35000.00	.00	.00	.00	71.00	69.49	68.79	93.00	29.17	2.00	.00	.00	39.83	109.08	.72
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	13.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	35000.00	15.00	7.00	82.00	73.85	70.50	69.00	29.22	1.00	.00	.00	209.89	122.74	.76
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	3.00	35000.00	16.00	9.00	.00	88.00	72.29	65.14	48.00	29.25	.00	.00	.00	276.53	130.90	.64
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	6.00	35000.00	15.00	13.00	.00	89.00	72.75	65.42	47.00	29.26	.00	.00	.00	207.27	132.34	.65
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	9.00	35000.00	15.00	6.00	.00	86.00	72.38	66.28	53.00	29.29	.00	.00	.00	39.43	128.06	.67
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	12.00	35000.00	.00	.00	.00	75.00	71.54	70.03	85.00	29.34	.00	.00	.00	.00	113.34	.75
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	15.00	35000.00	.00	.00	.00	70.00	68.51	67.79	93.00	29.36	.00	.00	.00	.00	107.13	.69
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	18.00	35000.00	.00	.00	.00	67.00	66.39	66.06	97.00	29.40	.00	.00	.00	.00	103.54	.65
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.	21.00	35000.00	.00	.00	.00	70.00	68.51	67.79	93.00	29.43	.00	.00	.00	38.00	107.13	.69
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	14.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00



worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind (%)(in Hg)	Wind Cov.(1)	Wind Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	15.	.00	35000.00	8.00	6.00	85.00	72.87	67.54	57.00	29.46	.00	.00	.00	206.26	126.66	.70	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	3.00	35000.00	12.00	6.00	89.00	74.57	68.47	52.00	29.47	.00	.00	.00	276.12	132.34	.72	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	6.00	35000.00	9.00	7.00	90.00	73.58	66.33	47.00	29.43	.00	.00	.00	206.88	133.79	.67	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	9.00	35000.00	10.00	7.00	88.00	75.43	70.34	57.00	29.43	.00	.00	.00	38.86	130.90	.77	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	12.00	35000.00	.00	.00	79.00	74.60	72.86	82.00	29.45	.00	.00	.00	.00	118.52	.82	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	15.00	35000.00	.00	.00	75.00	72.72	71.77	90.00	29.46	.00	.00	.00	.00	113.34	.79	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	18.00	35000.00	.00	.00	73.00	71.68	71.10	94.00	29.45	.00	.00	.00	.00	110.82	.77	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	21.00	35000.00	9.00	3.00	73.00	71.68	71.10	94.00	29.45	.00	.00	.00	37.08	110.82	.77	
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	15.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	35000.00	.00	.00	85.00	76.88	73.81	70.00	29.47	.00	.00	.00	205.60	126.66	.85	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	3.00	35000.00	9.00	8.00	89.00	77.63	73.36	61.00	29.45	1.00	.00	.00	279.67	132.56	.84	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	6.00	35000.00	9.00	8.00	91.00	78.35	73.68	58.00	29.42	.00	.00	.00	206.46	135.26	.86	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	9.00	35000.00	9.00	5.00	88.00	77.40	73.42	63.00	29.39	.00	.00	.00	38.26	130.90	.85	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	12.00	35000.00	7.00	6.00	79.00	74.60	72.86	82.00	29.40	.00	.00	.00	.00	118.52	.82	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	15.00	35000.00	9.00	4.00	76.00	73.22	72.07	88.00	29.38	.00	.00	.00	.00	114.61	.80	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	18.00	35000.00	9.00	6.00	76.00	73.22	72.07	88.00	29.38	.00	.00	.00	.00	114.61	.80	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	21.00	35000.00	.00	.00	74.00	72.66	72.10	94.00	29.40	.00	.00	.00	36.14	112.07	.80	
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	16.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	.00	35000.00	9.00	5.00	85.00	77.46	74.68	72.00	29.41	.00	.00	.00	204.93	126.66	.88	
0.	1900.	7.	17.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	3.00	35000.00	9.00	9.00	91.00	76.95	71.48	54.00	29.37	1.00	.00	.00	279.23	135.49	.80	
0.	1900.	7.	17.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	6.00	35000.00	10.00	10.00	93.00	77.52	71.57	51.00	29.31	2.00	.00	.00	210.83	139.17	.80	
0.	1900.	7.	17.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind (%) (in Hg)	Wind Cov.(1)	Wind Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	9.00	35000.00	10.00	6.00	87.00	76.51	72.47	63.00	29.31	9.00	.00	.00	35.05	147.30	.82	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	12.00	25000.00	9.00	5.00	81.00	75.70	73.67	79.00	29.33	7.00	.00	.00	.00	131.27	.85	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	15.00	12000.00	15.00	6.00	75.00	70.81	68.95	82.00	29.36	6.00	.00	.00	.00	120.27	.72	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	18.00	4200.00	12.00	8.00	73.00	70.09	68.77	87.00	29.36	10.00	.00	.00	.00	129.66	.72	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.	21.00	8000.00	12.00	3.00	70.00	69.37	69.06	97.00	29.34	10.00	.00	.00	11.61	125.34	.72	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	17.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	13000.00	13.00	5.00	77.00	72.71	70.90	82.00	29.38	8.00	.00	137.88	128.51	.77	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.	3.00	13000.00	.00	.00	81.00	73.80	70.83	72.00	29.39	9.00	.00	.00	152.24	137.87	.77	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.	6.00	25000.00	2.00	6.00	86.00	75.00	70.54	61.00	29.33	9.00	.00	.00	191.40	145.69	.77	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.	9.00	13000.00	15.00	5.00	82.00	74.71	71.79	72.00	29.34	10.00	.00	.00	15.35	143.36	.80	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.	12.00	13000.00	.00	.00	73.00	69.39	67.71	84.00	29.36	10.00	.00	.00	.00	129.66	.69	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.	15.00	13000.00	9.00	3.00	72.00	70.69	70.11	94.00	29.36	10.00	.00	.00	.00	128.20	.75	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.	18.00	13000.00	10.00	5.00	71.00	70.36	70.06	97.00	29.37	10.00	.00	.00	.00	126.77	.75	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.	21.00	11000.00	9.00	3.00	71.00	71.00	70.98	100.00	29.38	10.00	.00	.00	14.21	126.77	.77	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	18.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	8000.00	9.00	4.00	73.00	72.34	72.06	97.00	29.39	10.00	.00	67.18	129.66	.80	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.	3.00	8000.00	10.00	4.00	75.00	73.64	73.09	94.00	29.39	10.00	.00	.00	90.55	132.60	.83	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.	6.00	13000.00	3.00	6.00	77.00	74.18	73.06	88.00	29.33	10.00	.00	.00	85.11	135.61	.83	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.	9.00	5500.00	6.00	8.00	74.00	71.75	70.78	90.00	29.31	10.00	.00	.00	11.99	131.12	.77	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.	12.00	8000.00	7.00	5.00	73.00	72.34	72.06	97.00	29.33	10.00	.00	.00	.00	129.66	.80	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.	15.00	25000.00	9.00	4.00	72.00	71.35	71.06	97.00	29.34	10.00	.00	.00	.00	128.20	.77	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind Temp(F)	Wind Dir	Wind V(knts)	Wind Cov(1)	Wind Precip	DryBulb	WetBulb Radiat	DewPt. Radiat	Humidity Wat. Vap(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.		
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.	18.00	8000.00	5.00	3.00	72.00	72.00	71.99	100.00	29.33	10.00	.00	.00	.00	.00	.00	128.20	.80	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.	21.00	8000.00	3.00	4.00	72.00	71.35	71.06	97.00	29.33	10.00	.00	.00	10.98	.00	.00	128.20	.77	.00	.00	
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	19.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.		.00	400.00	6.00	75.00	74.32	74.06	97.00	29.35	10.00	.00	.00	66.95	.00	.00	132.60	.85	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.	3.00	1500.00	11.00	8.00	78.00	74.41	72.98	85.00	29.35	10.00	.00	.00	90.39	.00	.00	137.13	.83	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.	6.00	10000.00	9.00	4.00	77.00	75.61	75.09	94.00	29.33	10.00	.00	.00	84.91	.00	.00	135.61	.88	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.	9.00	13000.00	10.00	4.00	77.00	75.61	75.09	94.00	29.33	10.00	.00	.00	14.79	.00	.00	135.61	.88	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.	12.00	9000.00	8.00	4.00	75.00	75.00	75.00	100.00	29.33	10.00	.00	.00	.00	.00	.00	132.60	.88	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.	15.00	15000.00	1.00	3.00	74.00	74.00	73.99	100.00	29.35	10.00	.00	.00	.00	.00	.00	131.12	.85	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.	18.00	1100.00	.00	.00	73.00	73.00	72.99	100.00	29.33	10.00	.00	.00	.00	.00	.00	129.66	.82	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.	21.00	8500.00	8.00	5.00	73.00	73.00	72.99	100.00	29.36	10.00	.00	.00	10.66	.00	.00	129.66	.82	.00	.00	
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	20.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.		.00	13000.00	16.00	77.00	74.90	74.09	91.00	29.36	10.00	.00	.00	83.89	.00	.00	135.61	.86	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	3.00	9000.00	7.00	4.00	79.00	75.36	73.97	85.00	29.35	10.00	.00	.00	90.23	.00	.00	138.66	.85	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	6.00	13000.00	10.00	5.00	78.00	75.15	74.05	88.00	29.30	10.00	.00	.00	84.69	.00	.00	137.13	.86	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	9.00	11000.00	6.00	3.00	76.00	73.21	72.07	88.00	29.27	10.00	.00	.00	14.49	.00	.00	134.10	.80	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	12.00	13000.00	1.00	3.00	74.00	73.33	73.06	97.00	29.28	10.00	.00	.00	.00	.00	.00	131.12	.83	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	15.00	13000.00	5.00	6.00	72.00	69.80	68.80	90.00	29.25	9.00	.00	.00	.00	.00	.00	124.66	.72	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	18.00	9000.00	4.00	3.00	70.00	69.37	69.06	97.00	29.22	10.00	.00	.00	.00	.00	.00	125.34	.72	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.	21.00	8000.00	3.00	7.00	71.00	70.36	70.06	97.00	29.20	10.00	.00	.00	10.33	.00	.00	126.77	.75	.00	.00	
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	21.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind (%)	Wind Cov(1)	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	22.	.00	700.00	3.00	8.00	74.00	71.74	70.78	90.00	29.20	10.00	.00	.00	66.48	131.12	.77
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	3.00	3100.00	4.00	10.00	82.00	73.85	70.50	69.00	29.17	6.00	.00	.00	228.44	130.03	.76
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	6.00	35000.00	3.00	11.00	85.00	74.73	70.58	63.00	29.14	5.00	.00	.00	206.98	132.04	.77
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	9.00	35000.00	3.00	6.00	82.00	73.26	69.60	67.00	29.11	.00	.00	.00	34.17	122.53	.74
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	12.00	35000.00	.00	.00	72.00	70.69	70.11	94.00	29.15	.00	.00	.00	.00	109.58	.75
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	15.00	35000.00	.00	.00	71.00	70.36	70.06	97.00	29.17	.00	.00	.00	.00	108.35	.75
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	18.00	35000.00	.00	.00	70.00	69.37	69.06	97.00	29.17	.00	.00	.00	.00	107.13	.72
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	21.00	35000.00	.00	.00	70.00	69.37	69.06	97.00	29.22	5.00	.00	.00	30.84	111.68	.72
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	22.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	35000.00	6.00	7.00	79.00	73.82	71.72	79.00	29.25	5.00	.00	.00	204.08	123.55	.79
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	3.00	15000.00	7.00	10.00	84.00	73.86	69.63	63.00	29.25	7.00	.00	.00	221.59	135.70	.74
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	6.00	4100.00	5.00	5.00	86.00	74.99	70.54	61.00	29.20	7.00	.00	.00	150.26	138.72	.77
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	9.00	25000.00	7.00	7.00	80.00	74.23	71.91	77.00	29.18	10.00	.00	.00	29.93	140.22	.80
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	12.00	15000.00	5.00	6.00	78.00	72.88	70.75	79.00	29.22	9.00	.00	.00	.00	133.34	.77
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	15.00	15000.00	5.00	8.00	77.00	72.70	70.90	82.00	29.22	7.00	.00	.00	.00	125.56	.77
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	18.00	6000.00	5.00	5.00	72.00	72.00	71.99	100.00	29.22	10.00	.00	.00	.00	128.20	.80
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	21.00	9000.00	5.00	4.00	71.00	69.49	68.79	93.00	29.23	6.00	.00	.00	24.56	114.98	.72
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	23.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	35000.00	5.00	6.00	78.00	72.89	70.75	79.00	29.27	5.00	.00	.00	203.32	122.18	.77
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	3.00	2100.00	5.00	5.00	83.00	75.05	71.90	70.00	29.26	8.00	.00	.00	169.47	137.37	.80
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	6.00	35000.00	7.00	7.00	86.00	74.35	69.52	59.00	29.23	5.00	.00	.00	205.82	133.50	.74
0.	1900.	7.	24.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind Temp(F)	Wind (%)	Wind (in Hg)	Cov.(I)	Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.	Humidity (in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	24.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	9.00	35000.00	7.00	6.00	83.00	74.17	70.56	67.00	29.22	2.00	.00	.00	33.38	124.74	.77	.00	.00	.00	
0.	1900.	7.	24.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	12.00	35000.00	5.00	5.00	77.00	72.70	70.90	82.00	29.25	.00	.00	.00	.00	.00	.00	.00	115.90	.77	.00
0.	1900.	7.	24.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	15.00	35000.00	7.00	5.00	72.00	69.80	68.80	90.00	29.25	.00	.00	.00	.00	.00	.00	.00	109.58	.72	.00
0.	1900.	7.	24.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	18.00	35000.00	.00	.00	70.00	69.37	69.06	97.00	29.24	2.00	.00	.00	.00	.00	.00	.00	107.86	.72	.00
0.	1900.	7.	24.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.	21.00	35000.00	4.00	4.00	71.00	70.36	70.06	97.00	29.26	5.00	.00	.00	28.82	112.95	.75	.00	.00	.00	.00
0.	1900.	7.	24.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	24.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.		.00	35000.00	7.00	6.00	81.00	75.16	72.88	77.00	29.26	5.00	.00	202.56	126.33	.83	.00	.00	.00	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	3.00	15000.00	9.00	8.00	81.00	75.70	73.67	79.00	29.24	10.00	.00	.00	134.12	141.78	.85	.00	.00	.00	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	6.00	3700.00	6.00	5.00	73.00	71.68	71.10	94.00	29.26	10.00	.00	.00	66.60	129.66	.77	.00	.00	.00	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	9.00	11000.00	10.00	3.00	73.00	69.38	67.71	84.00	29.17	10.00	.00	.00	13.20	129.66	.69	.00	.00	.00	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	12.00	35000.00	8.00	4.00	70.00	68.51	67.79	93.00	29.20	.00	.00	.00	.00	.00	.00	.00	107.13	.69	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	15.00	35000.00	7.00	5.00	68.00	67.38	67.06	97.00	29.22	.00	.00	.00	.00	.00	.00	.00	104.72	.67	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	18.00	35000.00	8.00	4.00	69.00	67.53	66.80	93.00	29.21	.00	.00	.00	.00	.00	.00	.00	105.92	.67	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.	21.00	35000.00	9.00	4.00	70.00	70.00	69.98	100.00	29.21	1.00	.00	.00	27.73	107.31	.74	.00	.00	.00	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	25.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.		.00	35000.00	9.00	8.00	83.00	77.85	76.01	80.00	29.19	.00	.00	198.42	123.89	.92	.00	.00	.00	.00
0.	1900.	7.	26.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	3.00	35000.00	11.00	8.00	91.00	81.03	77.71	66.00	29.17	5.00	.00	.00	275.29	141.00	.97	.00	.00	.00	.00
0.	1900.	7.	26.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	6.00	35000.00	10.00	11.00	92.00	81.92	78.67	66.00	29.15	9.00	.00	.00	187.30	155.56	1.00	.00	.00	.00	.00
0.	1900.	7.	26.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	9.00	25000.00	4.00	19.00	88.00	79.58	76.69	70.00	29.17	8.00	.00	.00	29.76	145.14	.94	.00	.00	.00	.00
0.	1900.	7.	26.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	12.00	13000.00	11.00	4.00	72.00	70.69	70.11	94.00	29.17	10.00	.00	.00	.00	.00	.00	.00	128.20	.75	.00
0.	1900.	7.	26.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	15.00	8000.00	11.00	18.00	73.00	70.08	68.77	87.00	29.14	10.00	.00	.00	.00	.00	.00	.00	129.66	.72	.00

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Station Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial	Press.
(feet)	Dir.	V(knts)	Temp(F)	Temp(F)	Temp(F)	(%)(in Hg)	Cov.(1)	Precip.	Radiat.	Radiat.	Wat. Vap.(in Hg)							
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	18.00	13000.00	.00	.00	71.00	69.49	68.79	93.00	29.14	10.00	.00	.00	126.77	.72	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	21.00	13000.00	1.00	5.00	72.00	70.69	70.11	94.00	29.17	10.00	.00	10.93	128.20	.75	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	26.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	13000.00	14.00	6.00	75.00	70.81	68.95	82.00	29.22	10.00	.00	82.03	132.60	.72	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	3.00	15000.00	13.00	3.00	82.00	74.70	71.79	72.00	29.19	10.00	.00	133.56	143.36	.80	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	6.00	35000.00	9.00	9.00	86.00	77.16	73.88	68.00	29.15	3.00	.00	205.87	130.02	.86	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	9.00	15000.00	9.00	6.00	81.00	75.16	72.89	77.00	29.16	6.00	.00	26.74	128.60	.83	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	12.00	35000.00	8.00	3.00	76.00	73.92	73.10	91.00	29.19	3.00	.00	.00	116.37	.83	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	15.00	35000.00	9.00	3.00	74.00	73.33	73.06	97.00	29.19	.00	.00	.00	112.07	.83	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	18.00	35000.00	.00	.00	73.00	73.00	72.99	100.00	29.19	.00	.00	.00	110.82	.82	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	21.00	35000.00	10.00	3.00	73.00	72.34	72.06	97.00	29.21	2.00	.00	25.93	111.57	.80	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	27.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	35000.00	10.00	6.00	84.00	76.53	73.72	72.00	29.21	.00	.00	196.87	125.27	.85	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	3.00	35000.00	10.00	7.00	90.00	76.08	70.56	54.00	29.21	.00	.00	269.54	133.79	.77	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	6.00	35000.00	11.00	11.00	91.00	76.92	71.48	54.00	29.17	1.00	.00	202.73	135.49	.80	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	9.00	35000.00	10.00	6.00	88.00	76.73	72.42	61.00	29.17	.00	.00	29.23	130.90	.82	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	12.00	35000.00	10.00	6.00	79.00	75.36	73.97	85.00	29.19	.00	.00	.00	118.52	.85	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	15.00	35000.00	10.00	4.00	77.00	74.18	73.06	88.00	29.19	.00	.00	.00	115.90	.83	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	18.00	35000.00	10.00	4.00	74.00	72.66	72.10	94.00	29.20	.00	.00	.00	112.07	.80	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	21.00	35000.00	9.00	3.00	73.00	72.34	72.06	97.00	29.22	.00	.00	24.33	110.82	.80	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	28.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind (%)(in Hg)	Wind Cov(.1)	DryBulb	WetBulb Temp(F)	DewPt. Radiat.	Humidity Wat. Vap.(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	7.	29.	.00	35000.00	11.00	5.00	86.00	78.36	75.64	72.00	29.22	.00	.00	.00	196.09	128.06	.91
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	3.00	35000.00	13.00	5.00	92.00	79.89	75.68	60.00	29.20	.00	.00	.00	268.93	136.74	.91
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	6.00	35000.00	9.00	8.00	93.00	80.76	76.62	60.00	29.19	.00	.00	.00	199.15	138.23	.94
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	9.00	35000.00	10.00	6.00	89.00	80.49	77.65	70.00	29.18	.00	.00	.00	28.33	132.34	.97
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	12.00	35000.00	9.00	5.00	82.00	79.01	78.00	88.00	29.18	.00	.00	.00	.00	122.53	.98
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	15.00	35000.00	9.00	3.00	79.00	76.11	75.04	88.00	29.20	.00	.00	.00	.00	118.52	.88
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	18.00	35000.00	8.00	4.00	76.00	74.62	74.09	94.00	29.20	.00	.00	.00	.00	114.61	.86
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	21.00	35000.00	9.00	4.00	76.00	75.32	75.06	97.00	29.21	.00	.00	.00	23.33	114.61	.88
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	29.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	35000.00	10.00	7.00	85.00	78.89	76.77	77.00	29.19	.00	.00	.00	195.29	126.66	.94
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	3.00	35000.00	10.00	13.00	92.00	79.19	74.62	58.00	29.17	.00	.00	.00	268.31	136.74	.88
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	6.00	35000.00	11.00	12.00	92.00	79.89	75.68	60.00	29.14	.00	.00	.00	198.43	136.74	.91
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	9.00	35000.00	10.00	7.00	88.00	79.58	76.69	70.00	29.14	.00	.00	.00	27.41	130.90	.94
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	12.00	35000.00	9.00	5.00	82.00	79.01	78.00	88.00	29.14	.00	.00	.00	.00	122.53	.98
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	15.00	35000.00	9.00	7.00	79.00	76.11	75.04	88.00	29.16	.00	.00	.00	.00	118.52	.88
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	18.00	35000.00	10.00	6.00	77.00	74.90	74.09	91.00	29.17	.00	.00	.00	.00	115.90	.86
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	21.00	35000.00	9.00	6.00	75.00	74.32	74.06	97.00	29.17	.00	.00	.00	22.33	113.34	.85
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	30.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	.00	35000.00	10.00	9.00	85.00	78.89	76.77	77.00	29.19	.00	.00	.00	194.48	126.66	.94
0.	1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	3.00	35000.00	11.00	14.00	92.00	79.89	75.68	60.00	29.17	.00	.00	.00	267.68	136.74	.91
0.	1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	7.	31.	6.00	35000.00	11.00	10.00	93.00	79.34	74.46	56.00	29.16	1.00	.00	.00	200.55	138.46	.88
0.	1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling	Wind	Wind	DryBulb	WetBulb	DewPt.	Humidity	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
					Temp(F)	Temp(F)	Temp(F)	Temp(F)	Radiat.	Radiat.	Wat. Vap.	(in Hg)						
					(%)(in Hg)	Cov.(1)	Precip.											
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	9.00	35000.00	11.00	4.00	90.00	80.13	76.76	66.00	29.15	4.00	.00	.00	27.12	137.43	.94	
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	12.00	35000.00	1.00	4.00	80.00	74.76	72.70	79.00	29.18	5.00	.00	.00	.00	124.94	.82	
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	15.00	35000.00	.00	.00	77.00	74.90	74.09	91.00	29.19	2.00	.00	.00	.00	116.69	.86	
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	18.00	35000.00	6.00	4.00	76.00	74.62	74.09	94.00	29.18	2.00	.00	.00	.00	115.39	.86	
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	21.00	15000.00	9.00	5.00	76.00	74.62	74.09	94.00	29.21	8.00	.00	.00	15.42	127.08	.86	
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	7.	31.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	35000.00	8.00	6.00	85.00	78.32	75.95	75.00	29.22	8.00	.00	.00	186.08	140.44	.92	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	3.00	35000.00	4.00	8.00	86.00	77.77	74.77	70.00	29.22	10.00	.00	.00	239.22	149.83	.88	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	6.00	15000.00	15.00	9.00	84.00	79.33	77.76	82.00	29.17	10.00	.00	.00	97.37	146.56	.97	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	9.00	15000.00	8.00	3.00	75.00	72.71	71.77	90.00	29.14	10.00	.00	.00	12.61	132.60	.79	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	12.00	15000.00	.00	.00	75.00	73.64	73.09	94.00	29.19	10.00	.00	.00	.00	132.60	.83	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	15.00	15000.00	.00	.00	74.00	72.66	72.10	94.00	29.20	8.00	.00	.00	.00	124.26	.80	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	18.00	35000.00	12.00	4.00	73.00	73.00	72.99	100.00	29.22	10.00	.00	.00	.00	129.66	.82	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	21.00	15000.00	8.00	3.00	73.00	73.00	72.99	100.00	29.22	6.00	.00	.00	18.05	117.60	.82	
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	1.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	.00	10000.00	9.00	5.00	82.00	77.44	75.80	82.00	29.24	6.00	.00	.00	166.55	130.03	.91	
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	3.00	25000.00	12.00	8.00	89.00	79.87	76.74	68.00	29.24	7.00	.00	.00	262.39	143.36	.94	
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	6.00	25000.00	9.00	5.00	89.00	78.26	74.36	63.00	29.18	7.00	.00	.00	193.22	143.36	.87	
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	9.00	15000.00	9.00	5.00	84.00	78.79	76.99	80.00	29.16	9.00	.00	.00	15.13	142.52	.95	
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	12.00	6500.00	10.00	7.00	78.00	75.87	75.08	91.00	29.19	8.00	.00	.00	.00	129.96	.89	
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0. 1900.	8.	2.	15.00	7000.00	9.00	3.00	76.00	73.21	72.07	88.00	29.19	8.00	.00	.00	.00	127.08	.80	



worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind (%)	Wind Cov.(1)	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.	
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	2.	18.00	35000.00	9.00	3.00	74.00	72.66	72.10	94.00	29.19	2.00	.00	.00	.00	112.83	.80	
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	2.	21.00	3700.00	11.00	5.00	74.00	73.33	73.06	97.00	29.22	9.00	.00	.00	9.41	127.50	.83	
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	2.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	35000.00	12.00	7.00	84.00	77.39	74.98	75.00	29.22	4.00	.00	.00	196.74	128.68	.89
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.	3.00	35000.00	10.00	7.00	88.00	79.59	76.69	70.00	29.22	5.00	.00	.00	270.19	136.46	.94	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.	6.00	35000.00	11.00	6.00	90.00	81.40	78.60	70.00	29.18	4.00	.00	.00	200.15	137.43	1.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.	9.00	35000.00	11.00	4.00	89.00	80.49	77.65	70.00	29.18	3.00	.00	.00	24.16	134.36	.97	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.	12.00	35000.00	5.00	4.00	81.00	78.04	77.01	88.00	29.22	1.00	.00	.00	.00	121.39	.94	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.	15.00	35000.00	6.00	3.00	78.00	74.40	72.98	85.00	29.21	1.00	.00	.00	.00	117.40	.83	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.	18.00	35000.00	3.00	4.00	74.00	73.33	73.06	97.00	29.21	2.00	.00	.00	.00	112.83	.83	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.	21.00	35000.00	.00	.00	74.00	73.33	73.06	97.00	29.25	.00	.00	.00	18.35	112.07	.83	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	3.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	35000.00	12.00	4.00	87.00	79.28	76.61	72.00	29.26	.00	.00	.00	191.18	129.47	.94
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.	3.00	35000.00	.00	.00	90.00	77.47	72.75	58.00	29.24	4.00	.00	.00	271.51	137.43	.83	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.	6.00	35000.00	12.00	7.00	95.00	79.94	74.61	53.00	29.22	1.00	.00	.00	197.32	141.50	.88	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.	9.00	35000.00	13.00	4.00	90.00	78.49	74.31	61.00	29.22	1.00	.00	.00	22.84	134.02	.87	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.	12.00	35000.00	3.00	4.00	81.00	78.80	78.06	91.00	29.24	.00	.00	.00	.00	121.18	.98	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.	15.00	35000.00	6.00	4.00	79.00	76.85	76.07	91.00	29.26	.00	.00	.00	.00	118.52	.92	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.	18.00	35000.00	.00	.00	77.00	75.61	75.09	94.00	29.25	.00	.00	.00	.00	115.90	.88	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.	21.00	35000.00	.00	.00	77.00	76.31	76.06	97.00	29.26	7.00	.00	.00	17.11	125.56	.91	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
0.	1900.	8.	4.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	

worstday-9am.txt

Station (feet)	Year	Month	Day	Hour	Ceiling Temp(F)	Wind (%) (in Hg)	Wind Cov(.1)	Precip.	DryBulb	WetBulb Radiat.	DewPt. Radiat.	Humidity Wat. Vap.(in Hg)	Press.	Cloud	Freezing	Rain	Solar	Atmos.	Partial Press.
0.	1900.	8.	5.		.00	35000.00	13.00	10.00	86.00	79.83	77.74	77.00	29.28	8.00	.00	.00	182.88	141.99	.97
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	3.00	35000.00	13.00	10.00	.00	92.00	80.58	76.70	62.00	29.26	10.00	.00	.00	236.76	159.98	.94
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	6.00	35000.00	14.00	11.00	.00	88.00	78.97	75.79	68.00	29.25	10.00	.00	.00	173.49	153.15	.91
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	9.00	25000.00	15.00	8.00	.00	82.00	76.64	74.65	79.00	29.28	10.00	.00	.00	19.25	143.36	.88
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	12.00	1500.00	16.00	9.00	.00	79.00	75.36	73.97	85.00	29.31	10.00	.00	.00	.00	138.66	.85
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	15.00	2300.00	2.00	5.00	.00	76.00	73.93	73.10	91.00	29.31	10.00	.00	.00	.00	134.10	.83
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	18.00	2900.00	2.00	9.00	.00	75.00	72.72	71.77	90.00	29.30	10.00	.00	.00	.00	132.60	.79
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.	21.00	3300.00	1.00	8.00	.00	71.00	67.48	65.75	84.00	29.35	10.00	.00	.00	5.41	126.77	.65
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
0.	1900.	8.	5.		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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Created : 11/18/2004 08:08:26

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Case 1a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0')

1									
2	070100	073100	1	1	0		3	2	
3	1	0	20.						
4	1	0.2	5500.	0					
5	6	2	690						
	690	83.83	464.9	75.45	418.4				
	689	82.15	381.9	73.94	343.7				
	688	80.55	300.5	72.50	270.5				
	687	78.96	220.8	71.06	198.7				
	686	77.33	142.6	69.60	128.4				
	685	29.70	71.7	26.73	65.6				
7	1	0	3	18	19	20			
8	102.98	98.48							
999									
FPLANT	R/I	86.0							
TPRISE	S/I								
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28.95									
16.79									
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END

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Case 1a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0')

RUN 31 DAYS FROM 70100 TO 73100  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.98 98.48

WEATHER STATION ID 0.



8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310

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Case 1a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.34	0.00	689.34
TOTAL AREA (ACRE)	0.00	82.73	0.00	82.73
TOTAL VOLUME (ACRE-FT)	0.00	410.40	0.00	410.40
EFFECTIVE AREA (ACRE)	0.00	74.46	0.00	74.46
EFFECTIVE VOL (ACRE-FT)	0.00	369.35	0.00	369.35
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.18	0.00	-0.18
EVAPORATION TOTAL (CFS)	0.00	-1.42	0.00	-1.42
EVAPORATION NATURL(CFS)	0.00	-0.79	0.00	-0.79
EVAPORATION FORCED(CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.49	0.00	151.49
EVAP LOSS (BTU/HR-FT2)	0.00	50.80	0.00	50.80
COND LOSS (BTU/HR-FT2)	0.00	7.00	0.00	7.00
LAKE TEMP NATURAL (F)	0.00	89.05	0.00	89.05
LAKE TEMP @ INLET (F)	0.00	100.01	0.00	100.01
LAKE TEMP @ OUTLET (F)	0.00	90.16	0.00	90.16
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-11.00	0.00	-11.00
TOTAL EVAP TOT (ACRE-FT)	0.00	-87.24	0.00	-87.24
TOTAL EVAP NAT (ACRE-FT)	0.00	-48.33	0.00	-48.33
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.91	0.00	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

-----  
1%            5%            50%  
-----

LAKE TEMP NATURAL (F)	100.5	97.0	88.5
LAKE TEMP @ INLET (F)	132.0	111.0	99.1
LAKE TEMP @ OUTLET (F)	103.3	98.0	89.6

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Case 1a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.34	0.00	689.34
TOTAL AREA (ACRE)	0.00	82.73	0.00	82.73
TOTAL VOLUME (ACRE-FT)	0.00	410.40	0.00	410.40
EFFECTIVE AREA (ACRE)	0.00	74.46	0.00	74.46
EFFECTIVE VOL (ACRE-FT)	0.00	369.35	0.00	369.35
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.18	0.00	-0.18
EVAPORATION TOTAL (CFS)	0.00	-1.42	0.00	-1.42
EVAPORATION NATURL(CFS)	0.00	-0.79	0.00	-0.79
EVAPORATION FORCED(CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.49	0.00	151.49
EVAP LOSS (BTU/HR-FT2)	0.00	50.80	0.00	50.80
COND LOSS (BTU/HR-FT2)	0.00	7.00	0.00	7.00
LAKE TEMP NATURAL (F)	0.00	89.05	0.00	89.05
LAKE TEMP @ INLET (F)	0.00	100.01	0.00	100.01
LAKE TEMP @ OUTLET (F)	0.00	90.16	0.00	90.16
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-11.00	0.00	-11.00
TOTAL EVAP TOT (ACRE-FT)	0.00	-87.24	0.00	-87.24
TOTAL EVAP NAT (ACRE-FT)	0.00	-48.33	0.00	-48.33
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.91	0.00	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

1%            5%            50%

---

LAKE TEMP NATURAL (F)	100.5	97.0	88.5
LAKE TEMP @ INLET (F)	132.0	111.0	99.1
LAKE TEMP @ OUTLET (F)	103.3	98.0	89.6



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Case 1a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.81 ( 7311900)	689.34
TOTAL AREA (ACRE)	83.82 ( 7011900)	81.85 ( 7311900)	82.73
TOTAL VOLUME (ACRE-FT)	464.29 ( 7011900)	366.65 ( 7311900)	410.40
EFFECTIVE AREA (ACRE)	75.44 ( 7011900)	73.67 ( 7311900)	74.46
EFFECTIVE VOL (ACRE-FT)	417.85 ( 7011900)	329.99 ( 7311900)	369.35
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.16 ( 7311900)	-0.20 ( 7011900)	-0.18
EVAPORATION TOTAL (CFS)	-0.29 ( 7181900)	-4.92 ( 7021900)	-1.42
EVAPORATION NATURL(CFS)	0.00 ( 7011900)	-3.78 ( 7031900)	-0.79
EVAPORATION FORCED(CFS)	-0.28 ( 7271900)	-2.00 ( 7011900)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	204.97
SURF LOSS (BTU/HR-FT2)	165.18 ( 7011900)	144.85 ( 7061900)	151.49
EVAP LOSS (BTU/HR-FT2)	241.93 ( 7031900)	0.00 ( 7011900)	50.80
COND LOSS (BTU/HR-FT2)	39.22 ( 7261900)	-6.56 ( 7261900)	7.00
LAKE TEMP NATURAL (F)	101.09 ( 7011900)	82.96 ( 7061900)	89.05
LAKE TEMP @ INLET (F)	138.60 ( 7011900)	93.65 ( 7251900)	100.01
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	84.47 ( 7061900)	90.16
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7311900)	-0.05 ( 7011900)	-11.00
TOTAL EVAP TOT (ACRE-FT)	-0.07 ( 7181900)	-1.22 ( 7021900)	-87.24
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.94 ( 7031900)	-48.33
TOTAL EVAP FOR (ACRE-FT)	-0.07 ( 7271900)	-0.50 ( 7011900)	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.0	88.5
LAKE TEMP @ INLET (F)	132.0	111.0	99.1
LAKE TEMP @ OUTLET (F)	103.3	98.0	89.6

Number : 03.7.292-2.2 0  
Created : 11/18/2004 08:08:26

Date : 04/07/2006  
Time : 13:53:52.54

Case lb: LaSalle UHS (09:00, Worst 5/1/30 Temp; To=104F, 0')

1									
2	070100	080500	1	1	0		3	2	
3	1	0	20.						
4	1	0.2	5500.	0					
5	6	2	690						
	690	83.83	464.9	75.45	418.4				
	689	82.15	381.9	73.94	343.7				
	688	80.55	300.5	72.50	270.5				
	687	78.96	220.8	71.06	198.7				
	686	77.33	142.6	69.60	128.4				
	685	29.70	71.7	26.73	65.6				
7	1	0	3	18	19	20			
8	103.59	99.09							
999									
FPLANT	R/I	86.0							
TPRISE	S/I								
35.48									
28.95									
16.79									
16.39									
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END

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 7  
 Date : 04/07/2006  
 Time : 13:53:52.54

Case 1b: LaSalle UHS (09:00, Worst 5/1/30 Temp; To=104F, 0')

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 103.59 99.09

WEATHER STATION ID 0.



8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
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8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 9  
 Date : 04/07/2006  
 Time : 13:53:52.57

Case 1b: LaSalle UHS (09:00, Worst 5/1/30 Temp; To=104F, 0')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	82.61	81.42	82.44
TOTAL VOLUME (ACRE-FT)	0.00	404.43	344.79	396.15
EFFECTIVE AREA (ACRE)	0.00	74.35	73.28	74.20
EFFECTIVE VOL (ACRE-FT)	0.00	363.98	310.33	356.53
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.18	-0.15	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.67	-1.33	-1.62
EVAPORATION NATURL(CFS)	0.00	-1.02	-0.77	-0.98
EVAPORATION FORCED(CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.89	151.96	153.62
EVAP LOSS (BTU/HR-FT2)	0.00	65.70	50.49	63.59
COND LOSS (BTU/HR-FT2)	0.00	5.59	5.00	5.51
LAKE TEMP NATURAL (F)	0.00	91.20	89.49	90.96
LAKE TEMP @ INLET (F)	0.00	101.94	98.80	101.51
LAKE TEMP @ OUTLET (F)	0.00	92.10	90.54	91.88
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.85	-1.51	-12.36
TOTAL EVAP TOT (ACRE-FT)	0.00	-102.55	-13.16	-115.71
TOTAL EVAP NAT (ACRE-FT)	0.00	-62.41	-7.61	-70.02
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.14	-5.55	-45.69
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

-----  
1%                      5%                      50%  
-----

LAKE TEMP NATURAL (F)	100.5	97.5	90.9
LAKE TEMP @ INLET (F)	132.0	110.9	100.9
LAKE TEMP @ OUTLET (F)	103.5	98.2	91.9

Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

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 Date : 04/07/2006  
 Time : 13:53:52.57

Case 1b: LaSalle UHS (09:00, Worst 5/1/30 Temp; To=104F, 0')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	82.61	81.42	82.44
TOTAL VOLUME (ACRE-FT)	0.00	404.43	344.79	396.15
EFFECTIVE AREA (ACRE)	0.00	74.35	73.28	74.20
EFFECTIVE VOL (ACRE-FT)	0.00	363.98	310.33	356.53
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.18	-0.15	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.67	-1.33	-1.62
EVAPORATION NATURL(CFS)	0.00	-1.02	-0.77	-0.98
EVAPORATION FORCED(CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.89	151.96	153.62
EVAP LOSS (BTU/HR-FT2)	0.00	65.70	50.49	63.59
COND LOSS (BTU/HR-FT2)	0.00	5.59	5.00	5.51
LAKE TEMP NATURAL (F)	0.00	91.20	89.49	90.96
LAKE TEMP @ INLET (F)	0.00	101.94	98.80	101.51
LAKE TEMP @ OUTLET (F)	0.00	92.10	90.54	91.88
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.85	-1.51	-12.36
TOTAL EVAP TOT (ACRE-FT)	0.00	-102.55	-13.16	-115.71
TOTAL EVAP NAT (ACRE-FT)	0.00	-62.41	-7.61	-70.02
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.14	-5.55	-45.69
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.5	90.9
LAKE TEMP @ INLET (F)	132.0	110.9	100.9
LAKE TEMP @ OUTLET (F)	103.5	98.2	91.9



Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 11  
 Date : 04/07/2006  
 Time : 13:53:52.57

Case 1b: LaSalle UHS (09:00, Worst 5/1/30 Temp; To=104F, 0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.45 ( 8051900)	689.17
TOTAL AREA (ACRE)	83.81 ( 7011900)	81.26 ( 8051900)	82.44
TOTAL VOLUME (ACRE-FT)	464.07 ( 7011900)	336.81 ( 8051900)	396.15
EFFECTIVE AREA (ACRE)	75.43 ( 7011900)	73.14 ( 8051900)	74.20
EFFECTIVE VOL (ACRE-FT)	417.66 ( 7011900)	303.15 ( 8051900)	356.53
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.15 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.28 ( 8051900)	-3.97 ( 7051900)	-1.62
EVAPORATION NATURL(CFS)	0.00 ( 7031900)	-2.78 ( 7051900)	-0.98
EVAPORATION FORCED(CFS)	-0.27 ( 7311900)	-1.86 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.48 ( 7011900)	144.08 ( 7241900)	153.62
EVAP LOSS (BTU/HR-FT2)	177.64 ( 7051900)	0.00 ( 7031900)	63.59
COND LOSS (BTU/HR-FT2)	25.97 ( 7051900)	-31.74 ( 7251900)	5.51
LAKE TEMP NATURAL (F)	101.34 ( 7011900)	82.23 ( 7241900)	90.96
LAKE TEMP @ INLET (F)	138.50 ( 7011900)	91.64 ( 7241900)	101.51
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	83.07 ( 7241900)	91.88
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 8051900)	-0.05 ( 7011900)	-12.36
TOTAL EVAP TOT (ACRE-FT)	-0.07 ( 8051900)	-0.99 ( 7051900)	-115.71
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.69 ( 7051900)	-70.02
TOTAL EVAP FOR (ACRE-FT)	-0.07 ( 7311900)	-0.46 ( 7011900)	-45.69
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

	1%	5%	50%
LAKE TEMP NATURAL (F)	100.5	97.5	90.9
LAKE TEMP @ INLET (F)	132.0	110.9	100.9
LAKE TEMP @ OUTLET (F)	103.5	98.2	91.9

Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Date : 04/11/2006  
 Time : 15:49:00.62

Case 1c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 0')

1								
2	061854	071754	1	1	0		3	2
3	1	0	20.					
4	1	0.2	5500.	0				
5	6	2	690					
	690	83.83	464.9	75.45	418.4			
	689	82.15	381.9	73.94	343.7			
	688	80.55	300.5	72.50	270.5			
	687	78.96	220.8	71.06	198.7			
	686	77.33	142.6	69.60	128.4			
	685	29.70	71.7	26.73	65.6			
7	1	0	3	18	19	20		
8	102.98	98.48						
999								
FPLANT	R/I	86.0						
TPRISE	S/I							
35.48								
28.95								
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END

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 7  
 Date : 04/11/2006  
 Time : 15:49:00.73

Case 1c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 0')

RUN 30 DAYS FROM 61854 TO 71754  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

18 LAKE TEMP NATURAL (F)  
 19 LAKE TEMP @ INLET (F)  
 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.98 98.48

WEATHER STATION ID 93822.



8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
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8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 9  
 Date : 04/11/2006  
 Time : 15:49:01.00

Case 1c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 0')

SEASONAL SUMMARY FOR SUMMER ( 6/1954 - 8/1954 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.60	688.91	0.00	689.21
TOTAL AREA (ACRE)	83.16	82.00	0.00	82.50
TOTAL VOLUME (ACRE-FT)	431.66	374.32	0.00	399.17
EFFECTIVE AREA (ACRE)	74.85	73.81	0.00	74.26
EFFECTIVE VOL (ACRE-FT)	388.48	336.89	0.00	359.24
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.10	-1.72	0.00	-1.89
EVAPORATION NATURL(CFS)	-1.37	-1.16	0.00	-1.25
EVAPORATION FORCED(CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.78	145.52	0.00	146.93
EVAP LOSS (BTU/HR-FT2)	88.39	76.16	0.00	81.46
COND LOSS (BTU/HR-FT2)	4.93	1.01	0.00	2.71
LAKE TEMP NATURAL (F)	86.53	83.56	0.00	84.84
LAKE TEMP @ INLET (F)	98.87	93.51	0.00	95.84
LAKE TEMP @ OUTLET (F)	87.57	84.72	0.00	85.95
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.83	-5.55	0.00	-10.38
TOTAL EVAP TOT (ACRE-FT)	-54.22	-57.99	0.00	-112.21
TOTAL EVAP NAT (ACRE-FT)	-35.39	-39.19	0.00	-74.58
TOTAL EVAP FOR (ACRE-FT)	-18.83	-18.80	0.00	-37.63
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

----- 1%            5%            50% -----

LAKE TEMP NATURAL (F)	100.0	94.5	84.1
LAKE TEMP @ INLET (F)	132.0	109.0	94.6
LAKE TEMP @ OUTLET (F)	103.0	95.5	85.3

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 10  
 Date : 04/11/2006  
 Time : 15:49:01.00

Case 1c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 0')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.60	688.91	0.00	689.21
TOTAL AREA (ACRE)	83.16	82.00	0.00	82.50
TOTAL VOLUME (ACRE-FT)	431.66	374.32	0.00	399.17
EFFECTIVE AREA (ACRE)	74.85	73.81	0.00	74.26
EFFECTIVE VOL (ACRE-FT)	388.48	336.89	0.00	359.24
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.10	-1.72	0.00	-1.89
EVAPORATION NATURL(CFS)	-1.37	-1.16	0.00	-1.25
EVAPORATION FORCED(CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.78	145.52	0.00	146.93
EVAP LOSS (BTU/HR-FT2)	88.39	76.16	0.00	81.46
COND LOSS (BTU/HR-FT2)	4.93	1.01	0.00	2.71
LAKE TEMP NATURAL (F)	86.53	83.56	0.00	84.84
LAKE TEMP @ INLET (F)	98.87	93.51	0.00	95.84
LAKE TEMP @ OUTLET (F)	87.57	84.72	0.00	85.95
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.83	-5.55	0.00	-10.38
TOTAL EVAP TOT (ACRE-FT)	-54.22	-57.99	0.00	-112.21
TOTAL EVAP NAT (ACRE-FT)	-35.39	-39.19	0.00	-74.58
TOTAL EVAP FOR (ACRE-FT)	-18.83	-18.80	0.00	-37.63
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL	(F)	100.0	94.5	84.1
LAKE TEMP @ INLET	(F)	132.0	109.0	94.6
LAKE TEMP @ OUTLET	(F)	103.0	95.5	85.3



Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

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 Date : 04/11/2006  
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Case 1c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	689.99 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	83.82 ( 6181954)	81.37 ( 7171954)	82.50
TOTAL VOLUME (ACRE-FT)	464.32 ( 6181954)	342.30 ( 7171954)	399.17
EFFECTIVE AREA (ACRE)	75.44 ( 6181954)	73.24 ( 7171954)	74.26
EFFECTIVE VOL (ACRE-FT)	417.88 ( 6181954)	308.09 ( 7171954)	359.24
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.15 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.55 ( 6291954)	-5.34 ( 6271954)	-1.89
EVAPORATION NATURL(CFS)	-0.28 ( 6221954)	-4.08 ( 6271954)	-1.25
EVAPORATION FORCED(CFS)	-0.17 ( 7171954)	-2.19 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.31 ( 6181954)	137.78 ( 7071954)	146.93
EVAP LOSS (BTU/HR-FT2)	263.35 ( 6271954)	18.24 ( 6221954)	81.46
COND LOSS (BTU/HR-FT2)	37.87 ( 6271954)	-46.87 ( 7121954)	2.71
LAKE TEMP NATURAL (F)	101.19 ( 6181954)	76.21 ( 7071954)	84.84
LAKE TEMP @ INLET (F)	139.42 ( 6181954)	85.46 ( 7071954)	95.84
LAKE TEMP @ OUTLET (F)	103.94 ( 6181954)	76.52 ( 7071954)	85.95
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.38
TOTAL EVAP TOT (ACRE-FT)	-0.14 ( 6291954)	-1.32 ( 6271954)	-112.21
TOTAL EVAP NAT (ACRE-FT)	-0.07 ( 6221954)	-1.01 ( 6271954)	-74.58
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.54 ( 6181954)	-37.63
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                      5%                      50%

	1%	5%	50%
LAKE TEMP NATURAL (F)	100.0	94.5	84.1
LAKE TEMP @ INLET (F)	132.0	109.0	94.6
LAKE TEMP @ OUTLET (F)	103.0	95.5	85.3

Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Date : 04/11/2006  
 Time : 08:57:43.64

Case 2a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0.5')

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2	070100	073100	1	1	0	3 2
3	1	0	20.			
4	1	0.2	5500.	0		
5	6	2	690			
	690	82.99	423.5	74.69	381.2	
	689	81.35	341.3	73.21	307.2	
	688	79.75	260.8	71.78	234.7	
	687	78.15	181.8	70.34	163.7	
	686	29.70	102.2	26.73	92.0	
	685	22.22	60.0	20.00	54.0	
7	1	0	3	18	19	20
8	102.87	98.37				
999						
FPLANT	R/I	86.0				
TPRISE	S/I					
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END

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Date : 04/11/2006  
 Time : 08:57:43.64

Case 2a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0.5')

RUN 31 DAYS FROM 70100 TO 73100  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.300	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.800	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.87 98.37

WEATHER STATION ID 0.





Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

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 Time : 08:57:43.67

Case 2a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.34	0.00	689.34
TOTAL AREA (ACRE)	0.00	81.91	0.00	81.91
TOTAL VOLUME (ACRE-FT)	0.00	369.56	0.00	369.56
EFFECTIVE AREA (ACRE)	0.00	73.72	0.00	73.72
EFFECTIVE VOL (ACRE-FT)	0.00	332.64	0.00	332.64
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.18	0.00	-0.18
EVAPORATION TOTAL (CFS)	0.00	-1.41	0.00	-1.41
EVAPORATION NATURL(CFS)	0.00	-0.77	0.00	-0.77
EVAPORATION FORCED(CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.40	0.00	151.40
EVAP LOSS (BTU/HR-FT2)	0.00	50.58	0.00	50.58
COND LOSS (BTU/HR-FT2)	0.00	6.94	0.00	6.94
LAKE TEMP NATURAL (F)	0.00	88.96	0.00	88.96
LAKE TEMP @ INLET (F)	0.00	99.87	0.00	99.87
LAKE TEMP @ OUTLET (F)	0.00	90.03	0.00	90.03
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.87	0.00	-10.87
TOTAL EVAP TOT (ACRE-FT)	0.00	-86.56	0.00	-86.56
TOTAL EVAP NAT (ACRE-FT)	0.00	-47.65	0.00	-47.65
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.91	0.00	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

1%                      5%                      50%

---

LAKE TEMP NATURAL (F)	100.5	97.0	88.4
LAKE TEMP @ INLET (F)	132.0	111.0	98.9
LAKE TEMP @ OUTLET (F)	103.3	97.0	89.4

Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

Page : 10  
 Date : 04/11/2006  
 Time : 08:57:43.67

Case 2a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.34	0.00	689.34
TOTAL AREA (ACRE)	0.00	81.91	0.00	81.91
TOTAL VOLUME (ACRE-FT)	0.00	369.56	0.00	369.56
EFFECTIVE AREA (ACRE)	0.00	73.72	0.00	73.72
EFFECTIVE VOL (ACRE-FT)	0.00	332.64	0.00	332.64
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.18	0.00	-0.18
EVAPORATION TOTAL (CFS)	0.00	-1.41	0.00	-1.41
EVAPORATION NATURL(CFS)	0.00	-0.77	0.00	-0.77
EVAPORATION FORCED(CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.40	0.00	151.40
EVAP LOSS (BTU/HR-FT2)	0.00	50.58	0.00	50.58
COND LOSS (BTU/HR-FT2)	0.00	6.94	0.00	6.94
LAKE TEMP NATURAL (F)	0.00	88.96	0.00	88.96
LAKE TEMP @ INLET (F)	0.00	99.87	0.00	99.87
LAKE TEMP @ OUTLET (F)	0.00	90.03	0.00	90.03
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.87	0.00	-10.87
TOTAL EVAP TOT (ACRE-FT)	0.00	-86.56	0.00	-86.56
TOTAL EVAP NAT (ACRE-FT)	0.00	-47.65	0.00	-47.65
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.91	0.00	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.0	88.4
LAKE TEMP @ INLET (F)	132.0	111.0	98.9
LAKE TEMP @ OUTLET (F)	103.3	97.0	89.4



Program : LAKET  
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Case 2a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104F, 0.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.81 ( 7311900)	689.34
TOTAL AREA (ACRE)	82.98 ( 7011900)	81.05 ( 7311900)	81.91
TOTAL VOLUME (ACRE-FT)	422.90 ( 7011900)	326.06 ( 7311900)	369.56
EFFECTIVE AREA (ACRE)	74.68 ( 7011900)	72.94 ( 7311900)	73.72
EFFECTIVE VOL (ACRE-FT)	380.66 ( 7011900)	293.48 ( 7311900)	332.64
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.16 ( 7311900)	-0.20 ( 7011900)	-0.18
EVAPORATION TOTAL (CFS)	-0.29 ( 7161900)	-4.85 ( 7021900)	-1.41
EVAPORATION NATURL(CFS)	0.00 ( 7011900)	-3.69 ( 7031900)	-0.77
EVAPORATION FORCED(CFS)	-0.26 ( 7271900)	-2.03 ( 7011900)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	204.97
SURF LOSS (BTU/HR-FT2)	165.32 ( 7011900)	144.26 ( 7061900)	151.40
EVAP LOSS (BTU/HR-FT2)	238.54 ( 7031900)	0.00 ( 7011900)	50.58
COND LOSS (BTU/HR-FT2)	39.32 ( 7261900)	-6.71 ( 7261900)	6.94
LAKE TEMP NATURAL (F)	101.20 ( 7011900)	82.41 ( 7061900)	88.96
LAKE TEMP @ INLET (F)	138.51 ( 7011900)	93.10 ( 7251900)	99.87
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	83.71 ( 7061900)	90.03
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7311900)	-0.05 ( 7011900)	-10.87
TOTAL EVAP TOT (ACRE-FT)	-0.07 ( 7161900)	-1.20 ( 7021900)	-86.56
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.92 ( 7031900)	-47.65
TOTAL EVAP FOR (ACRE-FT)	-0.07 ( 7271900)	-0.50 ( 7011900)	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.0	88.4
LAKE TEMP @ INLET (F)	132.0	111.0	98.9
LAKE TEMP @ OUTLET (F)	103.3	97.0	89.4

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Case 2b: LaSalle UHS (09:00, Worst 5/1/30 Temp; To=104F, 0.5')

1									
2	070100	080500	1	1	0		3	2	
3	1	0	20.						
4	1	0.2	5500.	0					
5	6	2	690						
	690	82.99	423.5	74.69	381.2				
	689	81.35	341.3	73.21	307.2				
	688	79.75	260.8	71.78	234.7				
	687	78.15	181.8	70.34	163.7				
	686	29.70	102.2	26.73	92.0				
	685	22.22	60.0	20.00	54.0				
7	1	0	3	18	19	20			
8	103.54	99.04							

999  
FPLANT R/I 86.0  
TPRISE S/I

35.48  
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END

Program : LAKET  
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Case 2b: LaSalle UHS (09:00, Worst 5/1/30 Temp; To=104F, 0.5')

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.300	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.800	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 103.54 99.04

WEATHER STATION ID 0.

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Case 2b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 0.5')

FPLANT							
70100 -	80500	R/I	86.000				
TPRISE							
70100 -	80500	S/I	35.480	28.950	16.790	16.390	
			15.420	15.060	14.610	14.360	
			13.950	13.520	13.360	13.360	
			13.360	13.300	12.790	12.790	
			12.500	12.500	12.300	12.090	
			12.090	12.090	12.090	12.080	
			11.560	11.560	11.560	11.560	
			11.560	11.560	11.560	11.560	
			11.160	11.150	11.150	11.150	
			11.150	10.950	10.940	10.940	
			10.590	10.590	10.590	10.590	
			10.590	10.590	10.590	10.590	
			10.590	10.590	10.590	10.590	
			10.590	10.590	10.590	10.360	
			10.070	10.070	10.070	10.070	
			10.070	10.070	10.070	10.070	
			10.070	10.070	10.070	10.070	
			10.070	10.070	10.070	10.070	
			10.070	10.070	9.810	9.790	
			9.790	9.790	9.790	9.790	
			9.630	9.630	9.630	9.630	
			9.630	9.630	9.630	9.630	
			9.630	9.630	9.630	9.630	
			9.630	9.630	9.630	9.630	
			9.480	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			8.940	8.940	8.940	8.940	
			8.940	8.940	8.940	8.940	
			8.940	8.940	8.940	8.940	

8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
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8.310	8.310	8.310	8.310

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Case 2b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 0.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	81.80	80.62	81.63
TOTAL VOLUME (ACRE-FT)	0.00	363.59	304.46	355.38
EFFECTIVE AREA (ACRE)	0.00	73.61	72.56	73.47
EFFECTIVE VOL (ACRE-FT)	0.00	327.27	274.02	319.87
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.15	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.65	-1.33	-1.61
EVAPORATION NATURL(CFS)	0.00	-1.00	-0.77	-0.97
EVAPORATION FORCED(CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.80	152.11	153.57
EVAP LOSS (BTU/HR-FT2)	0.00	65.40	50.89	63.38
COND LOSS (BTU/HR-FT2)	0.00	5.52	5.08	5.46
LAKE TEMP NATURAL (F)	0.00	91.12	89.63	90.91
LAKE TEMP @ INLET (F)	0.00	101.78	98.87	101.38
LAKE TEMP @ OUTLET (F)	0.00	91.94	90.58	91.75
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.71	-1.47	-12.17
TOTAL EVAP TOT (ACRE-FT)	0.00	-101.64	-13.14	-114.78
TOTAL EVAP NAT (ACRE-FT)	0.00	-61.51	-7.60	-69.10
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.13	-5.55	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

1%                      5%                      50%

-----

LAKE TEMP NATURAL (F)	100.5	97.4	90.9
LAKE TEMP @ INLET (F)	132.0	110.8	101.0
LAKE TEMP @ OUTLET (F)	103.0	98.2	91.8

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 Number : 03.7.292-2.2 O  
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Case 2b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 0.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	81.80	80.62	81.63
TOTAL VOLUME (ACRE-FT)	0.00	363.59	304.46	355.38
EFFECTIVE AREA (ACRE)	0.00	73.61	72.56	73.47
EFFECTIVE VOL (ACRE-FT)	0.00	327.27	274.02	319.87
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.15	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.65	-1.33	-1.61
EVAPORATION NATURL(CFS)	0.00	-1.00	-0.77	-0.97
EVAPORATION FORCED(CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.80	152.11	153.57
EVAP LOSS (BTU/HR-FT2)	0.00	65.40	50.89	63.38
COND LOSS (BTU/HR-FT2)	0.00	5.52	5.08	5.46
LAKE TEMP NATURAL (F)	0.00	91.12	89.63	90.91
LAKE TEMP @ INLET (F)	0.00	101.78	98.87	101.38
LAKE TEMP @ OUTLET (F)	0.00	91.94	90.58	91.75
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.71	-1.47	-12.17
TOTAL EVAP TOT (ACRE-FT)	0.00	-101.64	-13.14	-114.78
TOTAL EVAP NAT (ACRE-FT)	0.00	-61.51	-7.60	-69.10
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.13	-5.55	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.4	90.9
LAKE TEMP @ INLET (F)	132.0	110.8	101.0
LAKE TEMP @ OUTLET (F)	103.0	98.2	91.8



Program : LAKET  
 Number : 03.7.292-2.2 0  
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Case 2b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 0.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.44 ( 8051900)	689.17
TOTAL AREA (ACRE)	82.97 ( 7011900)	80.46 ( 8051900)	81.63
TOTAL VOLUME (ACRE-FT)	422.68 ( 7011900)	296.53 ( 8051900)	355.38
EFFECTIVE AREA (ACRE)	74.68 ( 7011900)	72.41 ( 8051900)	73.47
EFFECTIVE VOL (ACRE-FT)	380.46 ( 7011900)	266.88 ( 8051900)	319.87
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.32 ( 8051900)	-4.04 ( 7051900)	-1.61
EVAPORATION NATURL(CFS)	0.00 ( 7031900)	-2.76 ( 7051900)	-0.97
EVAPORATION FORCED(CFS)	-0.27 ( 7311900)	-1.90 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.64 ( 7011900)	143.53 ( 7241900)	153.57
EVAP LOSS (BTU/HR-FT2)	178.04 ( 7051900)	0.00 ( 7031900)	63.38
COND LOSS (BTU/HR-FT2)	26.04 ( 7051900)	-31.64 ( 7251900)	5.46
LAKE TEMP NATURAL (F)	101.48 ( 7011900)	81.72 ( 7241900)	90.91
LAKE TEMP @ INLET (F)	138.41 ( 7011900)	91.00 ( 7241900)	101.38
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.43 ( 7241900)	91.75
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 8051900)	-0.05 ( 7011900)	-12.17
TOTAL EVAP TOT (ACRE-FT)	-0.08 ( 8051900)	-1.00 ( 7051900)	-114.78
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.68 ( 7051900)	-69.10
TOTAL EVAP FOR (ACRE-FT)	-0.07 ( 7311900)	-0.47 ( 7011900)	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.4	90.9
LAKE TEMP @ INLET (F)	132.0	110.8	101.0
LAKE TEMP @ OUTLET (F)	103.0	98.2	91.8

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Case 2c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, .5')

1							
2	061854	071754	1	1	0	3	2
3	1	0	20.				
4	1	0.2	5500.	0			
5	6	2	690				
	690	82.99	423.5	74.69	381.2		
	689	81.35	341.3	73.21	307.2		
	688	79.75	260.8	71.78	234.7		
	687	78.15	181.8	70.34	163.7		
	686	29.70	102.2	26.73	92.0		
	685	22.22	60.0	20.00	54.0		
7	1	0	3	18	19	20	
8	102.87	98.37					
999							
FPLANT	R/I	86.0					
TPRISE	S/I						
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Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 7  
 Date : 04/11/2006  
 Time : 15:49:19.45

Case 2c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, .5')

RUN 30 DAYS FROM 61854 TO 71754  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.300	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.800	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.87 98.37

WEATHER STATION ID 93822.



8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
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8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
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Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Date : 04/11/2006  
 Time : 15:49:19.48

Case 2c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, .5')

SEASONAL SUMMARY FOR SUMMER ( 6/1954 - 8/1954 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.60	688.91	0.00	689.21
TOTAL AREA (ACRE)	82.34	81.20	0.00	81.70
TOTAL VOLUME (ACRE-FT)	390.79	333.95	0.00	358.58
EFFECTIVE AREA (ACRE)	74.10	73.08	0.00	73.52
EFFECTIVE VOL (ACRE-FT)	351.75	300.58	0.00	322.75
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.07	-1.71	0.00	-1.87
EVAPORATION NATURL(CFS)	-1.34	-1.15	0.00	-1.23
EVAPORATION FORCED(CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.57	145.50	0.00	146.83
EVAP LOSS (BTU/HR-FT2)	87.38	76.20	0.00	81.05
COND LOSS (BTU/HR-FT2)	4.68	0.99	0.00	2.59
LAKE TEMP NATURAL (F)	86.34	83.53	0.00	84.75
LAKE TEMP @ INLET (F)	98.63	93.45	0.00	95.69
LAKE TEMP @ OUTLET (F)	87.33	84.66	0.00	85.82
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.80	-5.43	0.00	-10.23
TOTAL EVAP TOT (ACRE-FT)	-53.43	-57.63	0.00	-111.06
TOTAL EVAP NAT (ACRE-FT)	-34.63	-38.84	0.00	-73.47
TOTAL EVAP FOR (ACRE-FT)	-18.80	-18.80	0.00	-37.59
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.0	94.3	84.0
LAKE TEMP @ INLET (F)	133.0	109.0	94.6
LAKE TEMP @ OUTLET (F)	104.0	94.7	85.1

Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

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Case 2c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, .5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.60	688.91	0.00	689.21
TOTAL AREA (ACRE)	82.34	81.20	0.00	81.70
TOTAL VOLUME (ACRE-FT)	390.79	333.95	0.00	358.58
EFFECTIVE AREA (ACRE)	74.10	73.08	0.00	73.52
EFFECTIVE VOL (ACRE-FT)	351.75	300.58	0.00	322.75
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.07	-1.71	0.00	-1.87
EVAPORATION NATURL(CFS)	-1.34	-1.15	0.00	-1.23
EVAPORATION FORCED(CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.57	145.50	0.00	146.83
EVAP LOSS (BTU/HR-FT2)	87.38	76.20	0.00	81.05
COND LOSS (BTU/HR-FT2)	4.68	0.99	0.00	2.59
LAKE TEMP NATURAL (F)	86.34	83.53	0.00	84.75
LAKE TEMP @ INLET (F)	98.63	93.45	0.00	95.69
LAKE TEMP @ OUTLET (F)	87.33	84.66	0.00	85.82
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.80	-5.43	0.00	-10.23
TOTAL EVAP TOT (ACRE-FT)	-53.43	-57.63	0.00	-111.06
TOTAL EVAP NAT (ACRE-FT)	-34.63	-38.84	0.00	-73.47
TOTAL EVAP FOR (ACRE-FT)	-18.80	-18.80	0.00	-37.59
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

1%                      5%                      50%

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LAKE TEMP NATURAL (F)	100.0	94.3	84.0
LAKE TEMP @ INLET (F)	133.0	109.0	94.6
LAKE TEMP @ OUTLET (F)	104.0	94.7	85.1



Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Date : 04/11/2006  
 Time : 15:49:19.48

Case 2c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, .5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	82.98 ( 6181954)	80.57 ( 7171954)	81.70
TOTAL VOLUME (ACRE-FT)	423.22 ( 6181954)	302.19 ( 7171954)	358.58
EFFECTIVE AREA (ACRE)	74.68 ( 6181954)	72.52 ( 7171954)	73.52
EFFECTIVE VOL (ACRE-FT)	380.95 ( 6181954)	271.98 ( 7171954)	322.75
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.15 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.52 ( 6291954)	-5.38 ( 6181954)	-1.87
EVAPORATION NATURL(CFS)	-0.27 ( 6221954)	-4.09 ( 6271954)	-1.23
EVAPORATION FORCED(CFS)	-0.16 ( 7171954)	-2.39 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.46 ( 6181954)	136.98 ( 7071954)	146.83
EVAP LOSS (BTU/HR-FT2)	266.76 ( 6271954)	17.76 ( 6221954)	81.05
COND LOSS (BTU/HR-FT2)	37.75 ( 6271954)	-46.98 ( 7121954)	2.59
LAKE TEMP NATURAL (F)	101.32 ( 6181954)	75.43 ( 7071954)	84.75
LAKE TEMP @ INLET (F)	140.00 ( 6181954)	84.77 ( 7071954)	95.69
LAKE TEMP @ OUTLET (F)	104.78 ( 6181954)	75.99 ( 7071954)	85.82
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.23
TOTAL EVAP TOT (ACRE-FT)	-0.13 ( 6291954)	-1.33 ( 6181954)	-111.06
TOTAL EVAP NAT (ACRE-FT)	-0.07 ( 6221954)	-1.01 ( 6271954)	-73.47
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.59 ( 6181954)	-37.59
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                      5%                      50%

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LAKE TEMP NATURAL (F)	100.0	94.3	84.0
LAKE TEMP @ INLET (F)	133.0	109.0	94.6
LAKE TEMP @ OUTLET (F)	104.0	94.7	85.1

Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

Date : 04/11/2006  
 Time : 08:20:00.17

Case 3a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104.0F, 1.5')

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2	070100	073100	1	1	0	3	2
3	1	0	20.				
4	1	0.2	5500.	0			
5	6	2	690				
	690	81.35	341.4	73.21	307.2		
	689	79.75	260.8	71.78	234.7		
	688	78.15	181.9	70.34	163.7		
	687	29.70	102.2	26.73	92.0		
	686	22.22	60.0	20.00	54.0		
	685	13.42	43.8	12.08	39.4		
7	1	0	3	18	19	20	
8	102.3	97.8					
999							
FPLANT	R/I	86.0					
TPRISE	S/I						
	35.48						
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Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 7  
 Date : 04/11/2006  
 Time : 08:20:00.18

Case 3a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104.0F, 1.5')

RUN 31 DAYS FROM 70100 TO 73100  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.30 97.80

WEATHER STATION ID 0.

Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

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Case 3a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104.0F, 1.5')

FPLANT							
70100	-	73100	R/I	86.000			
TPRISE							
70100	-	73100	S/I	35.480	28.950	16.790	16.390
				15.420	15.060	14.610	14.360
				13.950	13.520	13.360	13.360
				13.360	13.300	12.790	12.790
				12.500	12.500	12.300	12.090
				12.090	12.090	12.090	12.080
				11.560	11.560	11.560	11.560
				11.560	11.560	11.560	11.560
				11.160	11.150	11.150	11.150
				11.150	10.950	10.940	10.940
				10.590	10.590	10.590	10.590
				10.590	10.590	10.590	10.590
				10.590	10.590	10.590	10.590
				10.590	10.590	10.590	10.590
				10.590	10.590	10.590	10.360
				10.070	10.070	10.070	10.070
				10.070	10.070	10.070	10.070
				10.070	10.070	10.070	10.070
				10.070	10.070	10.070	10.070
				10.070	10.070	9.810	9.790
				9.790	9.790	9.790	9.790
				9.630	9.630	9.630	9.630
				9.630	9.630	9.630	9.630
				9.630	9.630	9.630	9.630
				9.630	9.630	9.630	9.630
				9.480	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.230	8.940
				8.940	8.940	8.940	8.940
				8.940	8.940	8.940	8.940
				8.940	8.940	8.940	8.940



Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Date : 04/11/2006  
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Case 3a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104.0F, 1.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.35	0.00	689.35
TOTAL AREA (ACRE)	0.00	80.30	0.00	80.30
TOTAL VOLUME (ACRE-FT)	0.00	288.64	0.00	288.64
EFFECTIVE AREA (ACRE)	0.00	72.27	0.00	72.27
EFFECTIVE VOL (ACRE-FT)	0.00	259.74	0.00	259.74
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	0.00	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.38	0.00	-1.38
EVAPORATION NATURL(CFS)	0.00	-0.75	0.00	-0.75
EVAPORATION FORCED(CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.18	0.00	151.18
EVAP LOSS (BTU/HR-FT2)	0.00	50.11	0.00	50.11
COND LOSS (BTU/HR-FT2)	0.00	6.81	0.00	6.81
LAKE TEMP NATURAL (F)	0.00	88.75	0.00	88.75
LAKE TEMP @ INLET (F)	0.00	99.49	0.00	99.49
LAKE TEMP @ OUTLET (F)	0.00	89.67	0.00	89.67
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.53	0.00	-10.53
TOTAL EVAP TOT (ACRE-FT)	0.00	-85.15	0.00	-85.15
TOTAL EVAP NAT (ACRE-FT)	0.00	-46.26	0.00	-46.26
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.89	0.00	-38.89
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                      5%                      50%

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LAKE TEMP NATURAL (F)	100.5	97.0	88.4
LAKE TEMP @ INLET (F)	132.0	110.0	98.5
LAKE TEMP @ OUTLET (F)	103.0	97.2	89.2

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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Case 3a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104.0F, 1.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.35	0.00	689.35
TOTAL AREA (ACRE)	0.00	80.30	0.00	80.30
TOTAL VOLUME (ACRE-FT)	0.00	288.64	0.00	288.64
EFFECTIVE AREA (ACRE)	0.00	72.27	0.00	72.27
EFFECTIVE VOL (ACRE-FT)	0.00	259.74	0.00	259.74
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	0.00	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.38	0.00	-1.38
EVAPORATION NATURL(CFS)	0.00	-0.75	0.00	-0.75
EVAPORATION FORCED(CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.18	0.00	151.18
EVAP LOSS (BTU/HR-FT2)	0.00	50.11	0.00	50.11
COND LOSS (BTU/HR-FT2)	0.00	6.81	0.00	6.81
LAKE TEMP NATURAL (F)	0.00	88.75	0.00	88.75
LAKE TEMP @ INLET (F)	0.00	99.49	0.00	99.49
LAKE TEMP @ OUTLET (F)	0.00	89.67	0.00	89.67
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.53	0.00	-10.53
TOTAL EVAP TOT (ACRE-FT)	0.00	-85.15	0.00	-85.15
TOTAL EVAP NAT (ACRE-FT)	0.00	-46.26	0.00	-46.26
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.89	0.00	-38.89
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.0	88.4
LAKE TEMP @ INLET (F)	132.0	110.0	98.5
LAKE TEMP @ OUTLET (F)	103.0	97.2	89.2



Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

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 Date : 04/11/2006  
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Case 3a: LaSalle UHS (09:00, Worst 1/30 Temp; To=104.0F, 1.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.81 ( 7311900)	689.35
TOTAL AREA (ACRE)	81.34 ( 7011900)	79.44 ( 7311900)	80.30
TOTAL VOLUME (ACRE-FT)	340.83 ( 7011900)	245.71 ( 7311900)	288.64
EFFECTIVE AREA (ACRE)	73.20 ( 7011900)	71.50 ( 7311900)	72.27
EFFECTIVE VOL (ACRE-FT)	306.69 ( 7011900)	221.12 ( 7311900)	259.74
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.15 ( 7311900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.29 ( 7161900)	-4.45 ( 7031900)	-1.38
EVAPORATION NATURL(CFS)	0.00 ( 7011900)	-3.49 ( 7031900)	-0.75
EVAPORATION FORCED(CFS)	-0.26 ( 7271900)	-2.03 ( 7011900)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	204.97
SURF LOSS (BTU/HR-FT2)	165.45 ( 7011900)	142.94 ( 7061900)	151.18
EVAP LOSS (BTU/HR-FT2)	229.83 ( 7031900)	0.00 ( 7011900)	50.11
COND LOSS (BTU/HR-FT2)	39.52 ( 7261900)	-7.06 ( 7261900)	6.81
LAKE TEMP NATURAL (F)	101.31 ( 7011900)	81.16 ( 7061900)	88.75
LAKE TEMP @ INLET (F)	138.06 ( 7011900)	91.97 ( 7251900)	99.49
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.18 ( 7061900)	89.67
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7311900)	-0.05 ( 7011900)	-10.53
TOTAL EVAP TOT (ACRE-FT)	-0.07 ( 7161900)	-1.10 ( 7031900)	-85.15
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.86 ( 7031900)	-46.26
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 7271900)	-0.50 ( 7011900)	-38.89
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	100.5	97.0	88.4
LAKE TEMP @ INLET (F)	132.0	110.0	98.5
LAKE TEMP @ OUTLET (F)	103.0	97.2	89.2

Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

Date : 04/07/2006  
 Time : 13:54:23.56

Case 3b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104.0F, 1.5')

1							
2	070100	080500	1	1	0	3	2
3	1	0	20.				
4	1	0.2	5500.	0			
5	6	2	690				
	690	81.35	341.4	73.21	307.2		
	689	79.75	260.8	71.78	234.7		
	688	78.15	181.9	70.34	163.7		
	687	29.70	102.2	26.73	92.0		
	686	22.22	60.0	20.00	54.0		
	685	13.42	43.8	12.08	39.4		
7	1	0	3	18	19	20	
8	102.86	98.36					
999							
FPLANT	R/I	86.0					
TPRICE	S/I						
	35.48						
	28.95						
	16.79						
	16.39						
	15.42						
	15.06						
	14.61						
	14.36						
	13.95						
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END

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 7  
 Date : 04/07/2006  
 Time : 13:54:23.56

Case 3b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104.0F, 1.5')

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

18 LAKE TEMP NATURAL (F)  
 19 LAKE TEMP @ INLET (F)  
 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.86 98.36

WEATHER STATION ID 0.





Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 9  
 Date : 04/07/2006  
 Time : 13:54:23.59

Case 3b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104.0F, 1.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	80.18	79.02	80.02
TOTAL VOLUME (ACRE-FT)	0.00	282.78	224.66	274.71
EFFECTIVE AREA (ACRE)	0.00	72.17	71.12	72.02
EFFECTIVE VOL (ACRE-FT)	0.00	254.47	202.18	247.21
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.16
EVAPORATION TOTAL (CFS)	0.00	-1.62	-1.33	-1.58
EVAPORATION NATURL(CFS)	0.00	-0.97	-0.76	-0.94
EVAPORATION FORCED(CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.58	152.47	153.43
EVAP LOSS (BTU/HR-FT2)	0.00	64.65	51.78	62.87
COND LOSS (BTU/HR-FT2)	0.00	5.34	5.25	5.32
LAKE TEMP NATURAL (F)	0.00	90.92	89.93	90.78
LAKE TEMP @ INLET (F)	0.00	101.40	98.78	101.03
LAKE TEMP @ OUTLET (F)	0.00	91.58	90.55	91.43
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.33	-1.34	-11.67
TOTAL EVAP TOT (ACRE-FT)	0.00	-99.71	-13.15	-112.86
TOTAL EVAP NAT (ACRE-FT)	0.00	-59.60	-7.58	-67.18
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.11	-5.57	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

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1%            5%            50%  
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LAKE TEMP NATURAL (F)	100.5	97.5	90.9
LAKE TEMP @ INLET (F)	132.0	110.4	100.8
LAKE TEMP @ OUTLET (F)	103.0	98.0	91.5

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Case 3b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104.0F, 1.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	80.18	79.02	80.02
TOTAL VOLUME (ACRE-FT)	0.00	282.78	224.66	274.71
EFFECTIVE AREA (ACRE)	0.00	72.17	71.12	72.02
EFFECTIVE VOL (ACRE-FT)	0.00	254.47	202.18	247.21
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.16
EVAPORATION TOTAL (CFS)	0.00	-1.62	-1.33	-1.58
EVAPORATION NATURL(CFS)	0.00	-0.97	-0.76	-0.94
EVAPORATION FORCED(CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.58	152.47	153.43
EVAP LOSS (BTU/HR-FT2)	0.00	64.65	51.78	62.87
COND LOSS (BTU/HR-FT2)	0.00	5.34	5.25	5.32
LAKE TEMP NATURAL (F)	0.00	90.92	89.93	90.78
LAKE TEMP @ INLET (F)	0.00	101.40	98.78	101.03
LAKE TEMP @ OUTLET (F)	0.00	91.58	90.55	91.43
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.33	-1.34	-11.67
TOTAL EVAP TOT (ACRE-FT)	0.00	-99.71	-13.15	-112.86
TOTAL EVAP NAT (ACRE-FT)	0.00	-59.60	-7.58	-67.18
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.11	-5.57	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL	(F)	100.5	97.5	90.9
LAKE TEMP @ INLET	(F)	132.0	110.4	100.8
LAKE TEMP @ OUTLET	(F)	103.0	98.0	91.5



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Case 3b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104.0F, 1.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.45 ( 8051900)	689.17
TOTAL AREA (ACRE)	81.33 ( 7011900)	78.86 ( 8051900)	80.02
TOTAL VOLUME (ACRE-FT)	340.63 ( 7011900)	216.86 ( 8051900)	274.71
EFFECTIVE AREA (ACRE)	73.20 ( 7011900)	70.98 ( 8051900)	72.02
EFFECTIVE VOL (ACRE-FT)	306.51 ( 7011900)	195.16 ( 8051900)	247.21
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.13 ( 8051900)	-0.20 ( 7011900)	-0.16
EVAPORATION TOTAL (CFS)	-0.24 ( 8051900)	-4.12 ( 7051900)	-1.58
EVAPORATION NATURL(CFS)	0.00 ( 7031900)	-2.72 ( 7051900)	-0.94
EVAPORATION FORCED(CFS)	-0.23 ( 7311900)	-1.86 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.63 ( 7011900)	142.19 ( 7241900)	153.43
EVAP LOSS (BTU/HR-FT2)	179.35 ( 7051900)	0.00 ( 7031900)	62.87
COND LOSS (BTU/HR-FT2)	26.28 ( 7051900)	-30.81 ( 7251900)	5.32
LAKE TEMP NATURAL (F)	101.47 ( 7011900)	80.45 ( 7241900)	90.78
LAKE TEMP @ INLET (F)	137.71 ( 7011900)	89.71 ( 7241900)	101.03
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	81.35 ( 7241900)	91.43
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 8051900)	-0.05 ( 7011900)	-11.67
TOTAL EVAP TOT (ACRE-FT)	-0.06 ( 8051900)	-1.02 ( 7051900)	-112.86
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.68 ( 7051900)	-67.18
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 7311900)	-0.46 ( 7011900)	-45.68
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                    5%                    50%

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LAKE TEMP NATURAL (F)	100.5	97.5	90.9
LAKE TEMP @ INLET (F)	132.0	110.4	100.8
LAKE TEMP @ OUTLET (F)	103.0	98.0	91.5

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Case 3c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.5')

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690 81.35   341.4   73.21   307.2  
689 79.75   260.8   71.78   234.7  
688 78.15   181.9   70.34   163.7  
687 29.70   102.2   26.73   92.0  
686 22.22   60.0   20.00   54.0  
685 13.42   43.8   12.08   39.4  
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8           102.3   97.8  
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Case 3c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.5')

RUN 30 DAYS FROM 61854 TO 71754  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

18 LAKE TEMP NATURAL (F)  
 19 LAKE TEMP @ INLET (F)  
 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.30 97.80

WEATHER STATION ID 93822.

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Case 3c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.5')

FPLANT						
61854 -	71754	R/I	86.000			
TPRISE						
61854 -	71754	S/I	35.480	28.950	16.790	16.390
			15.420	15.060	14.610	14.360
			13.950	13.520	13.360	13.360
			13.360	13.300	12.790	12.790
			12.500	12.500	12.300	12.090
			12.090	12.090	12.090	12.080
			11.560	11.560	11.560	11.560
			11.560	11.560	11.560	11.560
			11.160	11.150	11.150	11.150
			11.150	10.950	10.940	10.940
			10.590	10.590	10.590	10.590
			10.590	10.590	10.590	10.590
			10.590	10.590	10.590	10.590
			10.590	10.590	10.590	10.360
			10.070	10.070	10.070	10.070
			10.070	10.070	10.070	10.070
			10.070	10.070	10.070	10.070
			10.070	10.070	10.070	10.070
			10.070	10.070	9.810	9.790
			9.790	9.790	9.790	9.790
			9.630	9.630	9.630	9.630
			9.630	9.630	9.630	9.630
			9.630	9.630	9.630	9.630
			9.480	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.270	9.270
			9.270	9.270	9.230	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940
			8.940	8.940	8.940	8.940

8.940	8.940	8.940	8.940
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8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
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8.570	8.570	8.570	8.570
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8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520

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Case 3c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.5')

SEASONAL SUMMARY FOR SUMMER ( 6/1954 - 8/1954 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.61	688.91	0.00	689.21
TOTAL AREA (ACRE)	80.72	79.61	0.00	80.09
TOTAL VOLUME (ACRE-FT)	309.79	253.94	0.00	278.14
EFFECTIVE AREA (ACRE)	72.65	71.65	0.00	72.08
EFFECTIVE VOL (ACRE-FT)	278.76	228.52	0.00	250.29
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.18	-0.15	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.01	-1.69	0.00	-1.83
EVAPORATION NATURL(CFS)	-1.28	-1.13	0.00	-1.20
EVAPORATION FORCED(CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.11	145.43	0.00	146.59
EVAP LOSS (BTU/HR-FT2)	85.13	76.30	0.00	80.13
COND LOSS (BTU/HR-FT2)	4.10	0.93	0.00	2.30
LAKE TEMP NATURAL (F)	85.92	83.46	0.00	84.52
LAKE TEMP @ INLET (F)	98.17	93.25	0.00	95.38
LAKE TEMP @ OUTLET (F)	86.90	84.51	0.00	85.55
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.71	-5.12	0.00	-9.84
TOTAL EVAP TOT (ACRE-FT)	-51.84	-56.94	0.00	-108.78
TOTAL EVAP NAT (ACRE-FT)	-33.07	-38.13	0.00	-71.20
TOTAL EVAP FOR (ACRE-FT)	-18.77	-18.81	0.00	-37.58
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                    5%                    50%

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LAKE TEMP NATURAL (F)	100.0	93.3	84.1
LAKE TEMP @ INLET (F)	133.0	107.5	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.2

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Case 3c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.5')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.61	688.91	0.00	689.21
TOTAL AREA (ACRE)	80.72	79.61	0.00	80.09
TOTAL VOLUME (ACRE-FT)	309.79	253.94	0.00	278.14
EFFECTIVE AREA (ACRE)	72.65	71.65	0.00	72.08
EFFECTIVE VOL (ACRE-FT)	278.76	228.52	0.00	250.29
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.18	-0.15	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.01	-1.69	0.00	-1.83
EVAPORATION NATURL(CFS)	-1.28	-1.13	0.00	-1.20
EVAPORATION FORCED(CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.11	145.43	0.00	146.59
EVAP LOSS (BTU/HR-FT2)	85.13	76.30	0.00	80.13
COND LOSS (BTU/HR-FT2)	4.10	0.93	0.00	2.30
LAKE TEMP NATURAL (F)	85.92	83.46	0.00	84.52
LAKE TEMP @ INLET (F)	98.17	93.25	0.00	95.38
LAKE TEMP @ OUTLET (F)	86.90	84.51	0.00	85.55
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.71	-5.12	0.00	-9.84
TOTAL EVAP TOT (ACRE-FT)	-51.84	-56.94	0.00	-108.78
TOTAL EVAP NAT (ACRE-FT)	-33.07	-38.13	0.00	-71.20
TOTAL EVAP FOR (ACRE-FT)	-18.77	-18.81	0.00	-37.58
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                      5%                      50%

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LAKE TEMP NATURAL (F)	100.0	93.3	84.1
LAKE TEMP @ INLET (F)	133.0	107.5	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.2



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Case 3c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.5')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	81.34 ( 6181954)	78.98 ( 7171954)	80.09
TOTAL VOLUME (ACRE-FT)	341.13 ( 6181954)	222.77 ( 7171954)	278.14
EFFECTIVE AREA (ACRE)	73.21 ( 6181954)	71.09 ( 7171954)	72.08
EFFECTIVE VOL (ACRE-FT)	306.96 ( 6181954)	200.48 ( 7171954)	250.29
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.13 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.48 ( 6291954)	-5.43 ( 6181954)	-1.83
EVAPORATION NATURL(CFS)	-0.24 ( 6291954)	-4.14 ( 6271954)	-1.20
EVAPORATION FORCED(CFS)	-0.15 ( 7171954)	-2.48 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.58 ( 6181954)	134.89 ( 7071954)	146.59
EVAP LOSS (BTU/HR-FT2)	275.61 ( 6271954)	16.17 ( 6291954)	80.13
COND LOSS (BTU/HR-FT2)	37.15 ( 6271954)	-47.13 ( 7121954)	2.30
LAKE TEMP NATURAL (F)	101.42 ( 6181954)	73.38 ( 7071954)	84.52
LAKE TEMP @ INLET (F)	140.00 ( 6181954)	82.37 ( 7071954)	95.38
LAKE TEMP @ OUTLET (F)	104.65 ( 6181954)	73.45 ( 7071954)	85.55
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 7171954)	-0.05 ( 6181954)	-9.84
TOTAL EVAP TOT (ACRE-FT)	-0.12 ( 6291954)	-1.35 ( 6181954)	-108.78
TOTAL EVAP NAT (ACRE-FT)	-0.06 ( 6291954)	-1.03 ( 6271954)	-71.20
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.62 ( 6181954)	-37.58
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.0	93.3	84.1
LAKE TEMP @ INLET (F)	133.0	107.5	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.2

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Case 4a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 1.0')

1							
2	070100	073100	1	1	0	3	2
3	1	0	20.				
4	1	0.2	5500.	0			
5	6	2	690				
	690	82.15	381.9	73.94	343.7		
	689	80.55	300.6	72.49	270.5		
	688	78.96	220.8	71.06	198.7		
	687	77.33	142.7	69.60	128.4		
	686	29.70	71.74	26.73	64.57		
	685	14.75	50.79	13.28	45.71		
7	1	0	3	18	19	20	
8	102.74	98.24					
999							
FPLANT	R/I	86.0					
TPRISE	S/I						
35.48							
28.95							
16.79							
16.39							
15.42							
15.06							
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Program : LAKET  
Number : 03.7.292-2.2 0  
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END

Program : LAKET  
 Number : 03.7.292-2.2 0  
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Case 4a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 1.0')

RUN 31 DAYS FROM 70100 TO 73100  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.150	381.900	73.940	343.700
689.000	80.550	300.600	72.490	270.500
688.000	78.960	220.800	71.060	198.700
687.000	77.330	142.700	69.600	128.400
686.000	29.700	71.740	26.730	64.570
685.000	14.750	50.790	13.280	45.710

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.74 98.24

WEATHER STATION ID 0.

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Case 4a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 1.0')

FPLANT  
70100 - 73100 R/I 86.000

TPRISE							
70100	-	73100	S/I	35.480	28.950	16.790	16.390
				15.420	15.060	14.610	14.360
				13.950	13.520	13.360	13.360
				13.360	13.300	12.790	12.790
				12.500	12.500	12.300	12.090
				12.090	12.090	12.090	12.080
				11.560	11.560	11.560	11.560
				11.560	11.560	11.560	11.560
				11.160	11.150	11.150	11.150
				11.150	10.950	10.940	10.940
				10.590	10.590	10.590	10.590
				10.590	10.590	10.590	10.590
				10.590	10.590	10.590	10.590
				10.590	10.590	10.590	10.360
				10.070	10.070	10.070	10.070
				10.070	10.070	10.070	10.070
				10.070	10.070	10.070	10.070
				10.070	10.070	10.070	10.070
				9.790	9.790	9.810	9.790
				9.790	9.790	9.790	9.790
				9.630	9.630	9.630	9.630
				9.630	9.630	9.630	9.630
				9.630	9.630	9.630	9.630
				9.480	9.270	9.630	9.630
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				9.270	9.270	9.270	9.270
				8.940	8.940	9.230	8.940
				8.940	8.940	8.940	8.940
				8.940	8.940	8.940	8.940



8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310

Program : LAKET  
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Case 4a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 1.0')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.34	0.00	689.34
TOTAL AREA (ACRE)	0.00	81.10	0.00	81.10
TOTAL VOLUME (ACRE-FT)	0.00	328.51	0.00	328.51
EFFECTIVE AREA (ACRE)	0.00	72.99	0.00	72.99
EFFECTIVE VOL (ACRE-FT)	0.00	295.63	0.00	295.63
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	0.00	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.40	0.00	-1.40
EVAPORATION NATURL(CFS)	0.00	-0.76	0.00	-0.76
EVAPORATION FORCED(CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.30	0.00	151.30
EVAP LOSS (BTU/HR-FT2)	0.00	50.37	0.00	50.37
COND LOSS (BTU/HR-FT2)	0.00	6.88	0.00	6.88
LAKE TEMP NATURAL (F)	0.00	88.87	0.00	88.87
LAKE TEMP @ INLET (F)	0.00	99.69	0.00	99.69
LAKE TEMP @ OUTLET (F)	0.00	89.86	0.00	89.86
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.71	0.00	-10.71
TOTAL EVAP TOT (ACRE-FT)	0.00	-85.89	0.00	-85.89
TOTAL EVAP NAT (ACRE-FT)	0.00	-46.97	0.00	-46.97
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.91	0.00	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.5	97.0	88.3
LAKE TEMP @ INLET (F)	132.0	110.0	98.7
LAKE TEMP @ OUTLET (F)	103.0	97.0	89.4

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Case 4a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 1.0')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	0.00	689.34	0.00	689.34
TOTAL AREA (ACRE)	0.00	81.10	0.00	81.10
TOTAL VOLUME (ACRE-FT)	0.00	328.51	0.00	328.51
EFFECTIVE AREA (ACRE)	0.00	72.99	0.00	72.99
EFFECTIVE VOL (ACRE-FT)	0.00	295.63	0.00	295.63
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	0.00	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.40	0.00	-1.40
EVAPORATION NATURL (CFS)	0.00	-0.76	0.00	-0.76
EVAPORATION FORCED (CFS)	0.00	-0.63	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	204.97	0.00	204.97
SURF LOSS (BTU/HR-FT2)	0.00	151.30	0.00	151.30
EVAP LOSS (BTU/HR-FT2)	0.00	50.37	0.00	50.37
COND LOSS (BTU/HR-FT2)	0.00	6.88	0.00	6.88
LAKE TEMP NATURAL (F)	0.00	88.87	0.00	88.87
LAKE TEMP @ INLET (F)	0.00	99.69	0.00	99.69
LAKE TEMP @ OUTLET (F)	0.00	89.86	0.00	89.86
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.71	0.00	-10.71
TOTAL EVAP TOT (ACRE-FT)	0.00	-85.89	0.00	-85.89
TOTAL EVAP NAT (ACRE-FT)	0.00	-46.97	0.00	-46.97
TOTAL EVAP FOR (ACRE-FT)	0.00	-38.91	0.00	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.5	97.0	88.3
LAKE TEMP @ INLET (F)	132.0	110.0	98.7
LAKE TEMP @ OUTLET (F)	103.0	97.0	89.4

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 Number : 03.7.292-2.2 0  
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Case 4a: LaSalle UHS (09:00, Worst Day Temp; To=104F, 1.0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.81 ( 7311900)	689.34
TOTAL AREA (ACRE)	82.14 ( 7011900)	80.24 ( 7311900)	81.10
TOTAL VOLUME (ACRE-FT)	381.31 ( 7011900)	285.29 ( 7311900)	328.51
EFFECTIVE AREA (ACRE)	73.93 ( 7011900)	72.22 ( 7311900)	72.99
EFFECTIVE VOL (ACRE-FT)	343.17 ( 7011900)	256.73 ( 7311900)	295.63
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.15 ( 7311900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.26 ( 7161900)	-4.78 ( 7021900)	-1.40
EVAPORATION NATURL(CFS)	0.00 ( 7011900)	-3.60 ( 7031900)	-0.76
EVAPORATION FORCED(CFS)	-0.26 ( 7161900)	-2.08 ( 7011900)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	426.50 ( 7011900)	97.95 ( 7041900)	204.97
SURF LOSS (BTU/HR-FT2)	165.49 ( 7011900)	143.62 ( 7061900)	151.30
EVAP LOSS (BTU/HR-FT2)	234.70 ( 7031900)	0.00 ( 7011900)	50.37
COND LOSS (BTU/HR-FT2)	39.43 ( 7261900)	-6.87 ( 7261900)	6.88
LAKE TEMP NATURAL (F)	101.35 ( 7011900)	81.80 ( 7061900)	88.87
LAKE TEMP @ INLET (F)	138.41 ( 7011900)	92.47 ( 7251900)	99.69
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.96 ( 7061900)	89.86
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7311900)	-0.05 ( 7011900)	-10.71
TOTAL EVAP TOT (ACRE-FT)	-0.06 ( 7161900)	-1.18 ( 7021900)	-85.89
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7011900)	-0.89 ( 7031900)	-46.97
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 7161900)	-0.51 ( 7011900)	-38.91
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.5	97.0	88.3
LAKE TEMP @ INLET (F)	132.0	110.0	98.7
LAKE TEMP @ OUTLET (F)	103.0	97.0	89.4

Program : LAKET  
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Case 4b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 1.0')

1								
2	070100	080500	1	1	0	3	2	
3	1	0	20.					
4	1	0.2	5500.	0				
5	6	2	690					
	690	82.15	381.9	73.94	343.7			
	689	80.55	300.6	72.49	270.5			
	688	78.96	220.8	71.06	198.7			
	687	77.33	142.7	69.60	128.4			
	686	29.70	71.74	26.73	64.57			
	685	14.75	50.79	13.28	45.71			
7	1	0	3	18	19	20		
8	103.02	98.52						
999								
FPLANT	R/I	86.0						
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35.48								
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Program : LAKET  
Number : 03.7.292-2.2 0  
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Program : LAKET  
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Program : LAKET  
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Program : LAKET  
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Program : LAKET  
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Program : LAKET  
 Number : 03.7.292-2.2 0  
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Case 4b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 1.0')

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

## DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.150	381.900	73.940	343.700
689.000	80.550	300.600	72.490	270.500
688.000	78.960	220.800	71.060	198.700
687.000	77.330	142.700	69.600	128.400
686.000	29.700	71.740	26.730	64.570
685.000	14.750	50.790	13.280	45.710

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

## PLOT VARIABLES:

18 LAKE TEMP NATURAL (F)  
 19 LAKE TEMP @ INLET (F)  
 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 103.02 98.52

WEATHER STATION ID 0.



8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.940	8.940	8.940	8.940
8.810	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.780	8.780	8.780
8.780	8.610	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
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8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.570
8.570	8.570	8.570	8.520
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
8.310	8.310	8.310	8.310
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Program : LAKET  
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Case 4b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 1.0')

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	80.98	79.82	80.82
TOTAL VOLUME (ACRE-FT)	0.00	322.70	264.07	314.56
EFFECTIVE AREA (ACRE)	0.00	72.88	71.84	72.74
EFFECTIVE VOL (ACRE-FT)	0.00	290.40	237.63	283.07
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.64	-1.33	-1.59
EVAPORATION NATURL(CFS)	0.00	-0.98	-0.76	-0.95
EVAPORATION FORCED(CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.68	152.29	153.49
EVAP LOSS (BTU/HR-FT2)	0.00	64.97	51.32	63.07
COND LOSS (BTU/HR-FT2)	0.00	5.42	5.16	5.38
LAKE TEMP NATURAL (F)	0.00	91.01	89.78	90.84
LAKE TEMP @ INLET (F)	0.00	101.58	98.83	101.20
LAKE TEMP @ OUTLET (F)	0.00	91.75	90.57	91.59
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.53	-1.41	-11.95
TOTAL EVAP TOT (ACRE-FT)	0.00	-100.60	-13.14	-113.75
TOTAL EVAP NAT (ACRE-FT)	0.00	-60.49	-7.59	-68.07
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.12	-5.56	-45.67
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.5	97.2	90.9
LAKE TEMP @ INLET (F)	132.0	110.6	100.9
LAKE TEMP @ OUTLET (F)	103.0	98.1	91.7



Program : LAKET  
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Case 4b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 1.0')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.27	688.54	689.17
TOTAL AREA (ACRE)	0.00	80.98	79.82	80.82
TOTAL VOLUME (ACRE-FT)	0.00	322.70	264.07	314.56
EFFECTIVE AREA (ACRE)	0.00	72.88	71.84	72.74
EFFECTIVE VOL (ACRE-FT)	0.00	290.40	237.63	283.07
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.14	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.64	-1.33	-1.59
EVAPORATION NATURL (CFS)	0.00	-0.98	-0.76	-0.95
EVAPORATION FORCED (CFS)	0.00	-0.65	-0.56	-0.64
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.68	152.29	153.49
EVAP LOSS (BTU/HR-FT2)	0.00	64.97	51.32	63.07
COND LOSS (BTU/HR-FT2)	0.00	5.42	5.16	5.38
LAKE TEMP NATURAL (F)	0.00	91.01	89.78	90.84
LAKE TEMP @ INLET (F)	0.00	101.58	98.83	101.20
LAKE TEMP @ OUTLET (F)	0.00	91.75	90.57	91.59
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.53	-1.41	-11.95
TOTAL EVAP TOT (ACRE-FT)	0.00	-100.60	-13.14	-113.75
TOTAL EVAP NAT (ACRE-FT)	0.00	-60.49	-7.59	-68.07
TOTAL EVAP FOR (ACRE-FT)	0.00	-40.12	-5.56	-45.67
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.5	97.2	90.9
LAKE TEMP @ INLET (F)	132.0	110.6	100.9
LAKE TEMP @ OUTLET (F)	103.0	98.1	91.7

Program : LAKET  
 Number : 03.7.292-2.2 0  
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Case 4b: LaSalle UHS (09:00, Worst 5/1/30 Day Temp; To=104F, 1.0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.45 ( 8051900)	689.17
TOTAL AREA (ACRE)	82.13 ( 7011900)	79.67 ( 8051900)	80.82
TOTAL VOLUME (ACRE-FT)	381.11 ( 7011900)	256.19 ( 8051900)	314.56
EFFECTIVE AREA (ACRE)	73.93 ( 7011900)	71.69 ( 8051900)	72.74
EFFECTIVE VOL (ACRE-FT)	342.99 ( 7011900)	230.54 ( 8051900)	283.07
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.14 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.29 ( 8051900)	-4.06 ( 7051900)	-1.59
EVAPORATION NATURL(CFS)	0.00 ( 7031900)	-2.73 ( 7051900)	-0.95
EVAPORATION FORCED(CFS)	-0.25 ( 7311900)	-1.84 ( 7011900)	-0.64
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	165.45 ( 7011900)	142.91 ( 7241900)	153.49
EVAP LOSS (BTU/HR-FT2)	178.35 ( 7051900)	0.00 ( 7031900)	63.07
COND LOSS (BTU/HR-FT2)	26.10 ( 7051900)	-31.35 ( 7251900)	5.38
LAKE TEMP NATURAL (F)	101.31 ( 7011900)	81.13 ( 7241900)	90.84
LAKE TEMP @ INLET (F)	137.91 ( 7011900)	90.55 ( 7241900)	101.20
LAKE TEMP @ OUTLET (F)	104.00 ( 7011900)	82.04 ( 7241900)	91.59
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 8051900)	-0.05 ( 7011900)	-11.95
TOTAL EVAP TOT (ACRE-FT)	-0.07 ( 8051900)	-1.01 ( 7051900)	-113.75
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.68 ( 7051900)	-68.07
TOTAL EVAP FOR (ACRE-FT)	-0.06 ( 7311900)	-0.46 ( 7011900)	-45.67
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.5	97.2	90.9
LAKE TEMP @ INLET (F)	132.0	110.6	100.9
LAKE TEMP @ OUTLET (F)	103.0	98.1	91.7

Program : LAKET  
 Number : 03.7.292-2.2 O  
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Case 4c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.0')

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2	061854	071754	1	1	0	3	2
3	1	0	20.				
4	1	0.2	5500.	0			
5	6	2	690				
	690	82.15	381.9	73.94	343.7		
	689	80.55	300.6	72.49	270.5		
	688	78.96	220.8	71.06	198.7		
	687	77.33	142.7	69.60	128.4		
	686	29.70	71.74	26.73	64.57		
	685	14.75	50.79	13.28	45.71		

7	1	0	3	18	19	20
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8	102.74	98.24
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FPLANT R/I 86.0

TPRISE S/I

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Program : LAKET  
Number : 03.7.292-2.2 O  
Created : 11/18/2004 08:08:26

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Date : 02/24/2011  
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Program : LAKET  
Number : 03.7.292-2.2 0  
Created : 11/18/2004 08:08:26

Page : 4  
Date : 02/24/2011  
Time : 13:13:58.01

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Program : LAKET  
Number : 03.7.292-2.2 O  
Created : 11/18/2004 08:08:26

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Date : 02/24/2011  
Time : 13:13:58.01

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Program : LAKET  
Number : 03.7.292-2.2 0  
Created : 11/18/2004 08:08:26

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Date : 02/24/2011  
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Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Date : 02/24/2011  
 Time : 13:13:58.01

Case 4c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.0')

RUN 30 DAYS FROM 61854 TO 71754  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.150	381.900	73.940	343.700
689.000	80.550	300.600	72.490	270.500
688.000	78.960	220.800	71.060	198.700
687.000	77.330	142.700	69.600	128.400
686.000	29.700	71.740	26.730	64.570
685.000	14.750	50.790	13.280	45.710

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 18 LAKE TEMP NATURAL (F)
- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 102.74 98.24

WEATHER STATION ID 93822.

Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

Page : 8  
 Date : 02/24/2011  
 Time : 13:13:58.03

Case 4c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.0')

FPLANT							
61854 -	71754	R/I	86.000				
TPRISE							
61854 -	71754	S/I	35.480	28.950	16.790	16.390	
			15.420	15.060	14.610	14.360	
			13.950	13.520	13.360	13.360	
			13.360	13.300	12.790	12.790	
			12.500	12.500	12.300	12.090	
			12.090	12.090	12.090	12.080	
			11.560	11.560	11.560	11.560	
			11.560	11.560	11.560	11.560	
			11.160	11.150	11.150	11.150	
			11.150	10.950	10.940	10.940	
			10.590	10.590	10.590	10.590	
			10.590	10.590	10.590	10.590	
			10.590	10.590	10.590	10.590	
			10.590	10.590	10.590	10.590	
			10.070	10.070	10.070	10.070	
			10.070	10.070	10.070	10.070	
			10.070	10.070	10.070	10.070	
			10.070	10.070	10.070	10.070	
			10.070	10.070	9.810	9.790	
			9.790	9.790	9.790	9.790	
			9.630	9.630	9.630	9.630	
			9.630	9.630	9.630	9.630	
			9.630	9.630	9.630	9.630	
			9.480	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
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			9.270	9.270	9.270	9.270	
			9.270	9.270	9.270	9.270	
			8.940	8.940	8.940	8.940	
			8.940	8.940	8.940	8.940	



Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

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 Date : 02/24/2011  
 Time : 13:13:58.09

Case 4c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.0')

SEASONAL SUMMARY FOR SUMMER ( 6/1954 - 8/1954 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.60	688.91	0.00	689.21
TOTAL AREA (ACRE)	81.52	80.40	0.00	80.89
TOTAL VOLUME (ACRE-FT)	349.69	293.35	0.00	317.77
EFFECTIVE AREA (ACRE)	73.37	72.36	0.00	72.80
EFFECTIVE VOL (ACRE-FT)	314.70	263.98	0.00	285.96
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.18	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.04	-1.70	0.00	-1.85
EVAPORATION NATURL(CFS)	-1.31	-1.14	0.00	-1.22
EVAPORATION FORCED(CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.36	145.47	0.00	146.72
EVAP LOSS (BTU/HR-FT2)	86.34	76.25	0.00	80.62
COND LOSS (BTU/HR-FT2)	4.41	0.97	0.00	2.46
LAKE TEMP NATURAL (F)	86.14	83.50	0.00	84.64
LAKE TEMP @ INLET (F)	98.38	93.35	0.00	95.53
LAKE TEMP @ OUTLET (F)	87.12	84.58	0.00	85.68
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.76	-5.29	0.00	-10.05
TOTAL EVAP TOT (ACRE-FT)	-52.66	-57.30	0.00	-109.95
TOTAL EVAP NAT (ACRE-FT)	-33.87	-38.48	0.00	-72.35
TOTAL EVAP FOR (ACRE-FT)	-18.78	-18.82	0.00	-37.60
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.0	94.0	84.0
LAKE TEMP @ INLET (F)	133.0	108.0	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.1

Program : LAKET  
 Number : 03.7.292-2.2 0  
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Case 4c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.0')

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.60	688.91	0.00	689.21
TOTAL AREA (ACRE)	81.52	80.40	0.00	80.89
TOTAL VOLUME (ACRE-FT)	349.69	293.35	0.00	317.77
EFFECTIVE AREA (ACRE)	73.37	72.36	0.00	72.80
EFFECTIVE VOL (ACRE-FT)	314.70	263.98	0.00	285.96
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.18	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.04	-1.70	0.00	-1.85
EVAPORATION NATURL (CFS)	-1.31	-1.14	0.00	-1.22
EVAPORATION FORCED (CFS)	-0.73	-0.56	0.00	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.36	145.47	0.00	146.72
EVAP LOSS (BTU/HR-FT2)	86.34	76.25	0.00	80.62
COND LOSS (BTU/HR-FT2)	4.41	0.97	0.00	2.46
LAKE TEMP NATURAL (F)	86.14	83.50	0.00	84.64
LAKE TEMP @ INLET (F)	98.38	93.35	0.00	95.53
LAKE TEMP @ OUTLET (F)	87.12	84.58	0.00	85.68
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.76	-5.29	0.00	-10.05
TOTAL EVAP TOT (ACRE-FT)	-52.66	-57.30	0.00	-109.95
TOTAL EVAP NAT (ACRE-FT)	-33.87	-38.48	0.00	-72.35
TOTAL EVAP FOR (ACRE-FT)	-18.78	-18.82	0.00	-37.60
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.0	94.0	84.0
LAKE TEMP @ INLET (F)	133.0	108.0	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.1

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 11  
 Date : 02/24/2011  
 Time : 13:13:58.09

Case 4c: LaSalle UHS (12:00, Worst 30-day Evaporation; To=104F, 1.0')

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.52 ( 7171954)	689.21
TOTAL AREA (ACRE)	82.14 ( 6181954)	79.78 ( 7171954)	80.89
TOTAL VOLUME (ACRE-FT)	381.62 ( 6181954)	261.88 ( 7171954)	317.77
EFFECTIVE AREA (ACRE)	73.94 ( 6181954)	71.80 ( 7171954)	72.80
EFFECTIVE VOL (ACRE-FT)	343.45 ( 6181954)	235.66 ( 7171954)	285.96
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.14 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.49 ( 6291954)	-5.43 ( 6181954)	-1.85
EVAPORATION NATURL(CFS)	-0.26 ( 6291954)	-4.11 ( 6271954)	-1.22
EVAPORATION FORCED(CFS)	-0.16 ( 7171954)	-2.44 ( 6181954)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	165.64 ( 6181954)	136.01 ( 7071954)	146.72
EVAP LOSS (BTU/HR-FT2)	270.89 ( 6271954)	17.13 ( 6291954)	80.62
COND LOSS (BTU/HR-FT2)	37.53 ( 6271954)	-47.07 ( 7121954)	2.46
LAKE TEMP NATURAL (F)	101.48 ( 6181954)	74.48 ( 7071954)	84.64
LAKE TEMP @ INLET (F)	140.00 ( 6181954)	83.77 ( 7071954)	95.53
LAKE TEMP @ OUTLET (F)	104.84 ( 6181954)	74.79 ( 7071954)	85.68
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.05
TOTAL EVAP TOT (ACRE-FT)	-0.12 ( 6291954)	-1.35 ( 6181954)	-109.95
TOTAL EVAP NAT (ACRE-FT)	-0.06 ( 6291954)	-1.02 ( 6271954)	-72.35
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 7171954)	-0.61 ( 6181954)	-37.60
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00



TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
-----			
LAKE TEMP NATURAL (F)	100.0	94.0	84.0
LAKE TEMP @ INLET (F)	133.0	108.0	94.5
LAKE TEMP @ OUTLET (F)	104.0	94.0	85.1

Program : LAKET  
Number : 03.7.292-2.2 O  
Created : 11/18/2004 08:08:26

Page : 1  
Date : 04/07/2006  
Time : 09:37:07.53

Case 00ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

1								
2	061854	071754	1	1	0	3	2	
3	1	0	20.					
4	1	0.2	5500.	0				
5	6	2	690					
	690	83.83	464.9	75.45	418.4			
	689	82.15	381.9	73.94	343.7			
	688	80.55	300.5	72.50	270.5			
	687	78.96	220.8	71.06	198.7			
	686	77.33	142.6	69.60	128.4			
	685	29.70	71.7	26.73	65.6			
7	1	0 3	19	20	21			
8	97.6	93.1						
999								
FPLANT	R/I	86.0						
TPRISE	S/I							
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END

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

Page : 7  
 Date : 04/07/2006  
 Time : 09:37:07.53

Case 00ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

RUN 30 DAYS FROM 61854 TO 71754  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	83.830	464.900	75.450	418.400
689.000	82.150	381.900	73.940	343.700
688.000	80.550	300.500	72.500	270.500
687.000	78.960	220.800	71.060	198.700
686.000	77.330	142.600	69.600	128.400
685.000	29.700	71.700	26.730	65.600

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

19 LAKE TEMP @ INLET (F)  
 20 LAKE TEMP @ OUTLET (F)  
 21 LAKE TEMP @ DAM (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.60 93.10

WEATHER STATION ID 93822.





8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
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8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
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Program : LAKET  
 Number : 03.7.292-2.2 O  
 Created : 11/18/2004 08:08:26

Page : 9  
 Date : 04/07/2006  
 Time : 09:37:07.56

Case 00ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1954 - 8/1954 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.62	688.93	0.00	689.23
TOTAL AREA (ACRE)	83.19	82.04	0.00	82.54
TOTAL VOLUME (ACRE-FT)	433.37	376.32	0.00	401.04
EFFECTIVE AREA (ACRE)	74.88	73.84	0.00	74.29
EFFECTIVE VOL (ACRE-FT)	390.02	338.68	0.00	360.93
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.17	0.00	-0.18
EVAPORATION TOTAL (CFS)	-2.03	-1.72	0.00	-1.85
EVAPORATION NATURL(CFS)	-1.31	-1.16	0.00	-1.23
EVAPORATION FORCED(CFS)	-0.72	-0.55	0.00	-0.62
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.00	145.52	0.00	146.59
EVAP LOSS (BTU/HR-FT2)	84.28	76.16	0.00	79.68
COND LOSS (BTU/HR-FT2)	4.08	1.01	0.00	2.34
LAKE TEMP NATURAL (F)	85.84	83.56	0.00	84.55
LAKE TEMP @ INLET (F)	98.17	93.43	0.00	95.49
LAKE TEMP @ OUTLET (F)	86.96	84.72	0.00	85.69
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.84	-5.58	0.00	-10.42
TOTAL EVAP TOT (ACRE-FT)	-52.28	-57.83	0.00	-110.11
TOTAL EVAP NAT (ACRE-FT)	-33.73	-39.21	0.00	-72.94
TOTAL EVAP FOR (ACRE-FT)	-18.55	-18.62	0.00	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	95.8	92.2	84.1
LAKE TEMP @ INLET (F)	128.0	106.5	94.5
LAKE TEMP @ OUTLET (F)	99.0	92.7	85.2

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Case 00ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.62	688.93	0.00	689.23
TOTAL AREA (ACRE)	83.19	82.04	0.00	82.54
TOTAL VOLUME (ACRE-FT)	433.37	376.32	0.00	401.04
EFFECTIVE AREA (ACRE)	74.88	73.84	0.00	74.29
EFFECTIVE VOL (ACRE-FT)	390.02	338.68	0.00	360.93
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.17	0.00	-0.18
EVAPORATION TOTAL (CFS)	-2.03	-1.72	0.00	-1.85
EVAPORATION NATURL(CFS)	-1.31	-1.16	0.00	-1.23
EVAPORATION FORCED(CFS)	-0.72	-0.55	0.00	-0.62
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	148.00	145.52	0.00	146.59
EVAP LOSS (BTU/HR-FT2)	84.28	76.16	0.00	79.68
COND LOSS (BTU/HR-FT2)	4.08	1.01	0.00	2.34
LAKE TEMP NATURAL (F)	85.84	83.56	0.00	84.55
LAKE TEMP @ INLET (F)	98.17	93.43	0.00	95.49
LAKE TEMP @ OUTLET (F)	86.96	84.72	0.00	85.69
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.84	-5.58	0.00	-10.42
TOTAL EVAP TOT (ACRE-FT)	-52.28	-57.83	0.00	-110.11
TOTAL EVAP NAT (ACRE-FT)	-33.73	-39.21	0.00	-72.94
TOTAL EVAP FOR (ACRE-FT)	-18.55	-18.62	0.00	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

	1%	5%	50%
LAKE TEMP NATURAL (F)	95.8	92.2	84.1
LAKE TEMP @ INLET (F)	128.0	106.5	94.5
LAKE TEMP @ OUTLET (F)	99.0	92.7	85.2

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Case 00ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.54 ( 7171954)	689.23
TOTAL AREA (ACRE)	83.83 ( 6181954)	81.41 ( 7171954)	82.54
TOTAL VOLUME (ACRE-FT)	464.67 ( 6181954)	344.36 ( 7171954)	401.04
EFFECTIVE AREA (ACRE)	75.45 ( 6181954)	73.28 ( 7171954)	74.29
EFFECTIVE VOL (ACRE-FT)	418.19 ( 6181954)	309.94 ( 7171954)	360.93
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.15 ( 7171954)	-0.20 ( 6181954)	-0.18
EVAPORATION TOTAL (CFS)	-0.54 ( 6291954)	-5.33 ( 6271954)	-1.85
EVAPORATION NATURL(CFS)	-0.28 ( 6221954)	-4.07 ( 6271954)	-1.23
EVAPORATION FORCED(CFS)	-0.15 ( 6181954)	-1.92 ( 6181954)	-0.62
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	159.63 ( 6181954)	137.82 ( 7071954)	146.59
EVAP LOSS (BTU/HR-FT2)	262.99 ( 6271954)	17.98 ( 6221954)	79.68
COND LOSS (BTU/HR-FT2)	37.83 ( 6271954)	-46.87 ( 7121954)	2.34
LAKE TEMP NATURAL (F)	96.31 ( 6181954)	76.25 ( 7071954)	84.55
LAKE TEMP @ INLET (F)	134.81 ( 6181954)	85.65 ( 7071954)	95.49
LAKE TEMP @ OUTLET (F)	99.95 ( 6181954)	76.80 ( 7071954)	85.69
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.42
TOTAL EVAP TOT (ACRE-FT)	-0.13 ( 6291954)	-1.32 ( 6271954)	-110.11
TOTAL EVAP NAT (ACRE-FT)	-0.07 ( 6221954)	-1.01 ( 6271954)	-72.94
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 6181954)	-0.48 ( 6181954)	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                    5%                    50%

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LAKE TEMP NATURAL (F)	95.8	92.2	84.1
LAKE TEMP @ INLET (F)	128.0	106.5	94.5
LAKE TEMP @ OUTLET (F)	99.0	92.7	85.2



Case 06ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate)

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2	061854	071754	1	1	0	3	2	
3	1	0	20.					
4	1	0.2	5500.	0				
5	6	2	690					
	690	82.99	423.5	74.69	381.2			
	689	81.35	341.4	73.21	307.2			
	688	79.75	260.8	71.78	234.7			
	687	78.15	181.9	70.34	163.7			
	686	29.70	102.2	26.73	92.0			
	685	22.22	60.0	20.00	54.0			
7	1	0	3	19	20	21		
8	97.4	92.9						

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- TPRISE S/I
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Case 06ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

RUN 30 DAYS FROM 61854 TO 71754  
PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)
- 21 LAKE TEMP @ DAM (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.40 92.90

WEATHER STATION ID 93822.





8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
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Case 06ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

SEASONAL SUMMARY FOR SUMMER ( 6/1954 - 8/1954 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.62	688.93	0.00	689.23
TOTAL AREA (ACRE)	82.37	81.24	0.00	81.73
TOTAL VOLUME (ACRE-FT)	392.37	335.79	0.00	360.30
EFFECTIVE AREA (ACRE)	74.13	73.11	0.00	73.55
EFFECTIVE VOL (ACRE-FT)	353.14	302.16	0.00	324.25
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.00	-1.70	0.00	-1.83
EVAPORATION NATURL (CFS)	-1.28	-1.15	0.00	-1.21
EVAPORATION FORCED (CFS)	-0.72	-0.55	0.00	-0.62
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	147.84	145.50	0.00	146.51
EVAP LOSS (BTU/HR-FT2)	83.54	76.20	0.00	79.38
COND LOSS (BTU/HR-FT2)	3.88	0.99	0.00	2.24
LAKE TEMP NATURAL (F)	85.70	83.53	0.00	84.47
LAKE TEMP @ INLET (F)	97.97	93.35	0.00	95.35
LAKE TEMP @ OUTLET (F)	86.77	84.64	0.00	85.57
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.81	-5.46	0.00	-10.27
TOTAL EVAP TOT (ACRE-FT)	-51.65	-57.47	0.00	-109.12
TOTAL EVAP NAT (ACRE-FT)	-33.10	-38.85	0.00	-71.95
TOTAL EVAP FOR (ACRE-FT)	-18.55	-18.62	0.00	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	95.8	92.2	84.0
LAKE TEMP @ INLET (F)	128.0	106.0	94.4
LAKE TEMP @ OUTLET (F)	99.0	92.3	85.1

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Case 06ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.62	688.93	0.00	689.23
TOTAL AREA (ACRE)	82.37	81.24	0.00	81.73
TOTAL VOLUME (ACRE-FT)	392.37	335.79	0.00	360.30
EFFECTIVE AREA (ACRE)	74.13	73.11	0.00	73.55
EFFECTIVE VOL (ACRE-FT)	353.14	302.16	0.00	324.25
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.19	-0.16	0.00	-0.17
EVAPORATION TOTAL (CFS)	-2.00	-1.70	0.00	-1.83
EVAPORATION NATURL(CFS)	-1.28	-1.15	0.00	-1.21
EVAPORATION FORCED(CFS)	-0.72	-0.55	0.00	-0.62
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	147.84	145.50	0.00	146.51
EVAP LOSS (BTU/HR-FT2)	83.54	76.20	0.00	79.38
COND LOSS (BTU/HR-FT2)	3.88	0.99	0.00	2.24
LAKE TEMP NATURAL (F)	85.70	83.53	0.00	84.47
LAKE TEMP @ INLET (F)	97.97	93.35	0.00	95.35
LAKE TEMP @ OUTLET (F)	86.77	84.64	0.00	85.57
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.81	-5.46	0.00	-10.27
TOTAL EVAP TOT (ACRE-FT)	-51.65	-57.47	0.00	-109.12
TOTAL EVAP NAT (ACRE-FT)	-33.10	-38.85	0.00	-71.95
TOTAL EVAP FOR (ACRE-FT)	-18.55	-18.62	0.00	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                      5%                      50%

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LAKE TEMP NATURAL (F)	95.8	92.2	84.0
LAKE TEMP @ INLET (F)	128.0	106.0	94.4
LAKE TEMP @ OUTLET (F)	99.0	92.3	85.1

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Case 06ev: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprat

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.54 ( 7171954)	689.23
TOTAL AREA (ACRE)	82.99 ( 6181954)	80.61 ( 7171954)	81.73
TOTAL VOLUME (ACRE-FT)	423.27 ( 6181954)	304.09 ( 7171954)	360.30
EFFECTIVE AREA (ACRE)	74.69 ( 6181954)	72.55 ( 7171954)	73.55
EFFECTIVE VOL (ACRE-FT)	381.00 ( 6181954)	273.64 ( 7171954)	324.25
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.15 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.52 ( 6291954)	-5.34 ( 6271954)	-1.83
EVAPORATION NATURL(CFS)	-0.27 ( 6221954)	-4.09 ( 6271954)	-1.21
EVAPORATION FORCED(CFS)	-0.14 ( 6181954)	-1.97 ( 6181954)	-0.62
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	159.72 ( 6181954)	137.02 ( 7071954)	146.51
EVAP LOSS (BTU/HR-FT2)	266.48 ( 6271954)	17.56 ( 6221954)	79.38
COND LOSS (BTU/HR-FT2)	37.73 ( 6271954)	-46.97 ( 7121954)	2.24
LAKE TEMP NATURAL (F)	96.39 ( 6181954)	75.47 ( 7071954)	84.47
LAKE TEMP @ INLET (F)	134.78 ( 6181954)	84.76 ( 7071954)	95.35
LAKE TEMP @ OUTLET (F)	99.96 ( 6181954)	75.91 ( 7071954)	85.57
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 7171954)	-0.05 ( 6181954)	-10.27
TOTAL EVAP TOT (ACRE-FT)	-0.13 ( 6291954)	-1.32 ( 6271954)	-109.12
TOTAL EVAP NAT (ACRE-FT)	-0.07 ( 6221954)	-1.01 ( 6271954)	-71.95
TOTAL EVAP FOR (ACRE-FT)	-0.04 ( 6181954)	-0.49 ( 6181954)	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%            5%            50%

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LAKE TEMP NATURAL (F)	95.8	92.2	84.0
LAKE TEMP @ INLET (F)	128.0	106.0	94.4
LAKE TEMP @ OUTLET (F)	99.0	92.3	85.1

Created : 11/18/2004 08:08:26

Time : 09:43:32.15

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

1									
2	061854	071754	1	1	0		3	2	
3	1	0	20.						
4	1	0.2	5500.	0					
5	6	2	690						
	690	81.35	341.4	73.21	307.2				
	689	79.75	260.8	71.78	234.7				
	688	78.15	181.9	70.34	163.7				
	687	29.70	102.2	26.73	92.0				
	686	22.22	60.0	20.00	54.0				
	685	13.42	43.8	12.08	39.4				
7	1	0	3	19	20	21			
8	96.8	92.3							

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 FPLANT R/I 86.0  
 TPRISE S/I

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Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Date : 04/07/2006  
 Time : 09:43:32.15

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

RUN 30 DAYS FROM 61854 TO 71754  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	81.350	341.400	73.210	307.200
689.000	79.750	260.800	71.780	234.700
688.000	78.150	181.900	70.340	163.700
687.000	29.700	102.200	26.730	92.000
686.000	22.220	60.000	20.000	54.000
685.000	13.420	43.800	12.080	39.400

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

PLOT VARIABLES:

- 19 LAKE TEMP @ INLET (F)
- 20 LAKE TEMP @ OUTLET (F)
- 21 LAKE TEMP @ DAM (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 96.80 92.30

WEATHER STATION ID 93822.

Program : LAKET  
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Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

<b>FPLANT</b>						
61854 -	71754	R/I	86.000			
<b>TPRISE</b>						
61854 -	71754	S/I	35.260	28.790	16.680	16.280
			15.320	14.970	14.530	14.290
			13.880	13.450	13.300	13.300
			13.300	13.240	12.730	12.730
			12.570	12.430	12.240	12.020
			12.020	12.020	12.020	12.010
			11.490	11.490	11.490	11.490
			11.490	11.490	11.490	11.490
			11.090	11.070	11.070	11.070
			11.070	10.870	10.860	10.860
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.500
			10.500	10.500	10.500	10.500
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.990	9.990	9.990	9.990
			9.700	9.700	9.700	9.700
			9.700	9.700	9.700	9.700
			9.540	9.540	9.540	9.540
			9.540	9.540	9.540	9.540
			9.540	9.540	9.540	9.540
			9.400	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			9.190	9.190	9.190	9.190
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850
			8.850	8.850	8.850	8.850

8.850	8.850	8.850	8.850
8.850	8.850	8.850	8.850
8.720	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
8.490	8.490	8.490	8.490
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8.490	8.490	8.490	8.440



Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Time : 09:43:32.18

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

SEASONAL SUMMARY FOR SUMMER ( 6/1954 - 8/1954 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.62	688.93	0.00	689.23
TOTAL AREA (ACRE)	80.75	79.64	0.00	80.12
TOTAL VOLUME (ACRE-FT)	311.10	255.47	0.00	279.57
EFFECTIVE AREA (ACRE)	72.67	71.68	0.00	72.11
EFFECTIVE VOL (ACRE-FT)	279.94	229.90	0.00	251.58
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.18	-0.15	0.00	-0.17
EVAPORATION TOTAL (CFS)	-1.95	-1.68	0.00	-1.80
EVAPORATION NATURL(CFS)	-1.23	-1.13	0.00	-1.18
EVAPORATION FORCED(CFS)	-0.72	-0.55	0.00	-0.62
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	147.50	145.43	0.00	146.33
EVAP LOSS (BTU/HR-FT2)	81.97	76.30	0.00	78.76
COND LOSS (BTU/HR-FT2)	3.45	0.93	0.00	2.02
LAKE TEMP NATURAL (F)	85.38	83.46	0.00	84.29
LAKE TEMP @ INLET (F)	97.62	93.16	0.00	95.09
LAKE TEMP @ OUTLET (F)	86.44	84.50	0.00	85.34
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.73	-5.15	0.00	-9.89
TOTAL EVAP TOT (ACRE-FT)	-50.36	-56.78	0.00	-107.14
TOTAL EVAP NAT (ACRE-FT)	-31.83	-38.14	0.00	-69.97
TOTAL EVAP FOR (ACRE-FT)	-18.53	-18.64	0.00	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                      5%                      50%

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LAKE TEMP NATURAL (F)	96.0	91.7	84.1
LAKE TEMP @ INLET (F)	128.0	105.5	94.4
LAKE TEMP @ OUTLET (F)	99.0	92.6	85.2

Program : LAKET  
 Number : 03.7.292-2.2 0  
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Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	20.00	20.00	0.00	20.00
LAKE ELEVATION (FEET)	689.62	688.93	0.00	689.23
TOTAL AREA (ACRE)	80.75	79.64	0.00	80.12
TOTAL VOLUME (ACRE-FT)	311.10	255.47	0.00	279.57
EFFECTIVE AREA (ACRE)	72.67	71.68	0.00	72.11
EFFECTIVE VOL (ACRE-FT)	279.94	229.90	0.00	251.58
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	-0.18	-0.15	0.00	-0.17
EVAPORATION TOTAL (CFS)	-1.95	-1.68	0.00	-1.80
EVAPORATION NATURL(CFS)	-1.23	-1.13	0.00	-1.18
EVAPORATION FORCED(CFS)	-0.72	-0.55	0.00	-0.62
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	226.40	221.82	0.00	223.80
SURF LOSS (BTU/HR-FT2)	147.50	145.43	0.00	146.33
EVAP LOSS (BTU/HR-FT2)	81.97	76.30	0.00	78.76
COND LOSS (BTU/HR-FT2)	3.45	0.93	0.00	2.02
LAKE TEMP NATURAL (F)	85.38	83.46	0.00	84.29
LAKE TEMP @ INLET (F)	97.62	93.16	0.00	95.09
LAKE TEMP @ OUTLET (F)	86.44	84.50	0.00	85.34
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	-4.73	-5.15	0.00	-9.89
TOTAL EVAP TOT (ACRE-FT)	-50.36	-56.78	0.00	-107.14
TOTAL EVAP NAT (ACRE-FT)	-31.83	-38.14	0.00	-69.97
TOTAL EVAP FOR (ACRE-FT)	-18.53	-18.64	0.00	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE                      FREQUENCY OF OCCURENCES

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1%            5%            50%

LAKE TEMP NATURAL	(F)	96.0	91.7	84.1
LAKE TEMP @ INLET	(F)	128.0	105.5	94.4
LAKE TEMP @ OUTLET	(F)	99.0	92.6	85.2

Program : LAKET  
 Number : 03.7.292-2.2 0  
 Created : 11/18/2004 08:08:26

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 Date : 04/07/2006  
 Time : 09:43:32.18

Case 18e: LaSalle UHS (Updated Worst 30-Day Evap; Ti=97.6F @ 1200; power uprate

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 6181954)	20.00 ( 6181954)	20.00
LAKE ELEVATION (FEET)	690.00 ( 6181954)	688.54 ( 7171954)	689.23
TOTAL AREA (ACRE)	81.35 ( 6181954)	79.01 ( 7171954)	80.12
TOTAL VOLUME (ACRE-FT)	341.18 ( 6181954)	224.36 ( 7171954)	279.57
EFFECTIVE AREA (ACRE)	73.21 ( 6181954)	71.11 ( 7171954)	72.11
EFFECTIVE VOL (ACRE-FT)	307.00 ( 6181954)	201.91 ( 7171954)	251.58
CIRCULATION TIME (HR)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
PRECIPITATION (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SEEPAGE (CFS)	-0.14 ( 7171954)	-0.20 ( 6181954)	-0.17
EVAPORATION TOTAL (CFS)	-0.48 ( 6291954)	-5.39 ( 6271954)	-1.80
EVAPORATION NATURL(CFS)	-0.24 ( 6291954)	-4.14 ( 6271954)	-1.18
EVAPORATION FORCED(CFS)	-0.14 ( 6181954)	-2.08 ( 6181954)	-0.62
BLOWDOWN TOTAL (CFS)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
SOLAR GAIN (BTU/HR-FT2)	451.13 ( 6191954)	90.18 ( 7071954)	223.80
SURF LOSS (BTU/HR-FT2)	159.94 ( 6181954)	134.94 ( 7071954)	146.33
EVAP LOSS (BTU/HR-FT2)	275.39 ( 6271954)	16.21 ( 6291954)	78.76
COND LOSS (BTU/HR-FT2)	37.16 ( 6271954)	-47.13 ( 7121954)	2.02
LAKE TEMP NATURAL (F)	96.58 ( 6181954)	73.43 ( 7071954)	84.29
LAKE TEMP @ INLET (F)	134.67 ( 6181954)	82.31 ( 7071954)	95.09
LAKE TEMP @ OUTLET (F)	99.96 ( 6181954)	73.50 ( 7071954)	85.34
DISSOLVED SOLIDS (PPM)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.03 ( 7171954)	-0.05 ( 6181954)	-9.89
TOTAL EVAP TOT (ACRE-FT)	-0.12 ( 6291954)	-1.34 ( 6271954)	-107.14
TOTAL EVAP NAT (ACRE-FT)	-0.06 ( 6291954)	-1.03 ( 6271954)	-69.97
TOTAL EVAP FOR (ACRE-FT)	-0.03 ( 6181954)	-0.52 ( 6181954)	-37.17
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 6181954)	0.00 ( 6181954)	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

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1%            5%            50%  
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LAKE TEMP NATURAL (F)	96.0	91.7	84.1
LAKE TEMP @ INLET (F)	128.0	105.5	94.4
LAKE TEMP @ OUTLET (F)	99.0	92.6	85.2

Number : 03.7.292-2.2 O  
Created : 11/18/2004 08:08:26

Date : 04/07/2006  
Time : 09:56:32.71

Case 0609: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.7F @0900; power uprate

1									
2	070100	080500	1	1	0		3	2	
3	1	0	20						
4	1	0.2	5500.	0					
5	6	2	690						
	690	82.99	423.5	74.69	381.2				
	689	81.35	341.4	73.21	307.2				
	688	79.75	260.8	71.78	234.7				
	687	78.15	181.9	70.34	163.7				
	686	29.70	102.2	26.73	92.0				
	685	22.22	60.0	20.00	54.0				
7	1	0	3	19	20	21			
8	97.5	93.0							

999  
FPLANT R/I 86.0  
TPRISE S/I

- 35.26
- 28.79
- 16.68
- 16.28
- 15.32
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Case 0609: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.7F @0900; power uprate

RUN 36 DAYS FROM 70100 TO 80500  
 PLOT FILE OPTION : 1 CYCLE FLAG: 1 CIRCULATION TIME FLAG: 0  
 TIME INCREMENT : 3 TIME UNITS: 2

WEATHER FILE OPTION: 1 ANEMOMETER HEIGHT OPTION: 0 ANEMOMETER HEIGHT 20.00

DENSITY: 62.40 SEEPAGE: 0.20 LAKE LENGTH: 5500.00

LAKE ELEVATION OPTION = 2 INITIAL LAKE ELEVATION = 690.00

## DRAWDOWN CURVE

ELEVATION	TOTAL AREA	TOTAL VOLUME	EFF AREA	EFF VOLUME
690.000	82.990	423.500	74.690	381.200
689.000	81.350	341.400	73.210	307.200
688.000	79.750	260.800	71.780	234.700
687.000	78.150	181.900	70.340	163.700
686.000	29.700	102.200	26.730	92.000
685.000	22.220	60.000	20.000	54.000

PLOT FILE FREQUENCY 1 (NUMBER OF TIME STEPS)  
 PLOT FILE FORMAT 0 (0-EXCEL/1-ACGRACE)  
 NUMBER OF VARIABLES FOR PLOT FILE: 3

## PLOT VARIABLES:

19 LAKE TEMP @ INLET (F)  
 20 LAKE TEMP @ OUTLET (F)  
 21 LAKE TEMP @ DAM (F)

INITIAL FORCED/NATURAL LAKE TEMPS. = 97.50 93.00

WEATHER STATION ID 0.

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Case 0609: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.7F @0900; power uprate

FPLANT							
70100 -	80500	R/I	86.000				
TPRISE							
70100 -	80500	S/I	35.260	28.790	16.680	16.280	
			15.320	14.970	14.530	14.290	
			13.880	13.450	13.300	13.300	
			13.300	13.240	12.730	12.730	
			12.570	12.430	12.240	12.020	
			12.020	12.020	12.020	12.010	
			11.490	11.490	11.490	11.490	
			11.490	11.490	11.490	11.490	
			11.090	11.070	11.070	11.070	
			11.070	10.870	10.860	10.860	
			10.500	10.500	10.500	10.500	
			10.500	10.500	10.500	10.500	
			10.500	10.500	10.500	10.500	
			10.500	10.500	10.500	10.270	
			9.990	9.990	9.990	9.990	
			9.990	9.990	9.990	9.990	
			9.990	9.990	9.990	9.990	
			9.990	9.990	9.990	9.990	
			9.990	9.990	9.990	9.990	
			9.990	9.990	9.720	9.700	
			9.700	9.700	9.700	9.700	
			9.540	9.540	9.540	9.540	
			9.540	9.540	9.540	9.540	
			9.540	9.540	9.540	9.540	
			9.400	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
			9.190	9.190	9.190	9.190	
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			9.190	9.190	9.150	8.850	
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8.700	8.700	8.700	8.700
8.700	8.520	8.490	8.490
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Case 0609: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.7F @0900; power uprate

SEASONAL SUMMARY FOR SUMMER ( 6/1900 - 8/1900 )

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.29	688.57	689.19
TOTAL AREA (ACRE)	0.00	81.83	80.66	81.67
TOTAL VOLUME (ACRE-FT)	0.00	365.53	306.60	357.34
EFFECTIVE AREA (ACRE)	0.00	73.65	72.59	73.50
EFFECTIVE VOL (ACRE-FT)	0.00	328.96	275.90	321.59
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.15	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.62	-1.32	-1.58
EVAPORATION NATURL(CFS)	0.00	-0.97	-0.77	-0.94
EVAPORATION FORCED(CFS)	0.00	-0.64	-0.55	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.43	152.11	153.24
EVAP LOSS (BTU/HR-FT2)	0.00	63.62	50.87	61.85
COND LOSS (BTU/HR-FT2)	0.00	5.18	5.08	5.16
LAKE TEMP NATURAL (F)	0.00	90.79	89.62	90.63
LAKE TEMP @ INLET (F)	0.00	101.45	98.76	101.08
LAKE TEMP @ OUTLET (F)	0.00	91.70	90.57	91.54
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.76	-1.48	-12.23
TOTAL EVAP TOT (ACRE-FT)	0.00	-99.48	-13.08	-112.56
TOTAL EVAP NAT (ACRE-FT)	0.00	-59.82	-7.60	-67.42
TOTAL EVAP FOR (ACRE-FT)	0.00	-39.66	-5.48	-45.14
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

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1%            5%            50%  
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LAKE TEMP NATURAL (F)	97.0	95.9	90.9
LAKE TEMP @ INLET (F)	128.0	109.4	100.9
LAKE TEMP @ OUTLET (F)	99.0	97.1	91.9

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Case 0609: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.7F @0900; power uprate

CUMULATIVE SEASONAL SUMMARY: SUMMER

QUANTITY	MONTHLY AVERAGES			AVERAGE VALUE
	JUN	JUL	AUG	
ANEMOMETER HEIGHT (FT)	0.00	20.00	20.00	20.00
LAKE ELEVATION (FEET)	0.00	689.29	688.57	689.19
TOTAL AREA (ACRE)	0.00	81.83	80.66	81.67
TOTAL VOLUME (ACRE-FT)	0.00	365.53	306.60	357.34
EFFECTIVE AREA (ACRE)	0.00	73.65	72.59	73.50
EFFECTIVE VOL (ACRE-FT)	0.00	328.96	275.90	321.59
CIRCULATION TIME (HR)	0.00	0.00	0.00	0.00
PRECIPITATION (CFS)	0.00	0.00	0.00	0.00
MAKEUP TOTAL (CFS)	0.00	0.00	0.00	0.00
SEEPAGE (CFS)	0.00	-0.17	-0.15	-0.17
EVAPORATION TOTAL (CFS)	0.00	-1.62	-1.32	-1.58
EVAPORATION NATURL (CFS)	0.00	-0.97	-0.77	-0.94
EVAPORATION FORCED (CFS)	0.00	-0.64	-0.55	-0.63
BLOWDOWN TOTAL (CFS)	0.00	0.00	0.00	0.00
SOLAR GAIN (BTU/HR-FT2)	0.00	219.94	214.31	219.16
SURF LOSS (BTU/HR-FT2)	0.00	153.43	152.11	153.24
EVAP LOSS (BTU/HR-FT2)	0.00	63.62	50.87	61.85
COND LOSS (BTU/HR-FT2)	0.00	5.18	5.08	5.16
LAKE TEMP NATURAL (F)	0.00	90.79	89.62	90.63
LAKE TEMP @ INLET (F)	0.00	101.45	98.76	101.08
LAKE TEMP @ OUTLET (F)	0.00	91.70	90.57	91.54
DISSOLVED SOLIDS (PPM)	0.00	0.00	0.00	0.00

QUANTITY	MONTHLY TOTALS			TOTAL VALUE
	JUN	JUL	AUG	
TOTAL PRECIP (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00	0.00	0.00	0.00
TOTAL SEEPAGE (ACRE-FT)	0.00	-10.76	-1.48	-12.23
TOTAL EVAP TOT (ACRE-FT)	0.00	-99.48	-13.08	-112.56
TOTAL EVAP NAT (ACRE-FT)	0.00	-59.82	-7.60	-67.42
TOTAL EVAP FOR (ACRE-FT)	0.00	-39.66	-5.48	-45.14
TOTAL BLWD TOT (ACRE-FT)	0.00	0.00	0.00	0.00

TEMPERATURE FREQUENCY OF OCCURENCES

1%                      5%                      50%

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LAKE TEMP NATURAL (F)	97.0	95.9	90.9
LAKE TEMP @ INLET (F)	128.0	109.4	100.9
LAKE TEMP @ OUTLET (F)	99.0	97.1	91.9

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Case 0609: LaSalle UHS (Updated Worst 36-Day Temp; Ti=97.7F @0900; power uprate

TOTAL CUMULATIVE SUMMARY

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	AVERAGE VALUE
ANEMOMETER HEIGHT (FT)	20.00 ( 7011900)	20.00 ( 7011900)	20.00
LAKE ELEVATION (FEET)	689.99 ( 7011900)	688.47 ( 8051900)	689.19
TOTAL AREA (ACRE)	82.98 ( 7011900)	80.50 ( 8051900)	81.67
TOTAL VOLUME (ACRE-FT)	422.94 ( 7011900)	298.69 ( 8051900)	357.34
EFFECTIVE AREA (ACRE)	74.68 ( 7011900)	72.45 ( 8051900)	73.50
EFFECTIVE VOL (ACRE-FT)	380.69 ( 7011900)	268.78 ( 8051900)	321.59
CIRCULATION TIME (HR)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
PRECIPITATION (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
MAKEUP TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SEEPAGE (CFS)	-0.15 ( 8051900)	-0.20 ( 7011900)	-0.17
EVAPORATION TOTAL (CFS)	-0.32 ( 8051900)	-4.06 ( 7051900)	-1.58
EVAPORATION NATURL (CFS)	0.00 ( 7031900)	-2.67 ( 7051900)	-0.94
EVAPORATION FORCED (CFS)	-0.26 ( 7311900)	-1.53 ( 7011900)	-0.63
BLOWDOWN TOTAL (CFS)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
SOLAR GAIN (BTU/HR-FT2)	430.59 ( 7191900)	101.21 ( 7221900)	219.16
SURF LOSS (BTU/HR-FT2)	161.26 ( 7041900)	143.56 ( 7241900)	153.24
EVAP LOSS (BTU/HR-FT2)	172.30 ( 7051900)	0.00 ( 7031900)	61.85
COND LOSS (BTU/HR-FT2)	24.99 ( 7051900)	-31.64 ( 7251900)	5.16
LAKE TEMP NATURAL (F)	97.72 ( 7041900)	81.75 ( 7241900)	90.63
LAKE TEMP @ INLET (F)	132.96 ( 7011900)	91.00 ( 7241900)	101.08
LAKE TEMP @ OUTLET (F)	99.98 ( 7011900)	82.51 ( 7241900)	91.54
DISSOLVED SOLIDS (PPM)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

QUANTITY	MAXIMUM VALUE ( DATE )	MINIMUM VALUE ( DATE )	TOTAL VALUE
TOTAL PRECIP (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL MKUP TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00
TOTAL SEEPAGE (ACRE-FT)	-0.04 ( 8051900)	-0.05 ( 7011900)	-12.23
TOTAL EVAP TOT (ACRE-FT)	-0.08 ( 8051900)	-1.01 ( 7051900)	-112.56
TOTAL EVAP NAT (ACRE-FT)	0.00 ( 7031900)	-0.66 ( 7051900)	-67.42
TOTAL EVAP FOR (ACRE-FT)	-0.07 ( 7311900)	-0.38 ( 7011900)	-45.14
TOTAL BLWD TOT (ACRE-FT)	0.00 ( 7011900)	0.00 ( 7011900)	0.00

TEMPERATURE	FREQUENCY OF OCCURENCES		
	1%	5%	50%
LAKE TEMP NATURAL (F)	97.0	95.9	90.9
LAKE TEMP @ INLET (F)	128.0	109.4	100.9
LAKE TEMP @ OUTLET (F)	99.0	97.1	91.9

## 11.0 PURPOSE/OBJECTIVE

The purpose of this attachment is to evaluate the UHS transient analyses with an allowable plant intake temperature of 104°F and an increased allowable plant intake temperature of 107°F for MUR PU and EPU power levels. Additionally, new weather data from January 1995 to September 2010 is considered in prediction of the UHS temperature response. The initial lake temperature is adjusted such that the plant intake temperature remains below 104°F or 107°F during the accident scenario.

## 12.0 METHODOLOGY AND ACCEPTANCE CRITERIA

The S&L LAKET-PC computer program [Ref. 15.2] is utilized to determine the combined impact of decay heat, initial UHS temperature, and allowable sediment accumulation in the UHS. The maximum allowable UHS temperature is determined for average sediment accumulations of zero (0), six (6), twelve (12), and eighteen (18) inches.

### 12.1 Methodology

12.1.1 Selection of Weather Data - The selection of the most limiting weather data is done in Attachment M. The worst weather day was determined to be 7/25/2001 ending at 6:00 AM and the worst weather month runs from 7/21/1995 4:00PM to 8/20/1995 3:00PM. The most limiting net evaporation month was determined to be from 6/18/1954 to 7/18/1954, which is unchanged from previous revisions of this calculation.

12.1.2 Lake Area and Volume - The initial lake elevation is 690-ft, which corresponds to the top water elevation of the UHS per the UFSAR [Ref. 15.1]. However, UFSAR Section 9.2.6.3 [Ref. 15.1] states that 440,400 gallons of water from the UHS must be available for fire fighting following an accident (Design Input I4.3). Assuming that this inventory is removed from the UHS immediately following an accident (Assumption I3.2) leads to a decrease in the initial lake elevation of 690-ft and lake volume and area. 440,400 gallons corresponds to 1.35 acre-ft of water and a 0.02-ft drop in lake elevation. The initial lake level in the LAKET file is modified to incorporate these changes as shown in Table I2-1. The volume at an elevation of 689.98-ft is determined by subtracting the 1.35 acre-ft used in fire-fighting from the lake volume at 690-ft. The surface area is determined by interpolation using the information given in Table 7.1 of the main body of this calculation. The effective volume and effective area are determined by multiplying the volume and surface area by the effective volume and effective area percentages determined in Attachment J (effective volume is 63.4% of total volume and effective area is 57.9% of total area).

**Table I2-1: Initial Lake Level**

Sediment Level	Lake Elevation (ft)	Area (acre)	Volume (acre-ft)	Effective Area (acre)	Effective Volume (acre-ft)
18-in	689.98	81.32	340.0	47.08	215.59
12-in	689.98	82.12	380.5	47.55	241.24
6-in	689.98	82.96	422.1	48.03	267.64
0-in	689.98	83.80	463.5	48.52	293.89

The remainder of the drawdown curve (from a lake elevation of 689-ft through 685-ft) remains the same as given in Table 7.1 of the main body of this calculation with respect to the total lake volume and surface area. The effective volume and effective area are updated using the percentages determined in Attachment J.

12.1.3 **Plant Temperature Rise** - The UHS heat load is increased due to an increase in power level. In addition, the core decay heat is changed as a result of EPU [Ref. 15.3] The new heat load on the UHS for EPU operation is determined in L-002453 [Ref. 15.4]. The plant temperature rise is dependent on the UHS heat load, and the calculation of the new plant temperature rise at MUR PU and EPU is documented in Attachment L.

12.1.4 **LAKET Case Runs** - For the worst weather cases (cases ending with the letter a), the initial temperature for each case is iteratively set until the lake outlet temperature is equal to the maximum allowable lake outlet temperature (either 104°F or 107°F). The net evaporation cases use the same input file as the corresponding worst weather case, but are run with the most limiting net evaporation month weather file. A list of all cases run for this analysis is shown below:

**Table I2-2: List of LAKET Cases**

Case	Type	Power Level (MW <sub>e</sub> )	Sediment Level	Design Criteria
1a	Worst Weather	4067 (EPU)	0"	Plant Inlet Temp = 107°F
1c	Worst Net Evaporation	4067 (EPU)	0"	Initial Temp of Case 1a
2a	Worst Weather	4067 (EPU)	6"	Plant Inlet Temp = 107°F
2c	Worst Net Evaporation	4067 (EPU)	6"	Initial Temp of Case 2a
3a_12am	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3a_3am	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3a_6am	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3a_9am	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3a_12pm	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3a_3pm	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3a_6pm	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3a_9pm	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 107°F
3c	Worst Net Evaporation	4067 (EPU)	18"	Initial Temp of Case 3a at 6AM
4a	Worst Weather	4067 (EPU)	12"	Plant Inlet Temp = 107°F
4c	Worst Net Evaporation	4067 (EPU)	12"	Initial Temp of Case 4a
1a_104F	Worst Weather	4067 (EPU)	0"	Plant Inlet Temp = 104°F
1c_104F	Worst Net Evaporation	4067 (EPU)	0"	Initial Temp of Case 1a_104F
2a_104F	Worst Weather	4067 (EPU)	6"	Plant Inlet Temp = 104°F
3a_104F	Worst Weather	4067 (EPU)	18"	Plant Inlet Temp = 104°F
4a_104F	Worst Weather	4067 (EPU)	12"	Plant Inlet Temp = 104°F
1a_MUR	Worst Weather	3559 (MUR PU)	0"	Plant Inlet Temp = 107°F
1c_MUR	Worst Net Evaporation	3559 (MUR PU)	0"	Initial Temp of Case 1a_MUR
2a_MUR	Worst Weather	3559 (MUR PU)	6"	Plant Inlet Temp = 107°F
3a_MUR	Worst Weather	3559 (MUR PU)	18"	Plant Inlet Temp = 107°F
4a_MUR	Worst Weather	3559 (MUR PU)	12"	Plant Inlet Temp = 107°F
1a_MUR_104F	Worst Weather	3559 (MUR PU)	0"	Plant Inlet Temp = 104°F



Case	Type	Power Level (MW <sub>e</sub> )	Sediment Level	Design Criteria
1c_MUR_104F	Worst Net Evaporation	3559 (MUR PU)	0"	Initial Temp of Case 1a_MUR_104F
2a_MUR_104F	Worst Weather	3559 (MUR PU)	6"	Plant Inlet Temp = 104°F
3a_MUR_104F	Worst Weather	3559 (MUR PU)	18"	Plant Inlet Temp = 104°F
4a_MUR_104F	Worst Weather	3559 (MUR PU)	12"	Plant Inlet Temp = 104°F

Cases are run at varying times for the most limiting case, Case 3a. The purpose of this is to determine at which time an accident would provide the most limiting results. For all other cases besides Case 3a, only the time determined to be the most limiting will be used.

For EPU power level and a maximum allowable lake temperature of 107°F, the worst net evaporation cases are ran for all levels of sediment. The worst case in terms of UHS drawdown is determined from the four different sediment levels, and the remainder of the worst evaporation cases are run at this sediment level only.

## I2.2 Acceptance Criteria

- I2.2.1 Acceptance Criterion #1 - Peak Temperature - The maximum plant inlet temperature from the UHS shall remain equal to or less than 104°F or 107°F.
- I2.2.2 Acceptance Criterion #2 - UHS Drawdown - There are no specific acceptance criteria for maximum UHS lake drawdown. However, for the worst 30-day evaporation period, the maximum lake drawdown is determined for input to calculation L-001355 [Ref. I5.6].

## I2.3 Limitations

Same as main body of calculation.

## I2.4 Identification of Computer Programs

Postprocessing of the LAKET-PC results is done using Microsoft Excel® 2003 [Ref. I5.5], which is commercially available. The validation of Excel is implicit in the detailed review of all spreadsheets used in this analysis. All computer runs were performed using PC No. ZD6661 under the Windows XP operating system.

LAKET-PC Version 2.2 [Ref. I5.2] was used to perform the lake transient analysis contained in this evaluation. This was run on S&L PC No. ZD6661 on Windows XP operating system.

**I3.0 ASSUMPTIONS**

- 13.1 Fuel Pool Heat Load – It is assumed that the fuel pool emergency makeup pumps provide required makeup flow to the fuel pools. Including fuel pool heat loads is not realistic because it is improbable that the required operator actions to align the fuel pool emergency makeup pumps to the RHR system could be performed in the post-LOCA reactor building environment [Ref. I5.3]. Therefore, the 600 gpm emergency fuel pool makeup flow rate (See Design Input I4.1) is added to the UHS seepage rate.
- 13.2 UHS Inventory for Fire Fighting – It is assumed that all UHS inventory for fire fighting is used immediately following an accident. This is conservative as it decreases the volume of water in the UHS.
- 13.3 Effective Area and Volume at Different Sediment Levels - The effective area and volume percentages determined in Attachment J are determined for 18-in of sediment. It is assumed that these percentages apply to the other sediment levels analyzed in this evaluation. Since changes in sediment level change the depth of the lake evenly throughout the entire lake (see Section 6.2 of the main body of this calculation), the percentages of effective area and volume will negligibly change with sediment level.
- 13.4 Other - All other assumptions are the same as the assumptions in the main body of calculation.

**I4.0 DESIGN INPUT**

- I4.1 Spent Fuel Pool Makeup Flow – The emergency fuel pool makeup flow rate is 600 gpm, which corresponds to 300 gpm per unit [Ref. 15.3].
- I4.2 General Seepage Rate – A seepage rate of 0.2 cfs is retained from Design Input 4.3 of the main body of this calculation. This will be added to the spent fuel pool makeup flow (See Assumption I3.1) to determine the total seepage rate of the UHS.
- I4.3 UHS Inventory for Fire Fighting Following an Accident – Following an accident, 440,400 gallons of water from the UHS must be available for fire fighting [Ref. 15.1, Section 9.2.6.3].
- I4.4 Anemometer Height – For the worst net evaporation weather data, which is from the Peoria weather data spanning from 1948 to 1996, the anemometer height is 20-ft (as taken from input files for the worst net evaporation cases in previous revisions). For the worst weather data, which is taken from the LaSalle Station weather data spanning from 1995 to 2010, the anemometer is at a height of 33-ft (See Attachment K).
- I4.5 Other - All other design inputs are the same as the design inputs in the main body of calculation.

**15.0 REFERENCES**

- 15.1 LaSalle County Station Updated Final Safety Analysis Report (UFSAR), Rev. 19.
- 15.2 LAKET-PC Computer Program, Version 2.2, S&L Program No. 03.7.292-2.2, 12/09/2004. Controlled File Path: \\SNLVS5\SYS3\OPSS\LAK29222\  
15.3 SEAG #12-000098, "DIR for LAS-EPU-U1/2-DIR-T0608-1," 4/18/2012.
- 15.4 "UHS Heat Load," Calculation L-002453, Rev. 3, June 2012.
- 15.5 Microsoft® Office Excel 2003 (11.8120.8122) SP2, Copyright 1985-2003 Microsoft Corporation.
- 15.6 L-001355, "LaSalle County Station CSCS Hydraulic Model," Rev. 004P.

## **I6.0 CALCULATIONS**

### **I6.1 Calculation of Plant Temperature Rise**

The CSCS temperature rise across the plant is computed in Attachment L. Changes from the determination of the plant temperature rise in previous revisions of this calculation included a change in the decay heat ratio as a result of EPU, the removal of fuel pool heat loads, and a one-hour time interval between calculations. See Appendix L9.2 of Attachment L for the results of the plant temperature rise at MUR PU and Appendix L9.4 of Attachment L for the plant temperature rise at EPU.

### **I6.2 Seepage Rate**

The seepage rate is determined from a UHS seepage of 0.2 cfs (Design Input I4.2) and a constant flow of 600 gpm for spent fuel pool makeup (See Design Input I4.1). This gives a total seepage rate of 1.537 cfs, which is constant for all cases.

### **I6.3 Maximum Allowable Lake Temperature**

For this analysis, cases are run at MUR PU and EPU power levels. Each case is run with a limiting plant intake temperature of 104°F and 107°F, allowing for a comparison of the maximum allowable UHS temperature at the differing plant intake temperatures. Limiting weather data is determined from two sets of weather data (See Attachment M).

The time of day which the transient is assumed is critical when determining the maximum allowable initial temperature of the UHS. To account for the time of day at which the UHS transient may start, eight start times are used for the limiting sediment depth of 18-in. As seen in Table I7.1, the most limiting time is 6AM (as it results in the lowest allowable initial temperature). Therefore, the remaining worst weather cases are run beginning at 6AM.

In order to determine the limiting amount of sediment, the worst net evaporation case was run at four different sediment levels at EPU power level (Cases 1a, 2a, 3a, and 4a) for a maximum plant inlet temperature of 107°F. The case with no sediment (Case 1a) was determined to be the most limiting (as it resulted in the highest drawdown). Therefore, the remaining worst evaporation cases were run with a sediment level of 0-in.

### **I6.4 LAKET-PC Files**

The S&L LAKET-PC computer program [Ref. I5.2] was utilized to determine the combined impact of decay heat, initial UHS temperature, and allowable sediment accumulation in the UHS. The files used in this analysis are shown in Table I6.1, below.

Table I6.1: LAKET Files

Name	Type	Modified	Size	Ratio	Packed
Case1a.dat	DAT File	6/21/2012 10:21 AM	5,134	91%	470
Case1a.out	OUT File	6/21/2012 11:16 AM	104,201	97%	3,159
Case1a.plt	PLT File	6/21/2012 11:16 AM	435,708	73%	118,789
Case1a.pltX	PLTX File	6/21/2012 11:16 AM	44,640	78%	9,967
Case1a_104F.dat	DAT File	6/21/2012 10:22 AM	5,138	91%	472
Case1a_104F.out	OUT File	6/21/2012 11:18 AM	104,201	97%	3,168
Case1a_104F.plt	PLT File	6/21/2012 11:18 AM	435,708	73%	118,774
Case1a_104F.pltX	PLTX File	6/21/2012 11:18 AM	44,640	78%	9,873
Case1a_MUR.dat	DAT File	5/17/2012 4:29 PM	5,069	91%	475
Case1a_MUR.out	OUT File	5/17/2012 4:32 PM	104,201	97%	3,175
Case1a_MUR.plt	PLT File	5/17/2012 4:32 PM	435,708	73%	118,813
Case1a_MUR.pltX	PLTX File	5/17/2012 4:32 PM	44,640	78%	9,946
Case1a_MUR_104F.dat	DAT File	5/17/2012 4:30 PM	5,074	91%	480
Case1a_MUR_104F.out	OUT File	5/17/2012 4:35 PM	104,201	97%	3,176
Case1a_MUR_104F.plt	PLT File	5/17/2012 4:35 PM	435,708	73%	118,807
Case1a_MUR_104F.pltX	PLTX File	5/17/2012 4:35 PM	44,640	78%	9,879
Case1c.dat	DAT File	6/21/2012 10:21 AM	5,143	91%	478
Case1c.out	OUT File	6/21/2012 11:17 AM	103,572	97%	3,358
Case1c.plt	PLT File	6/21/2012 11:17 AM	421,692	73%	115,779
Case1c.pltX	PLTX File	6/21/2012 11:17 AM	52,560	77%	12,348
Case1c_104F.dat	DAT File	6/21/2012 10:22 AM	5,145	91%	481
Case1c_104F.out	OUT File	6/21/2012 11:18 AM	103,541	97%	3,349
Case1c_104F.plt	PLT File	6/21/2012 11:18 AM	421,692	73%	115,769
Case1c_104F.pltX	PLTX File	6/21/2012 11:18 AM	43,200	76%	10,197
Case1c_MUR.dat	DAT File	5/22/2012 5:50 PM	5,079	90%	484
Case1c_MUR.out	OUT File	5/22/2012 5:50 PM	103,572	97%	3,359
Case1c_MUR.plt	PLT File	5/22/2012 5:50 PM	421,692	73%	115,753
Case1c_MUR.pltX	PLTX File	5/22/2012 5:50 PM	52,560	76%	12,358
Case1c_MUR_104F.dat	DAT File	5/22/2012 5:50 PM	5,081	90%	487
Case1c_MUR_104F.out	OUT File	5/22/2012 5:50 PM	103,541	97%	3,333
Case1c_MUR_104F.plt	PLT File	5/22/2012 5:50 PM	421,692	73%	115,783
Case1c_MUR_104F.pltX	PLTX File	5/22/2012 5:50 PM	43,200	76%	10,244
Case2a.dat	DAT File	6/21/2012 10:21 AM	5,137	91%	474
Case2a.out	OUT File	6/21/2012 11:17 AM	104,201	97%	3,154
Case2a.plt	PLT File	6/21/2012 11:17 AM	435,708	73%	118,896
Case2a.pltX	PLTX File	6/21/2012 11:17 AM	44,640	78%	9,985
Case2a_104F.dat	DAT File	6/21/2012 10:22 AM	5,140	91%	475
Case2a_104F.out	OUT File	6/21/2012 11:18 AM	104,201	97%	3,187
Case2a_104F.plt	PLT File	6/21/2012 11:18 AM	435,708	73%	118,835
Case2a_104F.pltX	PLTX File	6/21/2012 11:18 AM	44,640	78%	10,007
Case2a_MUR.dat	DAT File	5/17/2012 4:30 PM	5,072	91%	478
Case2a_MUR.out	OUT File	5/17/2012 4:32 PM	104,201	97%	3,176
Case2a_MUR.plt	PLT File	5/17/2012 4:32 PM	435,708	73%	118,932
Case2a_MUR.pltX	PLTX File	5/17/2012 4:32 PM	44,640	78%	10,011
Case2a_MUR_104F.dat	DAT File	5/17/2012 4:31 PM	5,077	90%	483
Case2a_MUR_104F.out	OUT File	5/17/2012 4:35 PM	104,201	97%	3,183
Case2a_MUR_104F.plt	PLT File	5/17/2012 4:35 PM	435,708	73%	118,914
Case2a_MUR_104F.pltX	PLTX File	5/17/2012 4:35 PM	44,640	78%	9,969

Table I6.1: LAKET Files (cont.)

Name ▲	Type	Modified	Size	Ratio	Packed
Case2c.dat	DAT File	6/21/2012 10:21 AM	5,144	91%	482
Case2c.out	OUT File	6/21/2012 11:17 AM	103,541	97%	3,346
Case2c.plt	PLT File	6/21/2012 11:17 AM	421,692	73%	115,828
Case2c.pltX	PLTX File	6/21/2012 11:17 AM	43,200	76%	10,261
Case3a_104F.dat	DAT File	6/21/2012 10:23 AM	5,133	91%	469
Case3a_104F.out	OUT File	6/21/2012 11:18 AM	104,201	97%	3,174
Case3a_104F.plt	PLT File	6/21/2012 11:18 AM	435,708	73%	118,968
Case3a_104F.pltX	PLTX File	6/21/2012 11:18 AM	44,640	77%	10,133
Case3a_12am.dat	DAT File	6/22/2012 10:15 AM	5,137	91%	474
Case3a_12am.out	OUT File	6/22/2012 10:16 AM	104,201	97%	3,181
Case3a_12am.plt	PLT File	6/22/2012 10:16 AM	435,708	73%	119,012
Case3a_12am.pltX	PLTX File	6/22/2012 10:16 AM	44,640	77%	10,115
Case3a_12pm.dat	DAT File	6/21/2012 9:49 AM	5,137	91%	476
Case3a_12pm.out	OUT File	6/21/2012 9:50 AM	104,201	97%	3,161
Case3a_12pm.plt	PLT File	6/21/2012 9:50 AM	435,708	73%	119,003
Case3a_12pm.pltX	PLTX File	6/21/2012 9:50 AM	44,640	77%	10,143
Case3a_3am.dat	DAT File	6/21/2012 9:47 AM	5,134	91%	472
Case3a_3am.out	OUT File	6/21/2012 9:49 AM	104,201	97%	3,161
Case3a_3am.plt	PLT File	6/21/2012 9:49 AM	435,708	73%	118,996
Case3a_3am.pltX	PLTX File	6/21/2012 9:49 AM	44,640	77%	10,133
Case3a_3pm.dat	DAT File	6/21/2012 9:47 AM	5,134	91%	472
Case3a_3pm.out	OUT File	6/21/2012 9:49 AM	104,201	97%	3,159
Case3a_3pm.plt	PLT File	6/21/2012 9:49 AM	435,708	73%	118,909
Case3a_3pm.pltX	PLTX File	6/21/2012 9:49 AM	44,640	77%	10,126
Case3a_6am.dat	DAT File	6/21/2012 9:48 AM	5,135	91%	474
Case3a_6am.out	OUT File	6/21/2012 9:49 AM	104,201	97%	3,158
Case3a_6am.plt	PLT File	6/21/2012 9:49 AM	435,708	73%	118,984
Case3a_6am.pltX	PLTX File	6/21/2012 9:49 AM	44,640	77%	10,112
Case3a_6pm.dat	DAT File	6/21/2012 9:48 AM	5,136	91%	475
Case3a_6pm.out	OUT File	6/21/2012 9:49 AM	104,201	97%	3,162
Case3a_6pm.plt	PLT File	6/21/2012 9:49 AM	435,708	73%	118,984
Case3a_6pm.pltX	PLTX File	6/21/2012 9:49 AM	44,640	77%	10,088
Case3a_9am.dat	DAT File	6/21/2012 9:48 AM	5,136	91%	473
Case3a_9am.out	OUT File	6/21/2012 9:49 AM	104,201	97%	3,166
Case3a_9am.plt	PLT File	6/21/2012 9:49 AM	435,708	73%	118,983
Case3a_9am.pltX	PLTX File	6/21/2012 9:49 AM	44,640	77%	10,082
Case3a_9pm.dat	DAT File	6/21/2012 9:48 AM	5,136	91%	475
Case3a_9pm.out	OUT File	6/21/2012 9:49 AM	104,201	97%	3,163
Case3a_9pm.plt	PLT File	6/21/2012 9:49 AM	435,708	73%	118,954
Case3a_9pm.pltX	PLTX File	6/21/2012 9:49 AM	44,640	77%	10,105
Case3a_MUR.dat	DAT File	5/17/2012 4:30 PM	5,067	91%	478
Case3a_MUR.out	OUT File	5/17/2012 4:33 PM	104,201	97%	3,166
Case3a_MUR.plt	PLT File	5/17/2012 4:33 PM	435,708	73%	118,981
Case3a_MUR.pltX	PLTX File	5/17/2012 4:33 PM	44,640	77%	10,145
Case3a_MUR_104F.dat	DAT File	5/17/2012 4:38 PM	5,070	91%	478
Case3a_MUR_104F.out	OUT File	5/17/2012 4:38 PM	104,201	97%	3,172
Case3a_MUR_104F.plt	PLT File	5/17/2012 4:38 PM	435,708	73%	118,942
Case3a_MUR_104F.pltX	PLTX File	5/17/2012 4:38 PM	44,640	77%	10,124

**Table I6.1: LAKET Files (cont.)**

Name	Type	Modified	Size	Ratio	Packed
Case3c.dat	DAT File	6/21/2012 10:21 AM	5,138	91%	478
Case3c.out	OUT File	6/21/2012 11:17 AM	103,541	97%	3,327
Case3c.plt	PLT File	6/21/2012 11:17 AM	421,692	72%	115,937
Case3c.pltX	PLTX File	6/21/2012 11:17 AM	43,200	76%	10,334
Case4a.dat	DAT File	6/21/2012 10:22 AM	5,133	91%	467
Case4a.out	OUT File	6/21/2012 11:17 AM	104,201	97%	3,171
Case4a.plt	PLT File	6/21/2012 11:17 AM	435,708	73%	118,931
Case4a.pltX	PLTX File	6/21/2012 11:17 AM	44,640	77%	10,066
Case4a_104F.dat	DAT File	6/21/2012 10:23 AM	5,136	91%	470
Case4a_104F.out	OUT File	6/21/2012 11:18 AM	104,201	97%	3,178
Case4a_104F.plt	PLT File	6/21/2012 11:18 AM	435,708	73%	118,884
Case4a_104F.pltX	PLTX File	6/21/2012 11:18 AM	44,640	77%	10,046
Case4a_MUR.dat	DAT File	5/17/2012 4:30 PM	5,068	91%	477
Case4a_MUR.out	OUT File	5/17/2012 4:33 PM	104,201	97%	3,176
Case4a_MUR.plt	PLT File	5/17/2012 4:33 PM	435,708	73%	118,927
Case4a_MUR.pltX	PLTX File	5/17/2012 4:33 PM	44,640	77%	10,111
Case4a_MUR_104F.dat	DAT File	5/17/2012 4:39 PM	5,071	91%	480
Case4a_MUR_104F.out	OUT File	5/17/2012 4:40 PM	104,201	97%	3,188
Case4a_MUR_104F.plt	PLT File	5/17/2012 4:40 PM	435,708	73%	118,868
Case4a_MUR_104F.pltX	PLTX File	5/17/2012 4:40 PM	44,640	77%	10,102
Case4c.dat	DAT File	6/21/2012 10:22 AM	5,139	91%	475
Case4c.out	OUT File	6/21/2012 11:18 AM	103,541	97%	3,332
Case4c.plt	PLT File	6/21/2012 11:18 AM	421,692	73%	115,829
Case4c.pltX	PLTX File	6/21/2012 11:18 AM	43,200	76%	10,333



**I7.0 RESULTS AND CONCLUSIONS****I7.1 Summary**

Table I7.1 provides a summary of the limiting maximum initial lake temperature for the worst weather cases. Table I7.2 provides a summary of the maximum lake drawdown for the worst net evaporation cases.

**Table I7.1a: MUR PU (3559 MW<sub>e</sub>) Overall Summary for Maximum Temperature**

Case	Weather Data	Sediment Level (in.)	Initial Lake Temp. (°F)	Max Plant Inlet Temp. (°F)
1a_MUR	1/30	0	103.63	107.0
2a_MUR	1/30	6	103.32	107.0
3a_MUR	1/30	18	102.46	107.0
4a_MUR	1/30	12	102.93	107.0
1a_MUR_104F	1/30	0	100.30	104.0
2a_MUR_104F	1/30	6	99.95	104.0
3a_MUR_104F	1/30	18	91.68	104.0
4a_MUR_104F	1/30	12	89.54	104.0

**Table I7.1b: EPU (4067 MW<sub>e</sub>) Overall Summary for Maximum Temperature**

Case	Weather Data	Sediment Level (in.)	Initial Lake Temp. (°F)	Max Plant Inlet Temp. (°F)
1a	1/30	0	103.63	107.0
2a	1/30	6	103.32	107.0
3a_12am	1/30	18	104.95	107.0
3a_3am	1/30	18	103.14	106.8 <sup>1</sup>
3a_6am	1/30	18	102.42	107.0
3a_9am	1/30	18	103.61	107.0
3a_12pm	1/30	18	105.80	107.0
3a_3pm	1/30	18	106.97	107.0
3a_6pm	1/30	18	107.00	107.0
3a_9pm	1/30	18	107.00	107.0
4a	1/30	12	102.93	107.0
1a_104F	1/30	0	100.30	104.0
2a_104F	1/30	6	96.80	104.0
3a_104F	1/30	18	87.01	104.0
4a_104F	1/30	12	85.47	104.0

(1) Due to a discontinuity in LAKET, this is as close to 107°F that can be reached.

**Table I7.2a: MUR PU Overall Summary for Maximum Evaporation**

Case	Weather Data	Sediment Level (in.)	Maximum Drawdown (ft) <sup>1</sup>
1c_MUR	Worst 30-day Evaporation	0	2.24
1c_MUR_104F	Worst 30-day Evaporation	0	2.22

1) Determined from initial lake elevation of 689.98-ft.

**Table I7.2b: EPU Overall Summary for Maximum Evaporation**

Case	Weather Data	Sediment Level (in.)	Maximum Drawdown (ft) <sup>1</sup>
1c	Worst 30-day Evaporation	0	2.27
2c	Worst 30-day Evaporation	6	2.25
3c	Worst 30-day Evaporation	18	2.20
4c	Worst 30-day Evaporation	12	2.23
1c_104F	Worst 30-day Evaporation	0	2.26

1) Determined from initial lake elevation of 689.98-ft.

Figures I7.1 through I7.8, below, show the plant outlet temperature and plant inlet temperature over the entire 31 day period for the 107°F maximum plant inlet temperature case at MUR PU and EPU. Figures I7.9 and I7.10 show the maximum lake drawdown over the worst 30 days of evaporation weather.

## **I7.2 Compliance with Acceptance Criteria**

- I7.2.1 Acceptance Criterion #1 - Peak Temperature – Acceptance Criterion #1 is met provided the plant is operated, monitored, and maintains UHS initial temperatures below the applicable limits per the results listed in Table I7.1.
- I7.2.2 Acceptance Criterion #2 - UHS Drawdown – The maximum expected lake drawdown for the cases evaluated is given in Table I7.2. This will be used in calculation L-001355 [Ref. I5.6].

Figure I7.1: Plant Outlet Temperature (MUR PU)

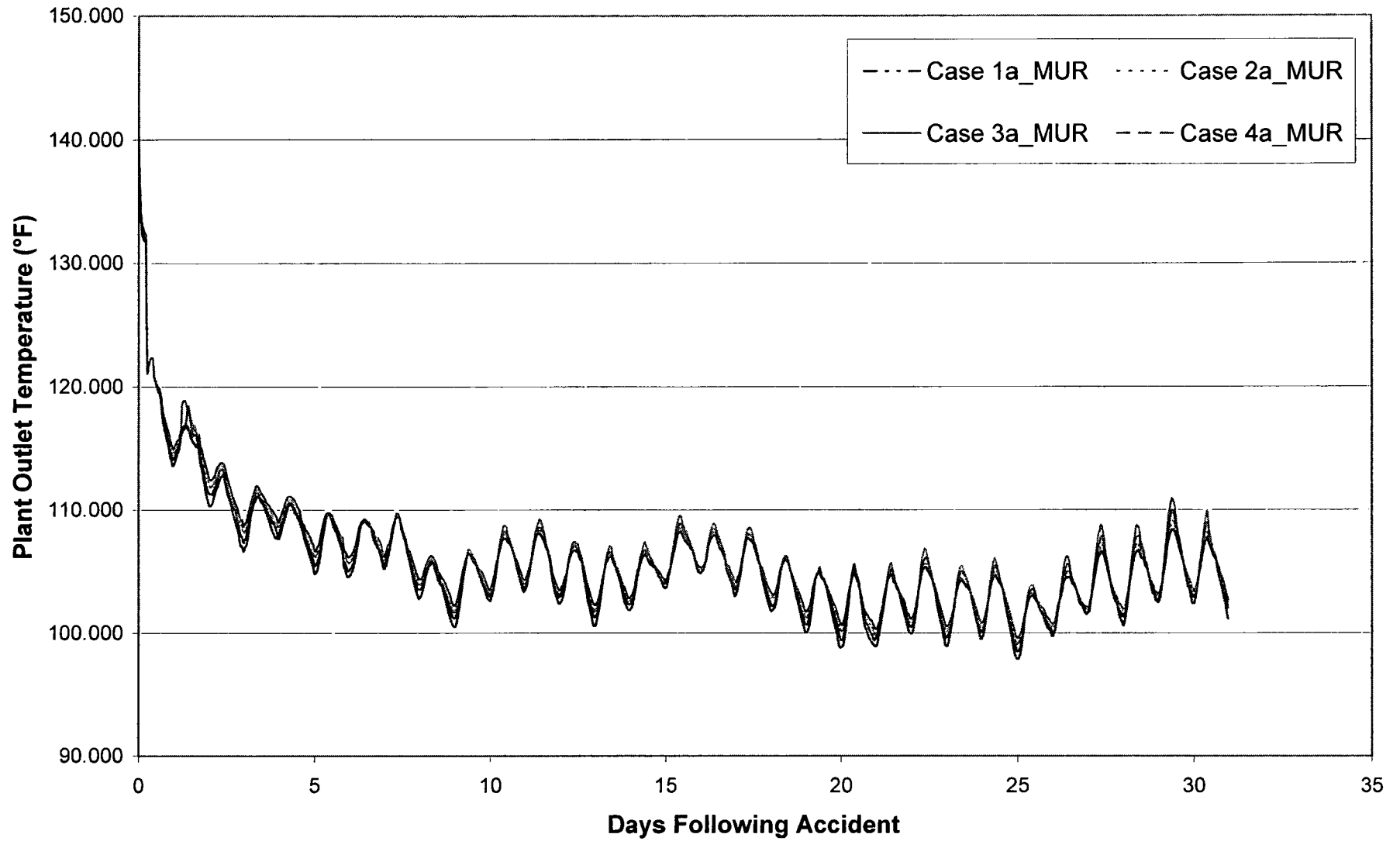


Figure I7.2: Plant Outlet Temperature (EPU)

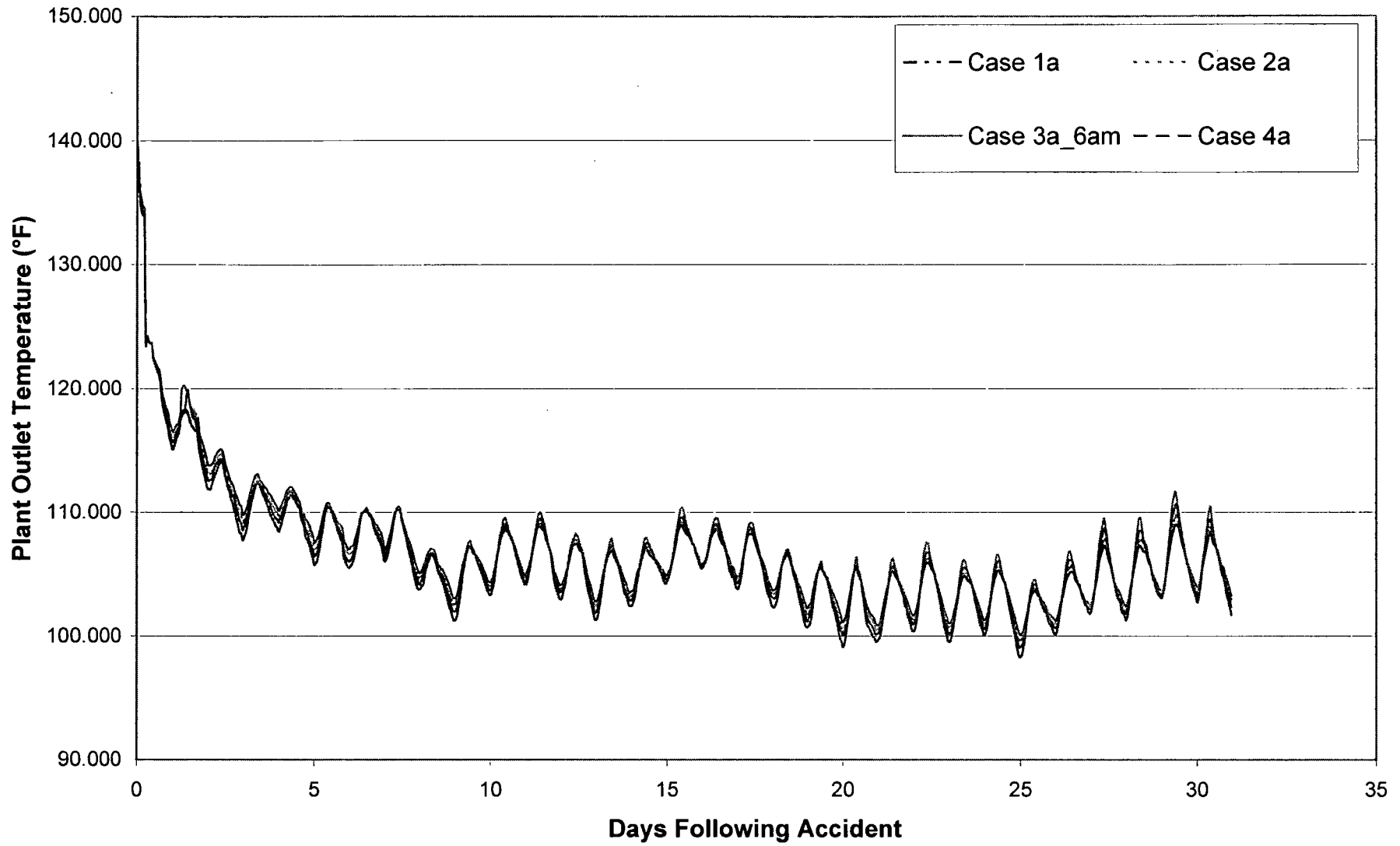


Figure 17.3: Plant Inlet Temperature (MUR PU)

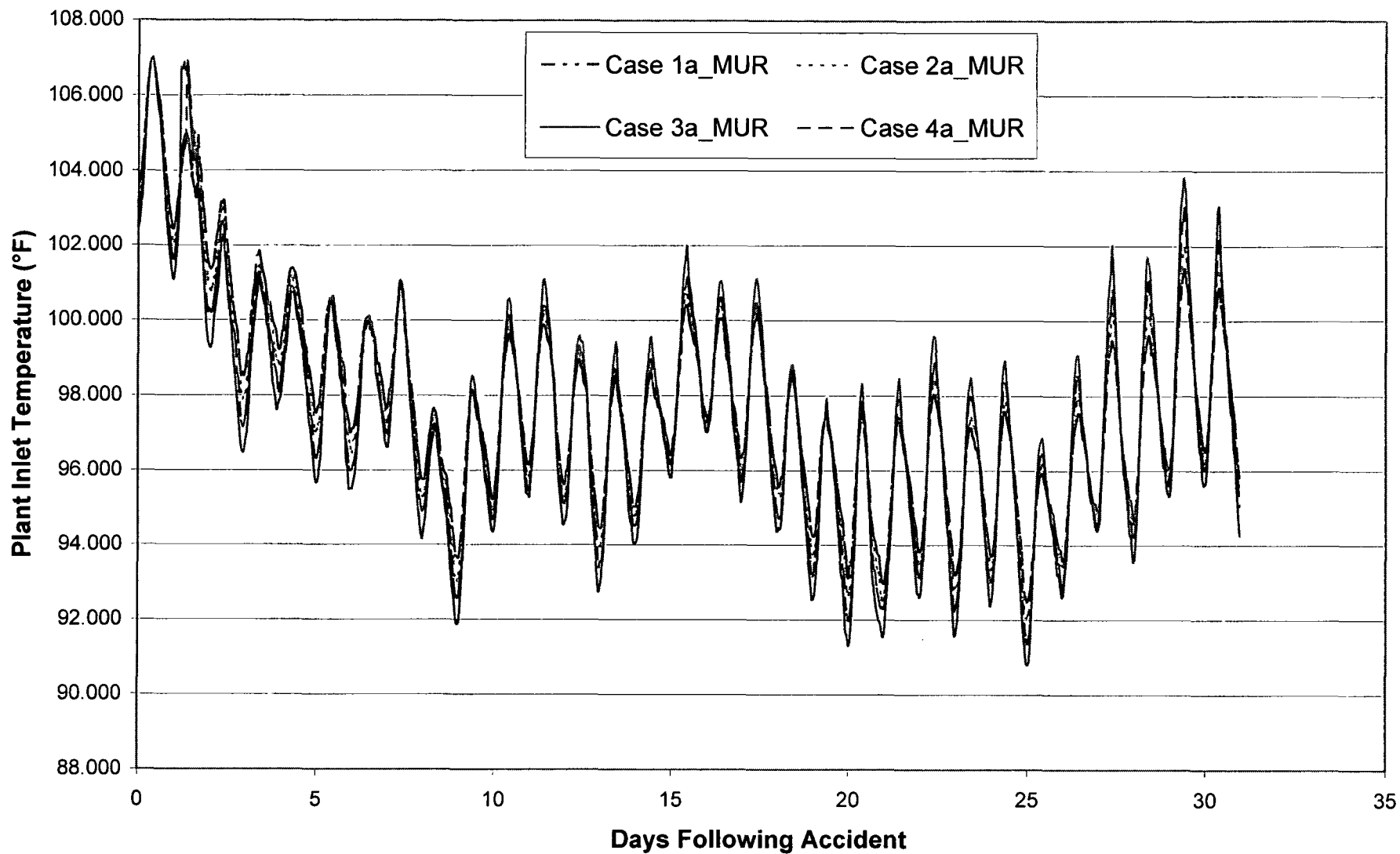
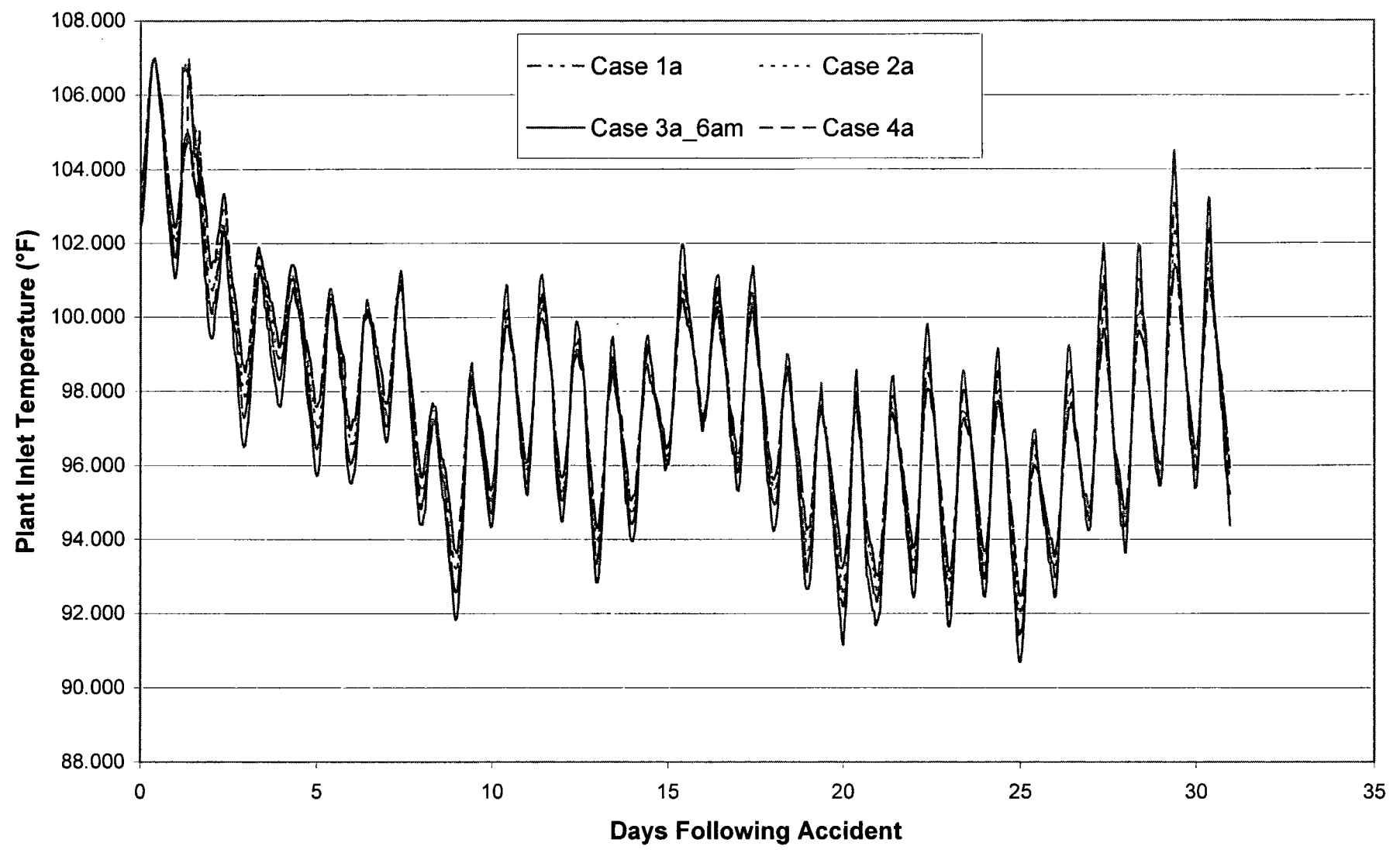
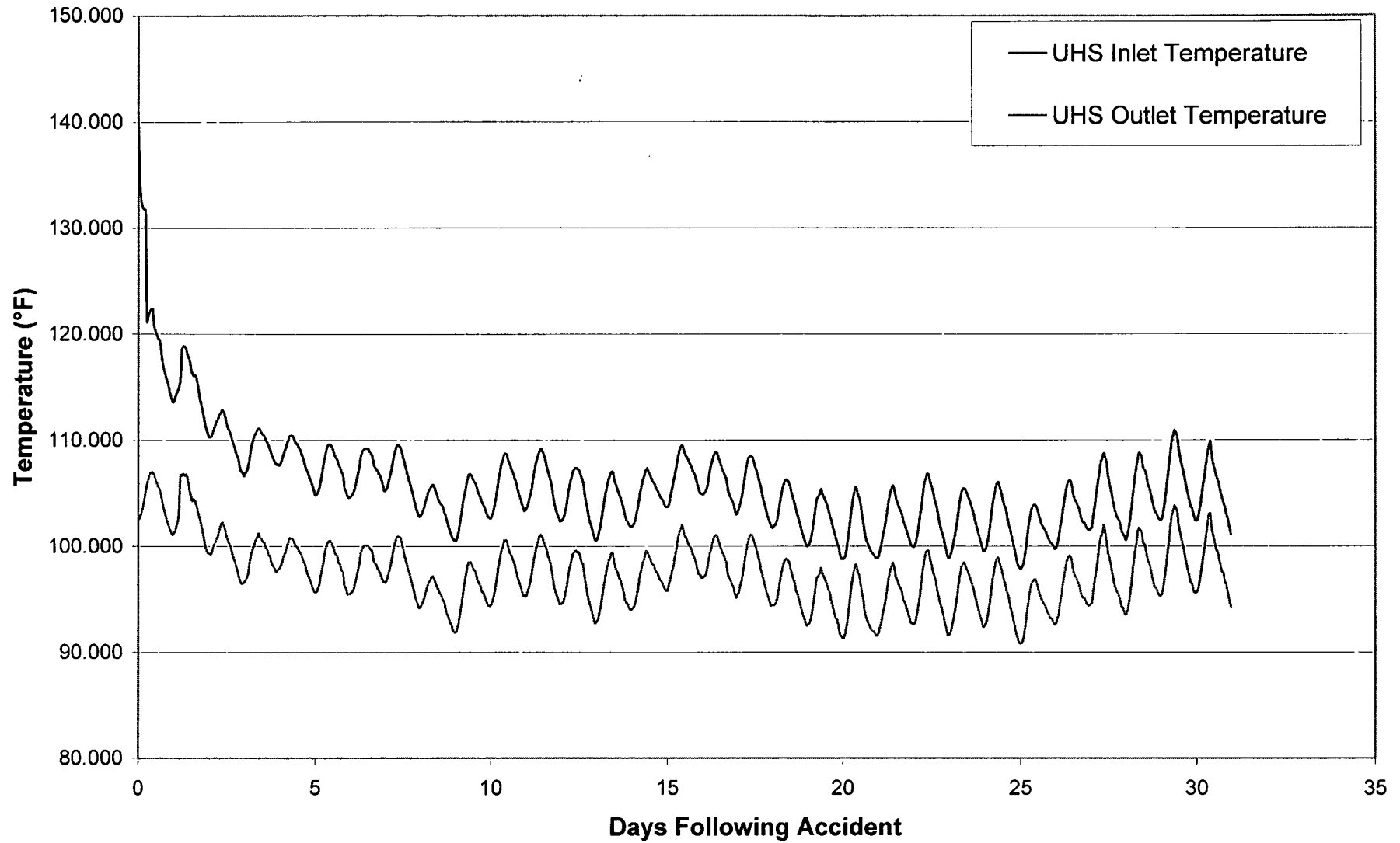


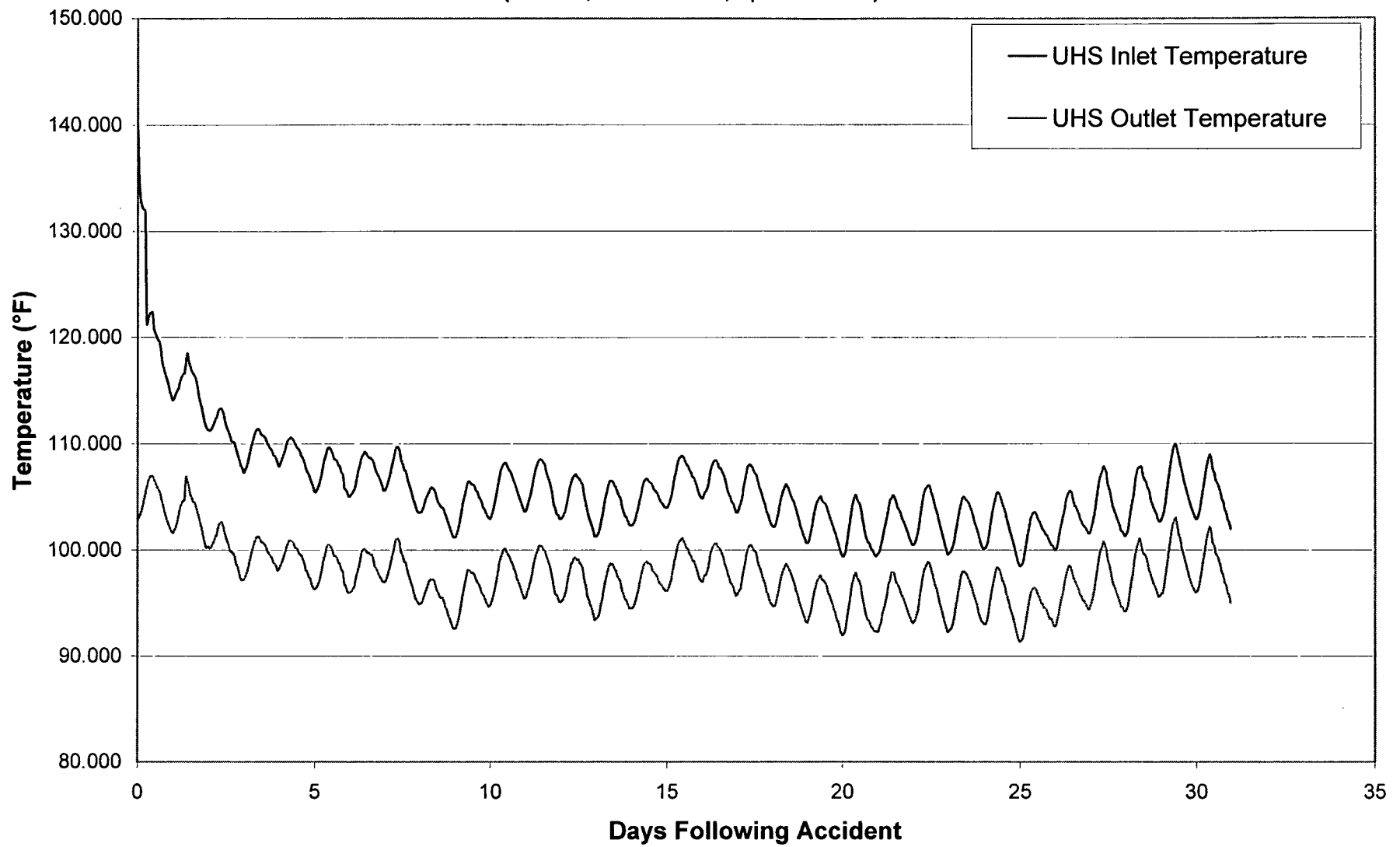
Figure 17.4: Plant Inlet Temperature (EPU)



**Figure 17.5, Case 3a\_MUR: UHS LOCA Temperature Transient  
Worst 31-Day Temperature Period  
(d = 18", t = 0600 hrs, T<sub>i</sub> = 102.46°F)**

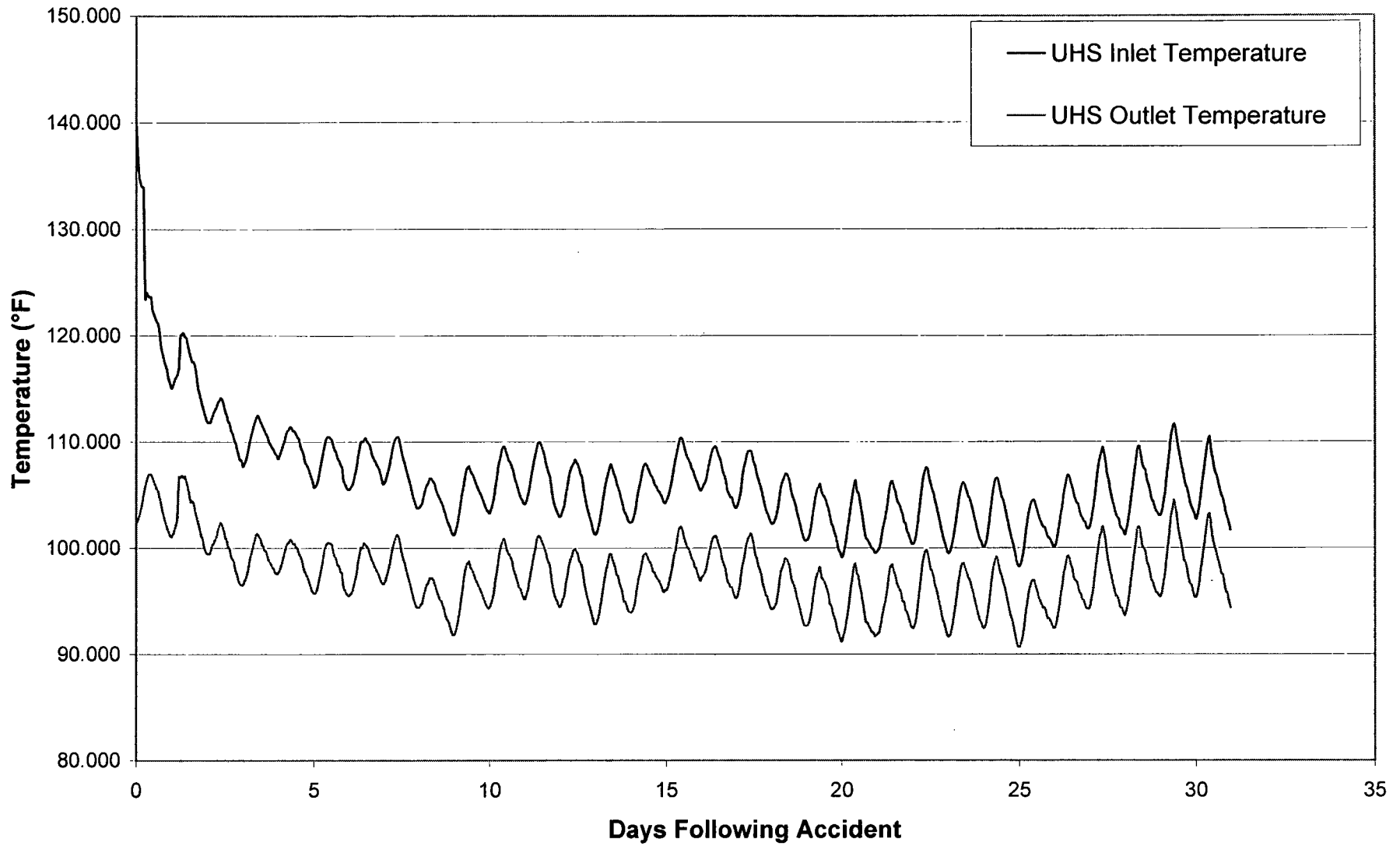


**Figure I7.6, Case 4a\_MUR: UHS LOCA Temperature Transient  
Worst 31-Day Temperature Period  
(d = 12", t = 0600 hrs, T<sub>i</sub> = 102.93°F)**

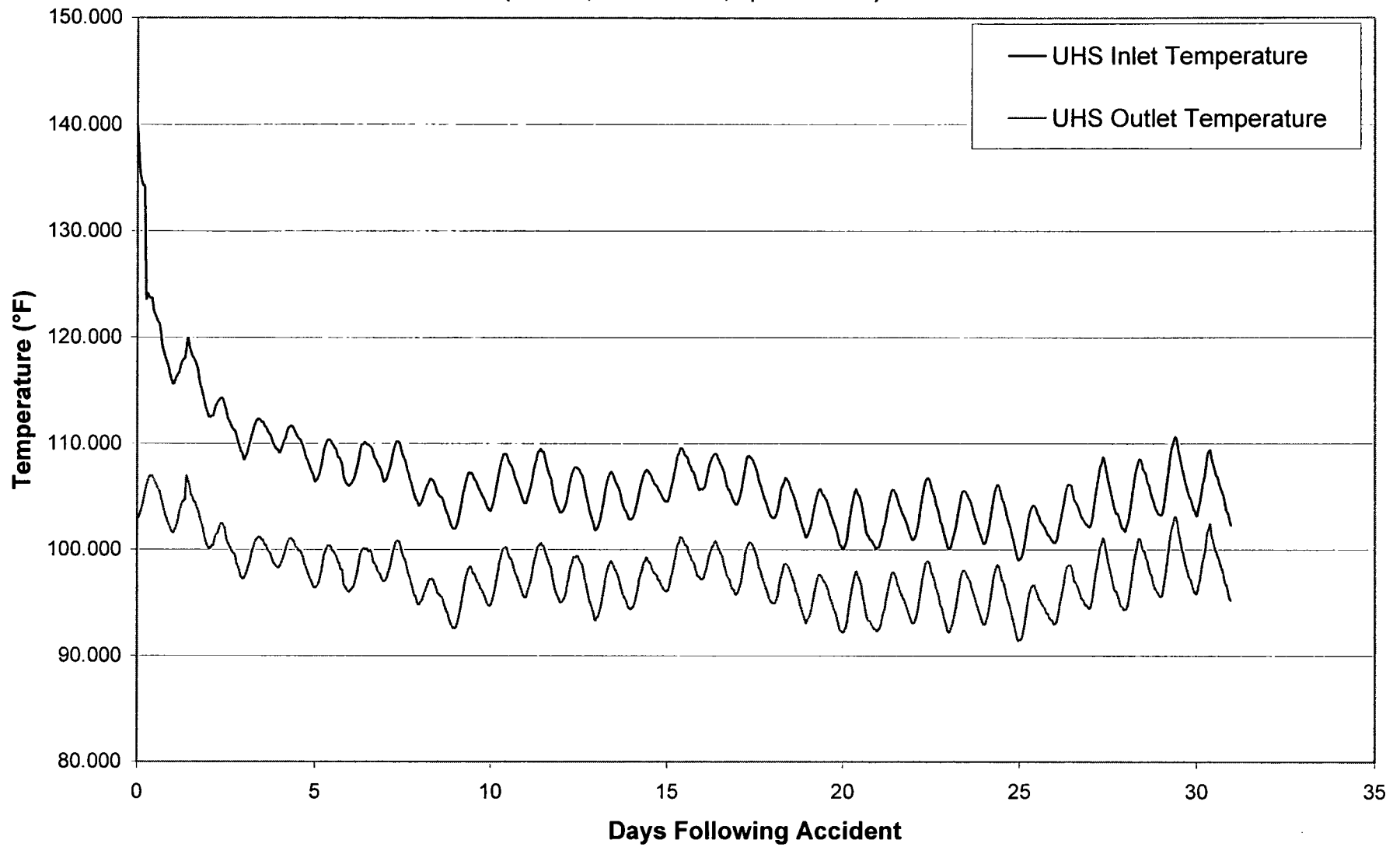




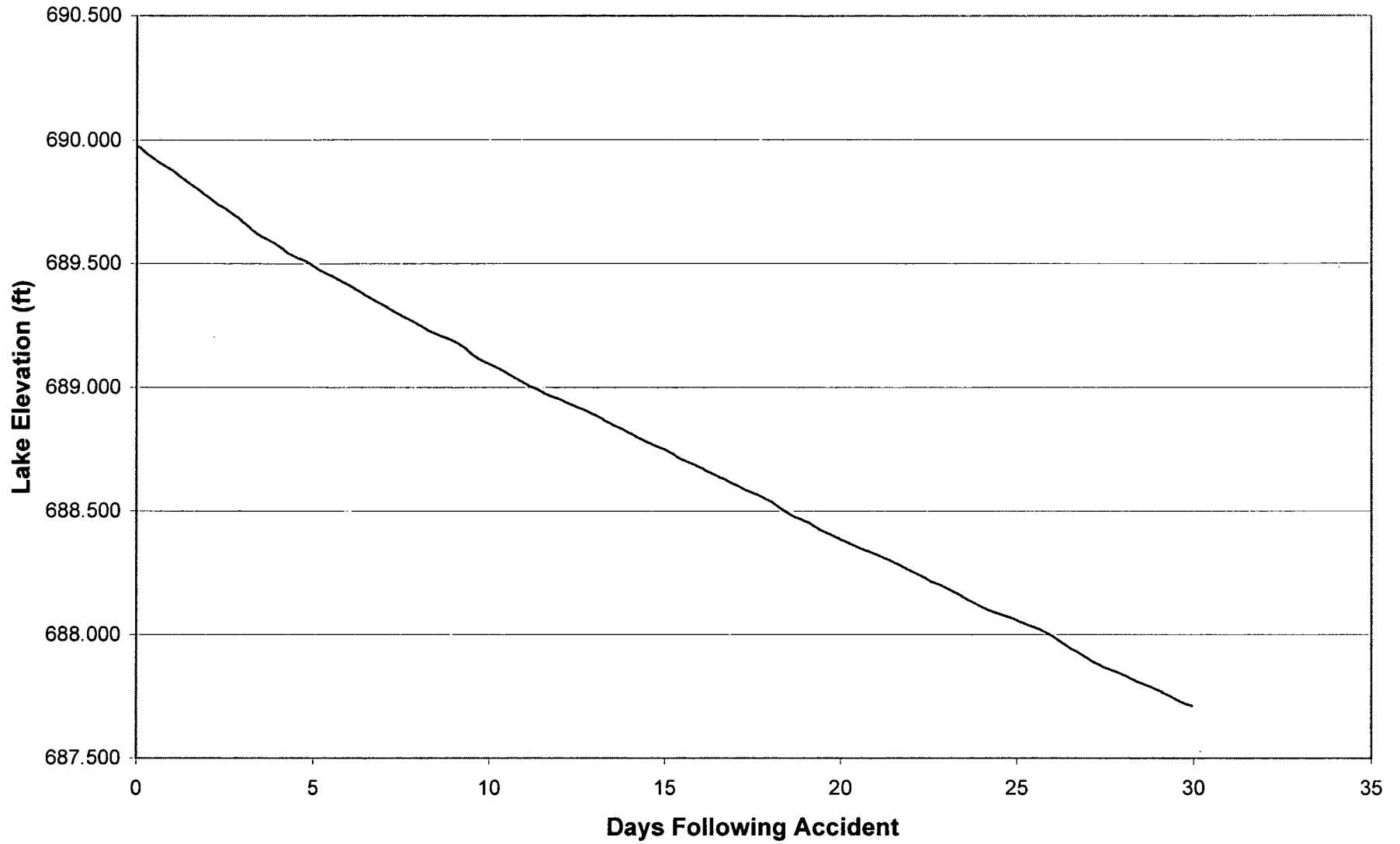
**Figure I7.7, Case 3a: UHS LOCA Temperature Transient  
Worst 31-Day Temperature Period  
(d = 18", t = 0600 hrs, T<sub>i</sub> = 102.43°F)**



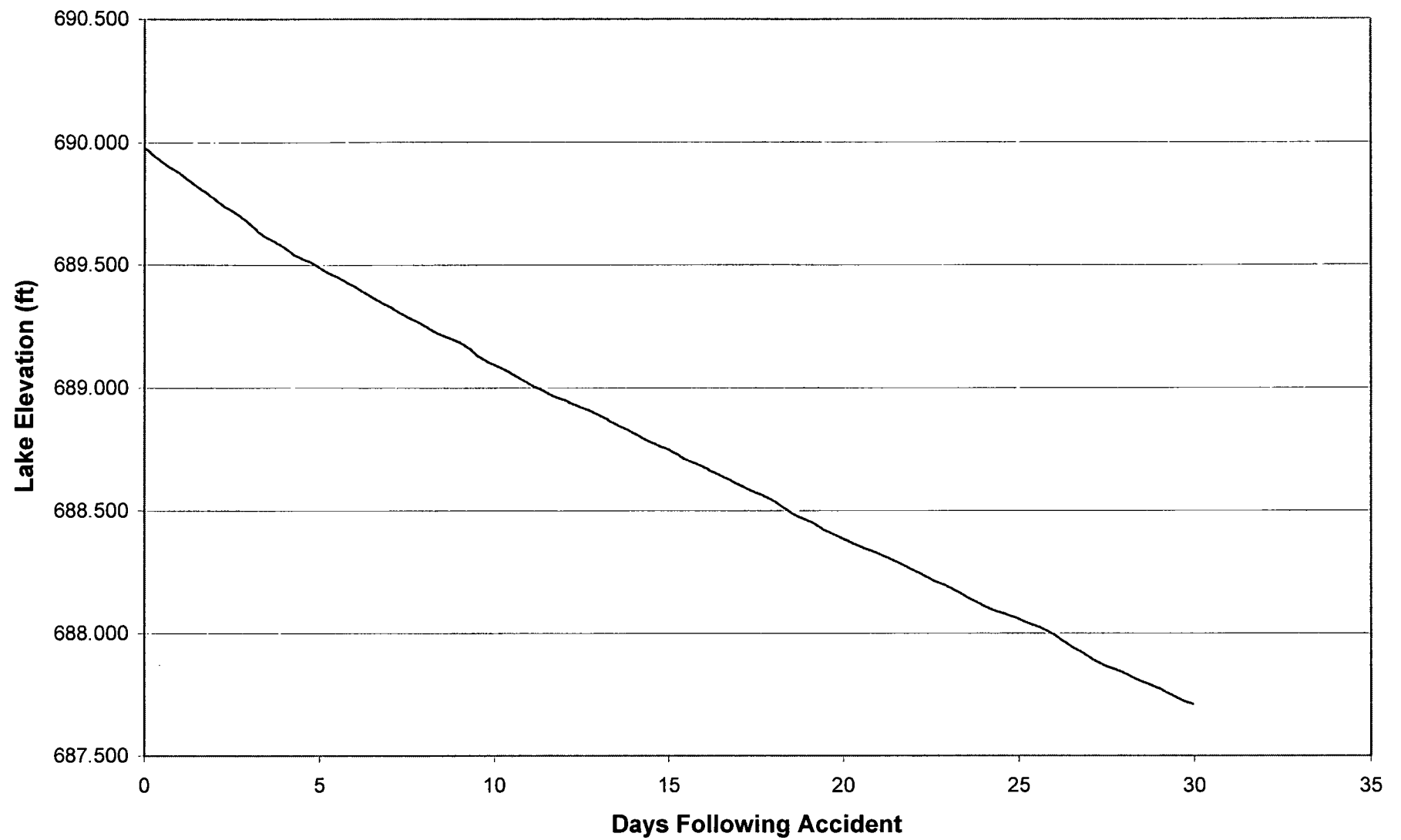
**Figure I7.8, Case 4a: UHS LOCA Temperature Transient  
Worst 31-Day Temperature Period  
(d = 12", t = 0600 hrs, T<sub>i</sub> = 102.93°F)**



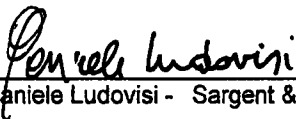
**Figure I7.9, Case 1c\_MUR: UHS LOCA Drawdown  
Worst 30 Day Evaporation Weather Period  
Sediment Level = 0-in**




**Figure 17.10, Case 1c: UHS LOCA Drawdown  
Worst 30 Day Evaporation Weather Period  
Sediment Level = 0-in**



### Attachment J – UHS Flow Path Analysis

Prepared:  Date June 27<sup>th</sup>, 2012  
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Reviewed:  Date 6-27-2012  
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## **J1.0 PURPOSE**

The purpose of this attachment is to evaluate the water flow pattern in the man-made Ultimate Heat Sink (UHS) at LaSalle County Generating Station with the water depth at its minimum, that the water level is at elevation 690 ft [Ref. J5.1] and the UHS bottom is covered with approximately 1.5 ft of silt [Ref. J5.8]. The analysis is carried by means of computational fluid dynamics (CFD). The recirculation areas in the UHS are identified and the UHS volume actively involved in the main water flow is estimated along with and the associated surface area. The output of this evaluation is to provide effective lake volume and surface area for use in the S&L LAKET-PC computer program.

### **J1.1 Background**

The UHS is designed to provide sufficient cooling water to permit the safe shutdown and cool down of the station for both normal and accident conditions. In the unlikely event that the main dike is breached, there is a submerged pond within the cooling lake for the LaSalle County Station that is designed to hold water. This remaining water constitutes the ultimate heat sink for the station. It has a depth of approximately 5 feet and a top water elevation established at 690 feet [Ref. J5.1].

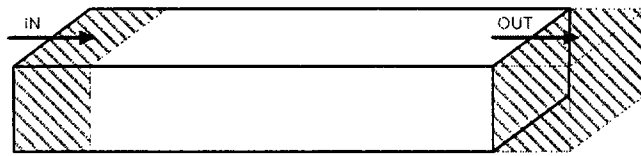
Considering approximately 1.5 ft of silt at the bottom of the UHS, a CFD analysis is performed to predict the water main flow pattern and estimate the volume of water contained in the active zones of the UHS and the corresponding surface area. These inputs are used in main report to determine the combined impact of power uprate and allowable sediment accumulation in the UHS on the maximum plant inlet temperature and evaporative drawdown by use of the S&L LAKET-PC computer program.

## **J2.0 METHODOLOGY AND ACCEPTANCE CRITERIA**

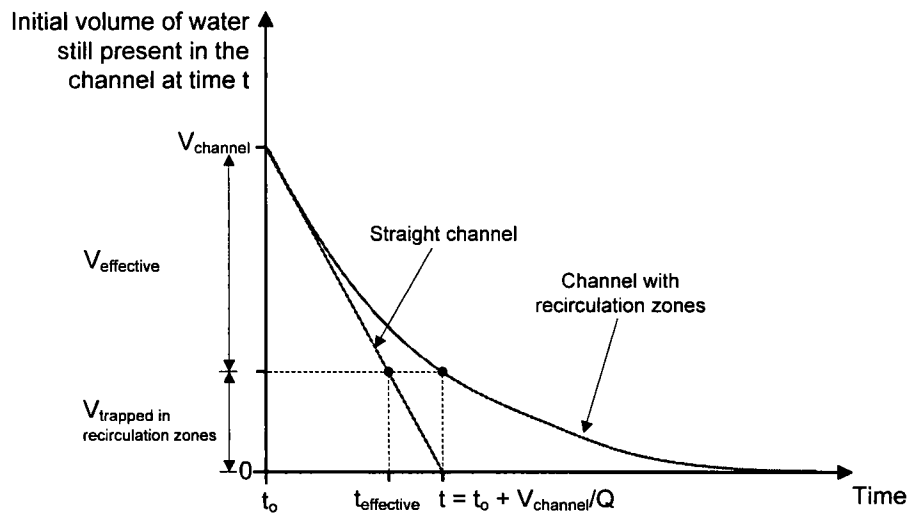
### **J2.1 Methodology**

#### **J2.1.1 Effective volume and effective surface area**

Figure J-3 shows a top view of the UHS computational domain. As shown, water enters the UHS in one of the UHS side branches and exits from the intake flume. Zones of recirculation are expected in the other branch of the UHS, which is a dead leg, and in proximity of the UHS inlet. LAKET-PC is a one-dimensional lake thermal prediction computer program [Ref. J5.10]. The one-dimensional assumption coerces the water body into an idealized rectangular channel. In this idealization, water entering the channel displaces an equal amount of water out of the back end (see Figure J-1). At some time ( $t_n$ ) after the start of flow ( $t_0$ ), the volume of displaced water is equal to  $Q \cdot (t_n - t_0)$ , where  $Q$  is the flow rate of the water flowing into the channel. Indicating the total volume of the channel with  $V_{\text{channel}}$ , all of the water is considered to have swept out of the channel at time  $t = t_0 + V_{\text{channel}}/Q$ . However, if the lake being modeled has stagnant volumes, the water in those volumes would not be swept out of the exit as idealized in the LAKET-PC modeling. For more accurately conforming the real lake to the idealized channel, these stagnant volumes and the corresponding surfaces must be removed from the active volume.



**Figure J-1.** Reference water flow.



**Figure J-2.** Water displaced in the reference straight channel and in channel with recirculation zones.

Figure J-2 shows both the idealized and actual amount of water displaced from a lake with recirculating (stagnant) volumes. If we could differentiate between water that was initially in the lake from new water entering the lake, we could use the concentration of initial water remaining in the lake at time  $t$  to find the fraction of water that was not swept out at time  $t$ . This is the fraction of the lake not actively participating in the channel flow. This volume and the corresponding surface area should be removed from the lake total dimensions to provide more accurate and conservative results.

The amount of water initially in the channel at time  $t_0$  and still present in the channel, trapped in the recirculation zones, at time  $t = t_0 + (V_{channel}/Q)$  is calculated as follows (with  $t_0 = 0$ ):

$$V_{\text{trapped in the recirculation zones}}(t) = \int_{V_{\text{channel}}} C^{\text{initial water in the channel}}(t) dV \quad (J2.1-1)$$

where  $V_{channel}$  is the total volume of the channel and  $C^V_{initial\ water\ in\ the\ channel}(t)$  is the volumetric distribution of water initially in the channel at time  $t_0$  and still present in the channel at time  $t$ . The effective volume is calculated as follows:

$$\begin{aligned}
 V_{effective} &= V_{channel} - V_{trapped\ in\ the\ recirculation\ zones}(t) = \\
 &= V_{channel} \left( 1 - \frac{\int C^V_{initial\ water\ in\ the\ channel}(t) dV}{V_{channel}} \right) = \tag{J2.1-2} \\
 &= V_{channel} (1 - \bar{C}^V_{initial\ water\ in\ the\ channel}(t))
 \end{aligned}$$

where the term  $\bar{C}^V_{initial\ water\ in\ the\ channel}(t) = \frac{\int C^V_{initial\ water\ in\ the\ channel}(t) dV}{V_{channel}}$  is equal to the volume average concentration of the amount of water initially in the channel at time  $t_0$  and still present in the channel at time  $t$ . The effective surface area is calculated in manner similar to the effective volume. At the surface of the channel, the amount of water initially in the channel at time  $t_0$  and still present in the channel, trapped in the recirculation zones, at time  $t = (V_{channel}/Q)$  is calculated as follows:

$$S_{trapped\ in\ the\ recirculation\ zones}(t) = \int_{S_{channel}} C^S_{initial\ water\ in\ the\ channel}(t) dS \tag{J2.1-3}$$

where  $S_{channel}$  is the total surface of the channel and  $C^S_{initial\ water\ in\ the\ channel}(t)$  is the surface distribution of water initially in the channel at time  $t_0$  and still present in the channel at time  $t$ . The effective surface is calculated as follows:

$$\begin{aligned}
 S_{effective} &= S_{channel} - S_{trapped\ in\ the\ recirculation\ zones}(t) = \\
 &= S_{channel} \left( 1 - \frac{\int C^S_{initial\ water\ in\ the\ channel}(t) dV}{S_{channel}} \right) = \tag{J2.1-4} \\
 &= S_{channel} (1 - \bar{C}^S_{initial\ water\ in\ the\ channel}(t))
 \end{aligned}$$

where the term  $\bar{C}^S_{initial\ water\ in\ the\ channel}(t) = \frac{\int C^S_{initial\ water\ in\ the\ channel}(t) dV}{S_{channel}}$  is equal to the surface average concentration of the amount of water initially in the channel at time  $t_0$  and still present in the channel at time  $t$ .



### J2.1.2 Calculation strategy

As indicated in Section J2.1.1, the volume and surface averaged concentrations of the water initially in the UHS at  $t_0 = 0$  sec still present in the UHS at time  $t = V_{\text{UHS}}/Q$  are necessary in order to calculate the effective UHS volume and surface.

The analysis of the water flow in the UHS is carried out through the use of the commercially available CFD code STAR-CCM+ [Ref. J5.2]. The calculation is performed in two steps:

1. The first step is employed to find the steady state flow distribution in the UHS. This solution is used as initial condition for the transient multi-component fluid mixture in the second step.
2. During this second step, newly introduced water in the UHS is specified to be a different liquid but with the same properties of the water already present in the UHS. The flow pattern and mixing of these liquids are calculated and tracked over time from time  $t_0 = 0$  sec to  $t = V_{\text{UHS}}/Q$ . At the end of the transient analysis, the surface average concentration of the amount of water initially in the UHS and still present in the UHS at time  $t = V_{\text{UHS}}/Q$  are calculated to find the effective volume and surface.

### J2.1.3 Geometrical domain

The CFD analysis is carried out in three-dimensions. For the computations, the water domain is considered from the outlet of the inlet chute into the UHS to the exit of the intake flume. Figure J-3 shows a top view of the computational domain while Figures J-4 and J-5 show the inlet and outlet boundaries, respectively. Figure J-6 shows the bottom view of the UHS. Design Input J4.1 reports the dimensional information used to generate the model. Assumption J3.1 is used to evaluate the UHS thickness. The main dimensions are indicated in Figures J-1 to J-3. Figures J-4 to J-7 also show, in quotations, names associated to each of the boundaries in the numerical model. Note that this evaluation reports the fraction of active volume and surface area. Therefore, slight variations in the lake dimensions will not significantly affect the final results.

### J2.1.4 Mesh

The computational domain is discretized by using polyhedral cells with a base size of 12 ft, and six thin layers through the thickness of the UHS. Where necessary, the cell size is reduced down to 6 ft and, in proximity of the inlet boundary, down to 1.5 ft. Figures J-5 to J-8 show the mesh employed for the computations, which consists of 1,761,870 nodes for a total of 748,386 cells. Appendix J8.1 provides the STAR-CCM+ report of the mesh quality.

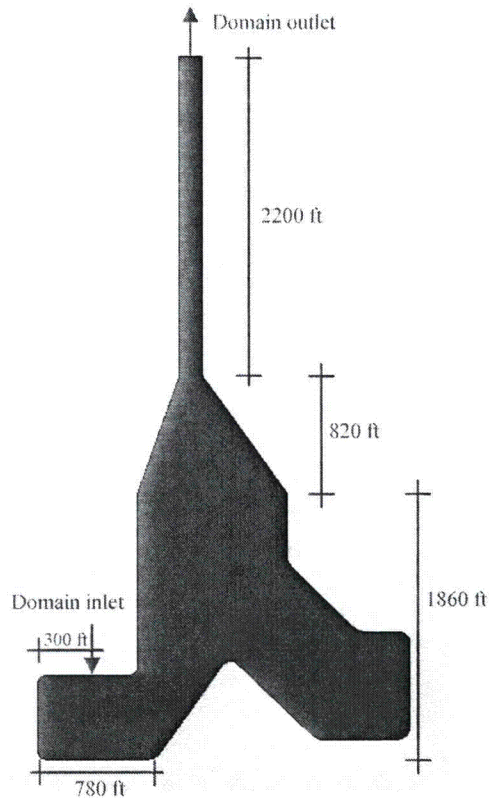


Figure J-3. UHS computational domain: Top view.

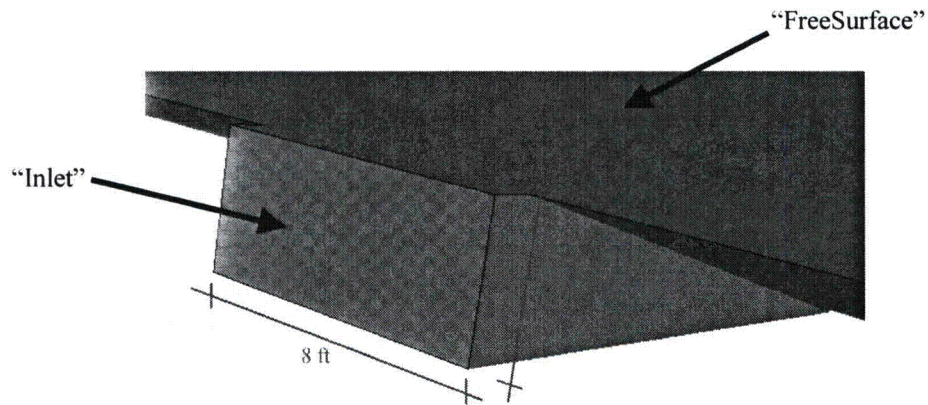
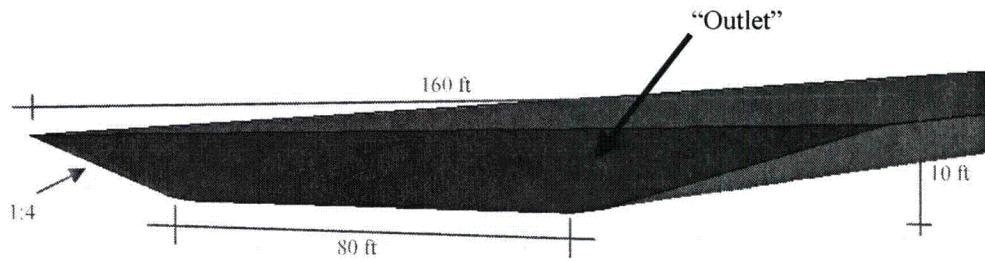
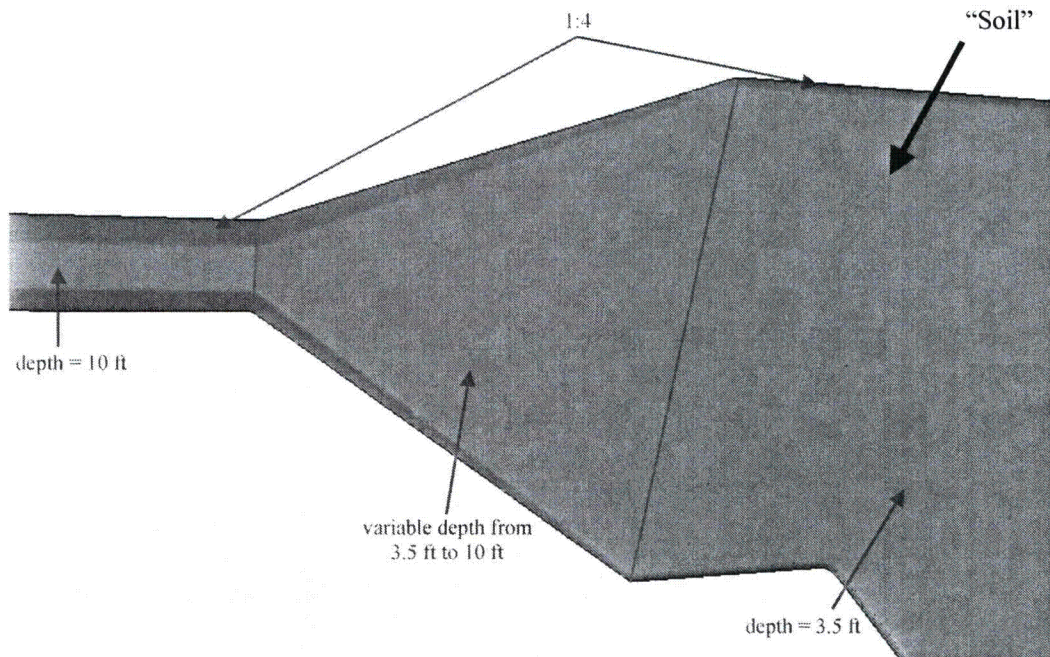


Figure J-4. UHS computational domain: Inlet boundary.

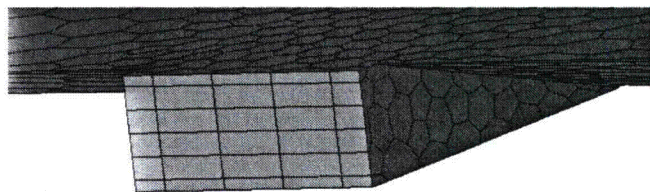


**Figure J-5.** UHS computational domain: Outlet boundary.



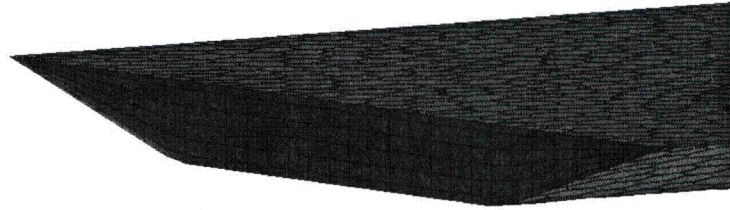
**Figure J-6.** UHS computational domain: Bottom view.

Note: The indicated depths are net values; the silt layer of 1.5 ft (see Design Input J4.3) is already considered in the indicated values.

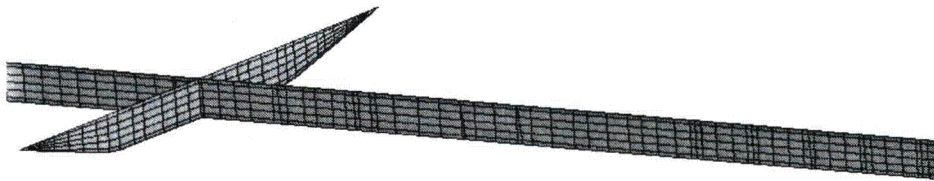


**Figure J-7.** UHS computational domain: Mesh detail of the inlet boundary.

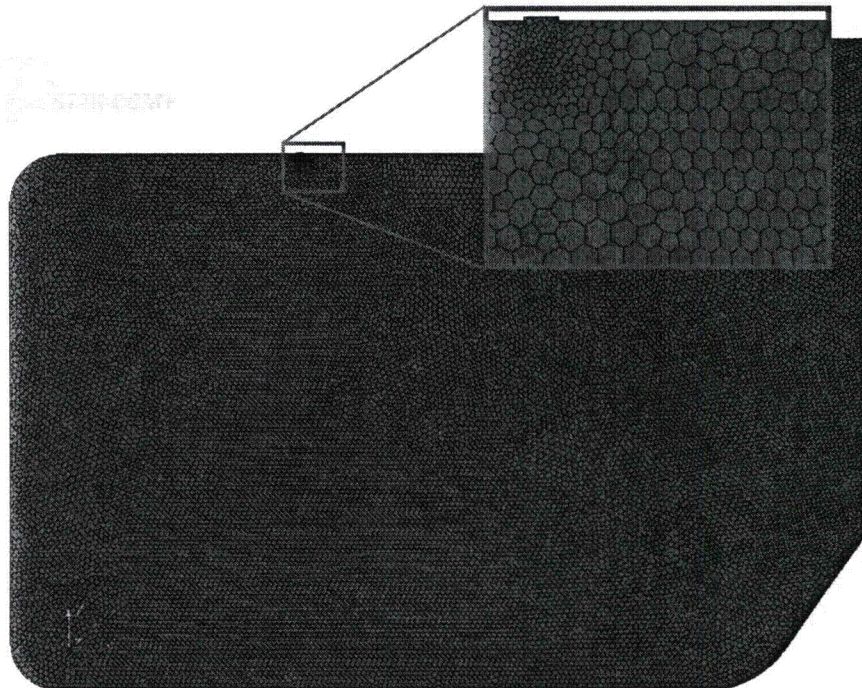




**Figure J-8.** UHS computational domain: Mesh detail of the outlet boundary.



**Figure J-9.** UHS computational domain: Cross section of the outlet boundary mesh both along and across the axis.



**Figure J-10.** UHS computational domain: Mesh detail of the free surface boundary.

### J2.1.5 Numerical model

As indicated in Section J2.1.2, the calculation is carried out in two steps.

#### Step One: Steady State Single-Fluid Analysis

The numerical analysis is carried out using the segregated SST (Menter)  $k-\omega$  model with the all  $y^+$  wall treatment. The shear stress transport (SST) formulation is a blend of a  $k-\omega$  formulation, which is used near walls, and a  $k-\epsilon$  formulation, which is used in regions far from walls. The use of a  $k-\omega$  formulation in the inner parts of the boundary layer makes the model directly usable all the way down to the wall through the viscous sub-layer without additional modifications. Hence, the SST  $k-\omega$  model can be used as a low Reynolds turbulence model without any extra damping functions. The SST formulation also switches to a  $k-\epsilon$  behavior in the free-stream and thereby avoids the common  $k-\omega$  problem of being too sensitive to the inlet free-stream turbulence properties. This model is fairly robust, it demonstrated superior performance for wall bounded problems and low Reynolds number flows, it showed potential for predicting transition regions and it also is often found to do a better job at capturing recirculation regions than other models [Ref. J5.2].

Therefore, the SST (Menter)  $k-\omega$  model with the all  $y^+$  wall treatment is particularly suited for the geometry analyzed in this calculation which presents a confined flow with very extensive surface associated to an extremely small thickness, and a uniform mesh through the thickness of the domain as generated by the thin mesher generator.

A constant-density single-fluid is specified as working liquid with the properties of water at 100°F (see Assumption J3.2) with a density of approximately 62 lb/ft<sup>3</sup> and a dynamic viscosity of  $6.727 \cdot 10^{-9}$  atm-s [Ref. J5.7].

The following boundary conditions are applied:

- “FreeSurface” - This boundary represents the free surface of the lake. As a simplification, this boundary is considered to be rigid in order to reduce the computational time. This simplification does not significantly impact the results of the calculation since the water velocity is small and very small or no waves are expected to form (tranquil flow). Furthermore, this boundary is specified to be a symmetry plane in order to guarantee a zero shear stress (free surface flow).
- “Inlet” - This boundary represents the inlet to the UHS. It is specified to be a mass flow inlet boundary with an inlet flow rate of 86 ft<sup>3</sup>/sec, which is approximately equal to 5333.7 lb/sec [Ref. J5.8].
- “Outlet” - This boundary represents the outlet to the UHS. It is specified to be a simple pressure outlet boundary.

- “Soil” - This boundary represents the bottom and sloped sides of the UHS. It is specified to be a rough no-slip wall boundary with a roughness of 5.0 in (see Assumption J3.3).

The system is initialized with constant zero velocity and pressure and let to evolve to final steady state solution.

#### Step Two: Transient Two-Fluid Analysis

The results of Step One are used as initial condition to the calculation performed in this second phase. The following changes are made to the model:

1. Transient solver - The solver is specified to be implicit unsteady with maximum number of inner iteration per time step equal to 20. The time step is adjusted through the computation for an initial minimum value of 0.1 sec to a final maximum value of 100 sec. The transition from one time step to the other is normally performed after ensuring that the residuals are always small and the solution is converged at each time step.
2. Two-fluid specification - The solver is changed to account for a two fluid mixture. Both fluids have the properties of water at 100°F and the are labeled “WaterLake” for the water initially present in the UHS at the beginning of the transient analysis (from Step One) and “WaterCirculating” for the water injected from the “Inlet” boundary. For the two-fluid mixture, the code can compute the mixture properties based on the local concentration of the two base fluids and their molecular weight. Since there is no difference between the “WaterLake” and “WaterCirculating”, the properties of the mixture are specified to be constant and equal to that of water at 100°F.

In order to compute the diffusion of one liquid into the other, the Schmidt number and the turbulent Schmidt number need to be specified for the mixture. The Schmidt number is a dimensionless parameter defined as the ratio of momentum diffusivity and mass diffusivity as [Ref. J5.2]:

$$\text{Schmidt} = \frac{\mu}{\rho D_{im}} \quad (\text{J2.1-5})$$

where  $\mu$  is the dynamic viscosity,  $\rho$  is the density and  $D_{im}$  is the molecular diffusivity of component-i into the mixture. The Schmidt number used in this analysis is equal to 219.8 (see Appendix J8.2). The turbulent Schmidt number is taken as the default value in STAR-CCM+ which is equal to 0.9. This implies that the turbulent mass diffusivity is proportional to the turbulent viscosity, which is an unknown a-priori variable and it is locally computed by the code. Note that the computed solution is fairly insensitive to the choice of the Schmidt number and the turbulent Schmidt number within the range of realistic values. The molecular weight for both fluids, which is another input required to compute the mass diffusivity, is specified to be 18.0153 lb/lbmol [Ref. J5.9].

3. Boundary conditions - The boundary conditions are kept the same as for the steady-state analysis. However, the fluid entering the “Inlet” surface is specified to the 100% “WaterCirculating” and, in case of backflow at the “Outlet” surface, the re-entering fluid is specified to the 100% “WaterLake”. This last condition is specified only to complete the STAR-CCM+ input file for this analysis but it is not used during the computation.
4. Initial conditions - The results of steady state analysis are used as initial conditions for the transient calculation. The liquid present in the UHS at the beginning of the transient simulation ( $t = 0$  sec) is specified to be 100% “WaterLake”.
5. Simulation time - The calculation is performed from time  $t_{\text{start}} = 0$  sec to time  $t_{\text{end}} = V_{\text{UHS}}/Q$ . The total volume of the UHS is manually requested and printed out by STAR-CCM+ after the generation of the computational domain and it is equal to  $V_{\text{UHS}} = 1.454446 \cdot 10^7 \text{ ft}^3$ . The flow entering the UHS is equal to  $86 \text{ ft}^3/\text{sec}$  [Design Input J4.2]. Therefore,  $t_{\text{end}} = V_{\text{UHS}}/Q = (1.454446 \cdot 10^7 \text{ ft}^3)/(86 \text{ ft}^3/\text{sec}) = 169,122 \text{ sec} = 47 \text{ hrs}$ .

After the completion of the transient simulation, the volume and surface average concentrations of “WaterLake” are computed and the results are used to manually calculate the UHS effective volume and surface as percentages respectively of the total UHS volume and surface by applying equations J2.1-2 and J2.1-4 as follows:

$$\frac{V_{\text{effective}}}{V_{\text{UHS}}} = 1 - \bar{C}_{\text{LakeWater}}^V (t = 47 \text{ hr}) \quad (\text{J2.1-6})$$

$$\frac{S_{\text{effective}}}{S_{\text{UHS}}} = 1 - \bar{C}_{\text{LakeWater}}^S (t = 47 \text{ hr}) \quad (\text{J2.1-7})$$

Appendix J8.3 provides the STAR-CCM+ summary report of the model including physics and boundary conditions.

## J2.2 Computer Programs and Software

The analysis performed herein utilizes:

1. STAR-CCM+ 6.01.014, S&L Program No. 03.7.863-6.04.014. Controlled folder on Sargent & Lundy STARCCM server: C:\Program Files\CD-adapco (see code file listing in Appendix J8.4).

All runs are executed on Sargent & Lundy server STARCCM with 64-bit Windows Server Standard 2007 operating system. The code has been validated under the Sargent & Lundy Quality Assurance Program.

2. MathCad 14.35, S&L Program No. 03.7.548-1435. Controlled folder on Sargent & Lundy PC: C:\Program Files\ MathCad\ MathCad14 (see code file listing in Appendix J8.5).

All runs are executed on Sargent & Lundy PC ZL5581 with 32-bit Windows XP SP3 operating system. The code has been validated under the Sargent & Lundy Quality Assurance Program

3. Microsoft Excel, Microsoft® Office Professional 2003 SP-2 including Excel, S&L Program No. 03.2.286-1.0.

All runs are executed on Sargent & Lundy PC ZL5581 with 32-bit Windows XP SP3 operating system. The validation of Excel is implicit in the detailed review of all spreadsheets used in this analysis.

### **J2.3 Acceptance Criteria**

There are no specific acceptance criteria for the effective volume and surface values estimated in this calculation. This information is gathered to support thermal analysis of the UHS performed in the main report.

For the CFD analysis, the computational mesh must be of acceptable quality, as verified by Appendix J8.1. Furthermore, the calculated results must be converged as verified by the plot of the residuals in Appendix J8.3 (page J31).



**J3.0 ASSUMPTIONS**

- J3.1 Silt thickness – The depth of the silt layer at the bottom of the UHS is assumed to be 1.5 ft (see Design input 5.3). The use of 1.5 ft silt thickness (maximum allowed value) causes the calculation of a reduced UHS effective volume.
- J3.2 Water temperature – The water in the UHS is assumed to be at a constant temperature of 100°F. This input is used to estimate the density, viscosity and self-diffusivity of water in the UHS. This input does not significantly impact the results of this calculation.
- J3.3 Soil roughness – The roughness of the bottom of the UHS (including the silt layer) is assumed to be 5 in. Since this calculation determines the UHS inactive volumes rather than pressure losses, based on the calculated UHS low water velocities, this input does not significantly impact the results of this calculation.

**J4.0 DESIGN INPUTS**

- J4.1 UHS dimensions – The UHS dimensions are obtained from References J5.3 to J5.6 as follows:
- i. The nominal elevation of the UHS cooling pond bottom is approximately 685 ft [Ref. J5.5].
  - ii. The elevation of the bottom of the intake flume is approximately 678.5 ft [Ref. J5.5].
  - iii. The bottom of the UHS between the cooling pond and intake flume is approximately flat and its depth varies from 678.5 ft to 685 ft in a linear manner [Refs. J5.3 to J5.6].
  - iv. The slope of the UHS side is approximately 1:4 all around its perimeter [Refs. J5.3 to J5.6].
  - v. The width of the water inlet chute is 8 ft [Ref. J5.4].
  - vi. The width of the intake flume bottom is approximately 40 ft [Ref. J5.6].
  - vii. The dimensions of the UHS that are not listed above are scaled from Reference J5.3.
  - viii. The elevation of the UHS free surface is 690 ft [Ref. J5.1].
- J4.2 UHS flow – The mass flow rate through the UHS is equal to 86 ft<sup>3</sup>/s [Ref. J5.8].
- J4.3 UHS sediment level – The sediment level in the intake flume and cooling pond must remain less than or equal to 1.5 ft [Ref. J5.8]. The use of maximum silting reduces the

UHS volume, and therefore the residence time. This reduces the effectiveness of the UHS and it is thus conservative.

J4.4 Properties of water - Water at 100°F has the following properties: density  $\approx 62 \text{ lb/ft}^3$ ; dynamic viscosity  $\approx 6.727 \cdot 10^{-9} \text{ atm-s}$  [Ref. J5.7].

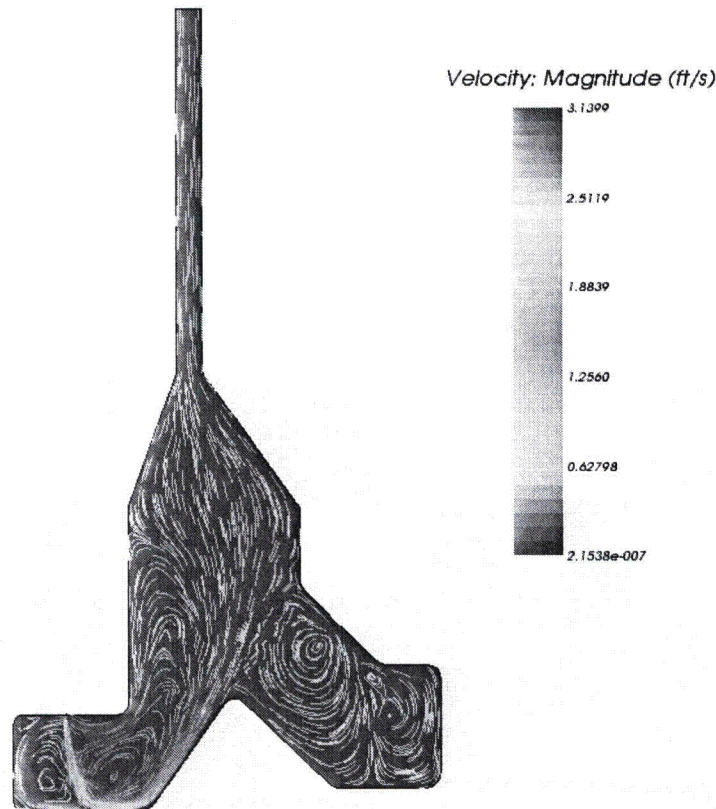
## **J5.0 REFERENCES**

- J5.1 LSCL-UFSAR, Section 9.2.6 “Ultimate Heat Sink”, Rev. 19
- J5.2 CD-adapco, User Guide, STAR-CCM+ Version 6.04.014, 2011
- J5.3 Exelon Nuclear – LaSalle Station Drawing No. S-16B Rev. B, “Composite Lake Drawing, Sheet 2”
- J5.4 Exelon Nuclear – LaSalle Station Drawing No. S-79 Rev. G, “CSCS Pond Water Inlet Chutes Plan and Sections”
- J5.5 Exelon Nuclear – LaSalle Station Drawing No. 97ES083.1 Rev. 0, “Contours Hydrographic Survey”
- J5.6 Exelon Nuclear – LaSalle Station Drawing No. 97ES083.2 Rev. 0, “Profiles Hydrographic Survey”
- J5.7 Frank Kreith, “Principles of Heat Transfer”, 3<sup>rd</sup> Ed. 1976, IEP, New York, NY
- J5.8 LSCL Calculation No. L-002457, Rev. 5
- J5.9 T.L. Brown, H.E. LeMay Jr., B.E. Bursten, J.R. Burdge, “Chemistry”, 9<sup>th</sup> Ed. 2003, Prentice Hall, Upper Saddle River, NJ
- J5.10 LAKET-PC User Manual, S&L Program Number 03.7.292-2.2, Rev. 0, October 30, 2004

## J6.0 EVALUATIONS

### Step One: Steady State Analysis

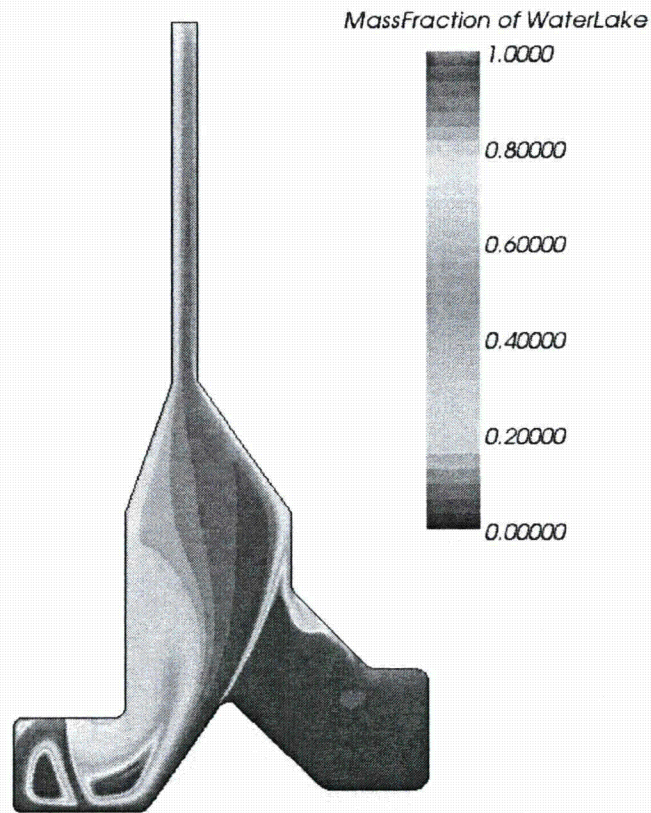
The steady state simulation is run until convergence for approximately 6,000 iterations [see Residual graph in Appendix J8.3]. Figure J-11 shows the velocity magnitude distribution and stream lines at the free surface. As seen, the right leg of the UHS presents two large recirculation cells which are not expected to participate significantly to the main water flow. Additional two smaller recirculation areas are visible in proximity to the UHS inlet created by the inlet water stream.



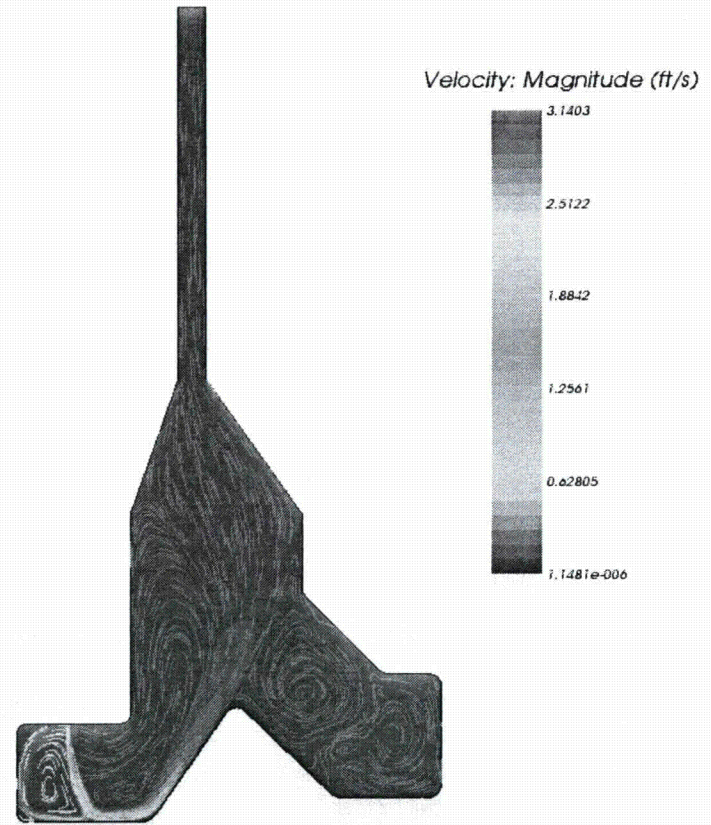
**Figure J-11.** UHS computation – Step One: Velocity magnitude and stream lines on the UHS free surface.

### Step Two: Transient Analysis

After applying the changes indicated in Section J2.1.5 to the steady state model, the transient simulation is run for approximately 40,000 iterations from time  $t_{\text{start}} = 0$  sec to time  $t_{\text{end}} = 47$  hrs [see Residual graph in Appendix J8.3]. Figure 12 shows the surface concentration distribution for the “WaterLake”. As expected, the velocity distribution is practically unchanged with respect to the steady-state solution (see Figure J-13).

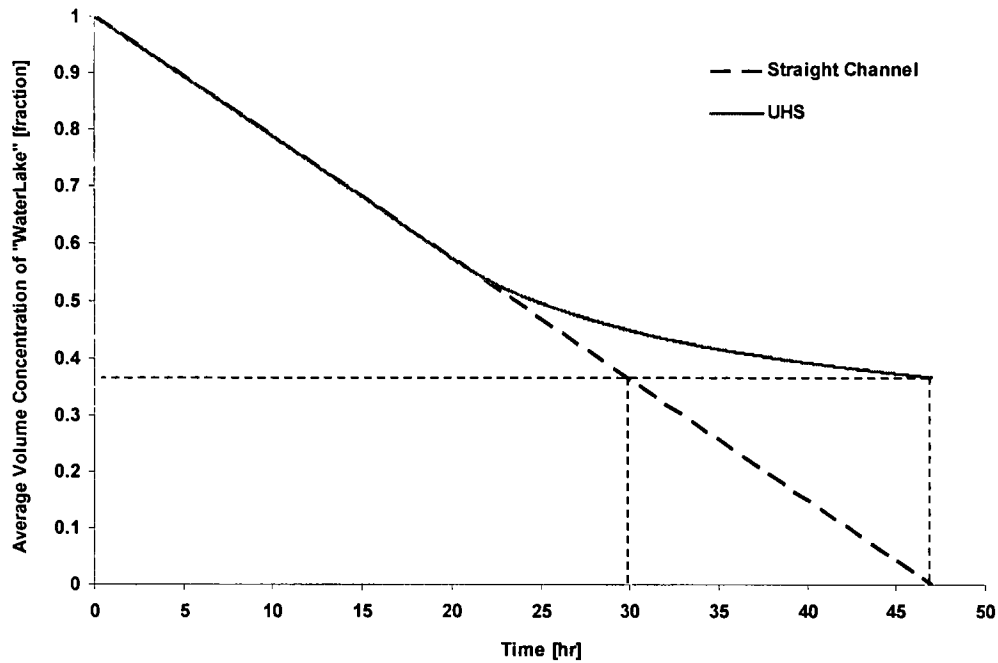


**Figure J-12.** UHS computation – Step Two: Surface concentration for “WaterLake” at 47 hrs.



**Figure J-13.** UHS computation – Step Two: Velocity magnitude and stream lines on the UHS free surface.

The numerical computation of both Step One and Two is considered to be successful upon evaluation of the relative residual (unitless) plot shown in Appendix J8.3 (see page 31). The residuals of the fluid dynamics variables are very well behaved and with a magnitude, at the end of each main iteration, small enough to ensure a sufficiently converged solution. Therefore, the acceptance criteria in Section J2.3 are satisfied.



**Figure J-14.** UHS computation – Time variation of the “WaterLake” volume average concentration in the UHS.

Figure J-14 shows the trend over time of the “WaterLake” volume average concentration. As seen, the concentration decreases linearly at the beginning since the incoming water displaces the water in the UHS. After about 20 hrs, some the incoming water is already exiting the UHS and thus “WaterLake” volume average concentration change is no longer linear: some of the incoming water is being trapped in the areas of recirculation and it cannot efficiently displace the “WaterLake” out of the UHS.

After 47 hrs, the volume average concentration is computed to be 36.59 %. Therefore, the UHS effective volume percentage as compute by Equation J2.1.6 is equal to (see Appendix J8.3):

$$\frac{V_{\text{effective}}}{V_{\text{UHS}}} = 1 - 0.3659 = 63.4\% \tag{J2.1-8}$$

After 47 hrs, the surface average concentration is computed to be 42.09 %. Therefore, the UHS effective surface percentage as compute by Equation J2.1.7 is equal to (see Appendix J8.3:

$$\frac{S_{\text{effective}}}{S_{\text{UHS}}} = 1 - 0.4209 = 57.9\% \quad (\text{J2.1-9})$$

## **J7.0 CONCLUSION**

The UHS effective volume as percentage of the UHS total volume is 63.4 %.

The UHS effective surface as percentage of the UHS total free surface is 57.9 %.

## **J8.0 APPENDICES**

J8.1 STAR-CCM+ mesh quality report [see Page J19 of J32]

J8.2 Calculation of the Schmidt number [see Pages J20 to J23 of J32]

J8.3 Summary Report of STAR-CCM+ Analysis [see Pages J24 to J32 of J32]

J8.4 STAR-CCM+ 6.01.014, S&L Prog. No. 03.7.863-6.04.014, Controlled folder file listing

Electronically attached:

File name: EAppendix J8.4.pdf

Size: 22,128 KB; Type: Adobe Acrobat Document; Date 5/23/2012 3:25 PM

J8.5 MathCad 14.35, S&L Program No. 03.7.548-1435, Controlled folder file listing

Electronically attached:

File name: EAppendix J8.5.pdf

Size: 2,068 KB; Type: Adobe Acrobat Document; Date 5/23/2012 3:27 PM

Boundaries of region Lake:

Boundary Soil: 126832 faces (7 triangular, 236 quadrilateral, 126589 polygonal)

Extents:  
 x: [-4.2672000000e+000, 7.8150720000e+002] m  
 y: [-4.2672000000e+000, 1.4874240000e+003] m  
 z: [-1.9812000000e+000, 1.0668000000e+000] m  
 surface area: 3.2716753125e+005 m<sup>2</sup>  
 maximum boundary skewness angle = 1.2161578369e+002 deg in cell with Prostar Cell Index 754941

Boundary FreeSurface: 126581 faces (1 triangular, 201 quadrilateral, 126379 polygonal)

Extents:  
 x: [-4.2672000000e+000, 7.8150720000e+002] m  
 y: [-4.2672000000e+000, 1.4874240000e+003] m  
 z: [1.0668000000e+000, 1.0668000000e+000] m  
 surface area: 3.2625790625e+005 m<sup>2</sup>  
 maximum boundary skewness angle = 8.5943321228e+001 deg in cell with Prostar Cell Index 158035

Boundary Inlet: 30 quadrilateral faces

Extents:  
 x: [9.0220800000e+001, 9.2659200000e+001] m  
 y: [1.7526000000e+002, 1.7526000000e+002] m  
 z: [0.0000000000e+000, 1.0668000000e+000] m  
 surface area: 2.6012849808e+000 m<sup>2</sup>  
 maximum boundary skewness angle = 2.4523153305e+001 deg in cell with Prostar Cell Index 372457

Boundary Outlet: 176 faces (174 quadrilateral, 2 polygonal)

Extents:  
 x: [2.9565600000e+002, 3.4442400000e+002] m  
 y: [1.4874240000e+003, 1.4874240000e+003] m  
 z: [-1.9812000000e+000, 1.0668000000e+000] m  
 surface area: 1.1132573700e+002 m<sup>2</sup>  
 maximum boundary skewness angle = 2.8035736084e+001 deg in cell with Prostar Cell Index 739634

Region Lake:

43 tetrahedral cells  
 25 hexahedral cells  
 2 wedge cells  
 2 pyramid cells  
 748314 polyhedral cells  
 748386 cells total  
 2880831 interior faces (5724 triangular, 2249993 quadrilateral, 625114 polygonal)  
 1761870 vertices

Extents:  
 x: [-4.2672000000e+000, 7.8150720000e+002] m  
 y: [-4.2672000000e+000, 1.4874240000e+003] m  
 z: [-1.9812000000e+000, 1.0668000000e+000] m  
 Maximum interior cell index delta: 2296, average: 7.8781478469e+002  
 Maximum cell face index delta: 9001, average: 5.6040540283e+003  
 Volume range: [4.2707888497e-005, 3.1967809200e+000] m<sup>3</sup>  
 Minimum volume in cell with Prostar Cell Index 747962  
 Minimum distance between centroids of neighbor cells = 1.9749755266e-002  
 between cells with Prostar Cell Index 452140 and 576394  
 Maximum skewness angle = 1.7942733765e+002 deg in cell with Prostar Cell Index 718600

Face validity:

Minimum Face Validity: 8.4159338474e-001  
 Maximum Face Validity: 1.0000000000e+000

Face Validity < 0.50	0	0.000%
0.50 <= Face Validity < 0.60	0	0.000%
0.60 <= Face Validity < 0.70	0	0.000%
0.70 <= Face Validity < 0.80	0	0.000%
0.80 <= Face Validity < 0.90	24	0.003%
0.90 <= Face Validity < 0.95	94	0.013%
0.95 <= Face Validity < 1.00	357	0.048%
1.00 <= Face Validity	747911	99.937%

Volume Change:

Minimum Volume Change: 1.052741e-003  
 Maximum Volume Change: 1.000000e+000

Volume Change < 0.000000e+000	0	0.000%
0.000000e+000 <= volume change < 1.000000e-006	0	0.000%
1.000000e-006 <= volume change < 1.000000e-005	0	0.000%
1.000000e-005 <= volume change < 1.000000e-004	0	0.000%
1.000000e-004 <= volume change < 1.000000e-003	0	0.000%
1.000000e-003 <= volume change < 1.000000e-002	166	0.022%
1.000000e-002 <= volume change < 1.000000e-001	685	0.092%
1.000000e-001 <= volume change <= 1.000000e+000	747535	99.886%

Maximum boundary skewness angle in region = 1.216158e+002 deg

Overall Face Validity:

Minimum Face Validity: 8.415934e-001  
 Maximum Face Validity: 1.000000e+000

Face Validity < 0.50	0	0.000%
0.50 <= Face Validity < 0.60	0	0.000%
0.60 <= Face Validity < 0.70	0	0.000%
0.70 <= Face Validity < 0.80	0	0.000%
0.80 <= Face Validity < 0.90	24	0.003%
0.90 <= Face Validity < 0.95	94	0.013%
0.95 <= Face Validity < 1.00	357	0.048%
1.00 <= Face Validity	747911	99.937%

Overall Volume Change:

Minimum Volume Change: 1.052741e-003  
 Maximum Volume Change: 1.000000e+000

Volume Change < 0.000000e+000	0	0.000%
0.000000e+000 <= volume change < 1.000000e-006	0	0.000%
1.000000e-006 <= volume change < 1.000000e-005	0	0.000%
1.000000e-005 <= volume change < 1.000000e-004	0	0.000%
1.000000e-004 <= volume change < 1.000000e-003	0	0.000%
1.000000e-003 <= volume change < 1.000000e-002	166	0.022%
1.000000e-002 <= volume change < 1.000000e-001	685	0.092%
1.000000e-001 <= volume change <= 1.000000e+000	747535	99.886%

## **Appendix B8.2**

### **Calculation of the Schmidt number**

#### **References**

1. Frank Kreith, "Principles of Heat Transfer", 3rd Ed. 1976, IEP, New York, NY
2. R.S. Smith, Z. Dohnalek, G.A Kimmel, K.P. Stevenson, B.D. Kay, "The self-diffusivity of amorphous solid water near 150 K", Chemical Physics Vol. 258, Page 291-305, 2000



**Water fluid dynamics properties as function of temperature [Ref. 1]**

i := 0..4

$$T_{\text{data.water.1}} := \begin{pmatrix} 70 \text{ }^\circ\text{F} \\ 80 \text{ }^\circ\text{F} \\ 90 \text{ }^\circ\text{F} \\ 100 \text{ }^\circ\text{F} \\ 150 \text{ }^\circ\text{F} \end{pmatrix} \quad \text{Temperature}$$

$$\rho_{\text{data.water.1}} := \begin{pmatrix} 62.3 \\ 62.2 \\ 62.1 \\ 62.0 \\ 61.2 \end{pmatrix} \frac{\text{lb}}{\text{ft}^3} \quad \text{Density}$$

$$\mu_{\text{data.water.1}} := \begin{pmatrix} 0.658 \\ 0.578 \\ 0.514 \\ 0.458 \\ 0.292 \end{pmatrix} \cdot 10^{-3} \frac{\text{lb}}{\text{ft} \cdot \text{sec}} \quad \text{Dynamic viscosity}$$

Based on these values, the water density and dynamic viscosity are defined as function of temperature using a linear interpolation procedure:

$$\rho_{\text{water}}(\text{Temp}) := \text{linterp}(T_{\text{data.water.1}}, \rho_{\text{data.water.1}}, \text{Temp})$$

$$\mu_{\text{water}}(\text{Temp}) := \text{linterp}(T_{\text{data.water.1}}, \mu_{\text{data.water.1}}, \text{Temp})$$

**Water self-diffusivity as function of temperature [Ref. 2]**

Reference 2 plots self-diffusivity values for water in liquid state for temperature from 273.15 K (32 °F) to 373.15 K (212 °F). The data below are extracted from Figure 7 of Ref. 2:

$$T_{\text{data.water.2}} := \begin{pmatrix} 277.0 \\ 282.2 \\ 286.4 \\ 291.1 \\ 295.7 \\ 299.4 \\ 318.6 \\ 334.1 \\ 364.2 \end{pmatrix} \cdot \text{K} \quad \text{Temperature} \quad j := 0..8$$

$$D_{\text{WW.data.water.2}} := \begin{pmatrix} 1.23\text{E-}05 \\ 1.49\text{E-}05 \\ 1.69\text{E-}05 \\ 1.92\text{E-}05 \\ 2.05\text{E-}05 \\ 2.33\text{E-}05 \\ 3.65\text{E-}05 \\ 4.71\text{E-}05 \\ 7.85\text{E-}05 \end{pmatrix} \cdot \frac{\text{cm}^2}{\text{s}} \quad \text{Self-diffusivity}$$

Based on these values, the water self-diffusivity is defined as function of temperature using a linear interpolation procedure:

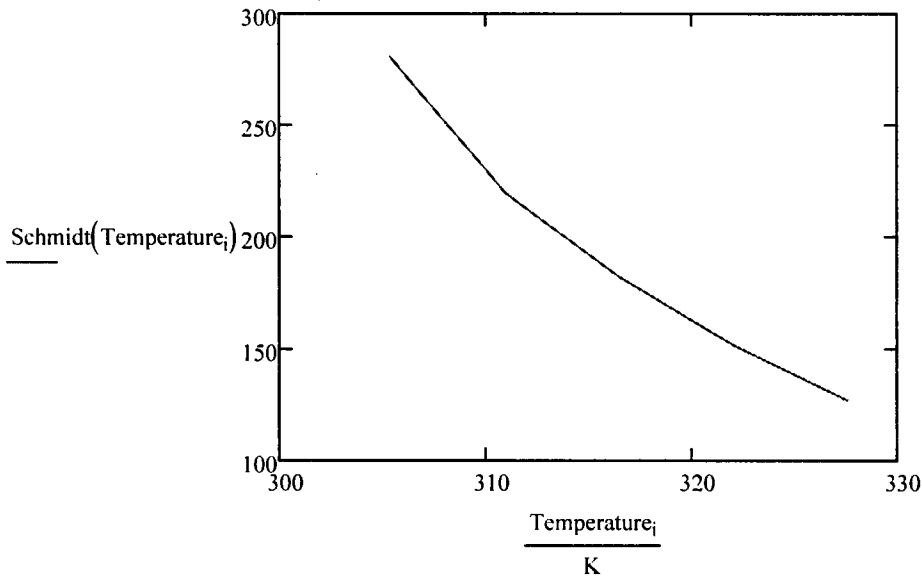
$$D_{\text{ww}}(\text{Temp}) := \text{linterp}(T_{\text{data.water.2}}, D_{\text{WW.data.water.2}}, \text{Temp})$$

The Schmidt number is defined as [Ref. B5.2]:

$$\text{Schmidt}(\text{Temp}) := \frac{\mu_{\text{water}}(\text{Temp})}{\rho_{\text{water}}(\text{Temp}) \cdot D_{\text{ww}}(\text{Temp})}$$

A plot of the Schmidt number between 90°F and 130°F is shown below:

$$\text{Temperature} := \begin{pmatrix} 90^\circ\text{F} \\ 100^\circ\text{F} \\ 110^\circ\text{F} \\ 120^\circ\text{F} \\ 130^\circ\text{F} \end{pmatrix} \quad \text{Schmidt}(\text{Temperature}_i) = \begin{pmatrix} 280.6 \\ 219.8 \\ 182.1 \\ 151.8 \\ 126.9 \end{pmatrix}$$



At 100°F, the Schmidt number is equal to 219.8.

# Summary Report: UHS step two

## Session Summary

Date Mar 29, 2012 6:16:13 PM  
Simulation C:\Users\0n7590\Desktop\UHS.sim  
File size 2.9e+02 MB  
Number of Partitions 1  
Number of Restored Partitions 1

## Software Summary

Version BuildArch: win64  
BuildEnv: intel11.1  
ReleaseDate: Fri Jun 3 18:25:06 UTC 2011  
ReleaseNumber: 6.04.014

## Hardware Summary

Hosts Controller: STARCCM  
Number of Workers: 0

## Simulation Properties

```

1 UHS
+-1 Filters
+-2 Parts
| +-1 Lake
| | Region Lake
| | Contacts []
| | Face count 572
| | Tags []
| | Meta Data {}
| +-1 Surfaces
| | +-1 FreeSurface
| | | Boundary Lake: FreeSurface
| | | Tags []
| | | Meta Data {}
| | +-2 Inlet
| | | Boundary Lake: Inlet
| | | Tags []
| | | Meta Data {}
| | +-3 Outlet
| | | Boundary Lake: Outlet
| | | Tags []
| | | Meta Data {}
| | +-4 Soil
| | | Boundary Lake: Soil
| | | Tags []
| | | Meta Data {}
| +-2 Curves
| | +-1 Edges
| | | Tags []
| | | Feature Curve Lake:Edges
+-3 3D-CAD Models
+-4 Tags
+-5 Operations
+-6 Continua
| +-1 Mesh 1
| | Continua 2
| | OOC translation false
| | Verbose Output false
| | Per-Region Meshing false
| | Use Parallel Meshing false
| | Interpolation Option Nearest neighbor
| | Interfaces []
| | Regions [Lake]
| | +-1 Models
| | | +-1 Surface Remesher
| | | | Do curvature refinement true
| | | | Do proximity refinement true
| | | | Do compatibility refinement false
| | | | Retain geometric features true
| | | | Create aligned meshes false
| | | | Minimum face quality 0.05
| | | | Enable automatic surface repair false
| | | +-2 Thin Mesher
| | | | Polyhedral Cells Type Polygonal prisms
| | | | Run Optimizer false
| | | | Automatic Correction true
| | | | Customize Thickness Threshold true
| | | | Customize Surface Size Ratio false
| | | | Threshold
| | +-2 Reference Values
| | | +-1 Base Size
| | | | Value 12.0 ft
| | | +-2 CAD Projection
| | | | Project to CAD true
| | | +-3 Surface Curvature
| | | | Enable curvature deviation distance false
| | | | +-1 Basic Curvature
| | | | | # Pts/circle 36.0
| | | +-4 Surface Growth Rate
| | | | Surface Growth Rate 1.3
| | | +-5 Surface Proximity
| | | | # Points in gap 2.0
| | | | Search Floor 0.0 ft
| | | +-6 Surface Size
| | | | Relative/Absolute Absolute
| | | | Size Method Min and Target
| | | | +-1 Absolute Minimum Size
| | | | | Value 6.0 ft
| | | | +-2 Absolute Target Size
| | | | | Value 12.0 ft
| | | +-7 Thin Mesher Layers
| | | | Number of Layers 6
| | | +-8 Thin Solid Thickness
| | | | Size type Absolute
| | | | +-1 Absolute Size
| | | | | Value 11.0 ft
| +-3 Volumetric Controls
| | +-1 Volumetric Control 1
| | | Part Group []
| | | Shapes [Block 1]
| | +-1 Mesh Conditions

```

-1 Surface Remesher	Customize surface remesher	Enabled
-2 Mesh Values		
-1 Custom Size	Size type	Absolute
-1 Absolute Size	Value	1.5 ft
-2 Physics 1	Interfaces	[]
	Regions	[Lake]
+-1 Models		
+-1 All y+ Wall Treatment		
+-2 Constant Density		
+-3 Implicit Unsteady		
+-4 K-Omega Turbulence		
+-5 Multi-Component Liquid		
-1 Liquid Mixture		
+-1 Liquid Components		
+-1 WaterLake	ID	1
	Database Material	H2O (Water) [Standard/Liquids]
-1 Component Properties		
-1 Molecular Weight	Method	Constant
-1 Constant	Value	18.0153 lb/lbmol
-2 WaterCirculating	ID	2
	Database Material	Hg (Mercury) [Standard/Liquids]
-1 Component Properties		
-1 Molecular Weight	Method	Constant
-1 Constant	Value	18.0153 lb/lbmol
-2 Mixture Properties		
+-1 Density	Method	Constant
-1 Constant	Value	62.0 lb/ft^3
+-2 Dynamic Viscosity	Method	Constant
-1 Constant	Value	6.727E-9 atm-s
+-3 Molecular Diffusivity	Method	Schmidt Number
-1 Schmidt Number	Schmidt Number	219.8
+-4 Molecular Weight	Method	Mixture
-1 Mixture		
-5 Turbulent Schmidt Number	Method	Constant
-1 Constant	Value	0.9
+-6 Non-reacting		
+-7 Reynolds-Averaged Navier-Stokes		
+-8 Segregated Flow	Minimum Absolute Pressure	0.009869232667160128 atm
	Flow Boundary Diffusion	true
	Secondary Gradients	On
	Convection	2nd-order
+-9 Segregated Species	Flow Boundary Diffusion	true
	Secondary Gradients	On
	Convection	2nd-order
+-10 SST (Menter) K-Omega	a1	0.31
	Kappa	0.41
	BetaStar	0.09
	Beta1	0.075
	Sigma_k1	0.85
	Sigma_w1	0.5
	Beta2	0.0828
	Sigma_k2	1.0
	Sigma_w2	0.856
	Secondary Gradients	On
	Convection	2nd-order
	Realizability Option	Durbin Scale Limiter
	Compressibility Correction	true
	Low Re Damping Modification	false
	Normal Stress Term	false
	Tke Minimum	1.0E-10
	Sdr Minimum	1.0E-10
	Zeta_Star	1.5
	Realizability Coefficient	0.6000000238418579
+-1 Compressibility Parameters		
-2 Realizability Coefficient		
+-11 Three Dimensional		
-12 Turbulent		
+-3 Reference Values		
+-1 Reference Pressure	Value	1.0 atm
-2 Minimum Allowable Wall Distance	Value	3.280839895013123E-6 ft
-3 Initial Conditions		
+-1 Pressure	Method	Constant
-1 Constant	Value	0.0 atm
+-2 Species Mass Fraction	Method	Constant
-1 Constant	Value	[1.0, 0.0]
+-3 Species Specification	Method	Mass fraction
+-4 Turbulence Intensity	Method	Constant
-1 Constant	Value	0.01
+-5 Turbulence Specification	Method	Intensity + Viscosity Ratio
+-6 Turbulent Velocity Scale	Method	Constant
-1 Constant	Value	3.280839895013123 ft/s
+-7 Turbulent Viscosity Ratio	Method	Constant
-1 Constant	Value	10.0
-8 Velocity	Coordinate System	Laboratory
	Method	Constant
-1 Constant	Value	[0.0, 0.0, 0.0] ft/s
+-7 Regions	Regions	1
-1 Lake	Index	0
	Physics Continuum	Physics 1
	Type	Fluid Region
	Mesh Continuum	Mesh 1
	Parts	[Lake]
+-1 Boundaries	Boundaries	4
+-1 FreeSurface	Index	2

	Type	Symmetry Plane
	Interfaces	
	Part Surfaces	[Lake.FreeSurface]
-1 Mesh Conditions		
+-1 Custom Surface Curvature	Custom curvature	Use Continuum Values
+-2 Custom Surface Proximity	Custom proximity	Use Continuum Values
+-3 Custom Surface Size	Custom surface size	Disabled
^-4 Customize Surface Remeshing	Disable Surface Remeshing	Disabled
+2 Inlet	Index	3
	Type	Mass Flow Inlet
	Interfaces	
	Part Surfaces	[Lake.Inlet]
+-1 Mesh Conditions		
+-1 Custom Surface Curvature	Custom curvature	Use Continuum Values
+-2 Custom Surface Proximity	Custom proximity	Use Continuum Values
+-3 Custom Surface Size	Custom surface size	Disabled
^-4 Customize Surface Remeshing	Disable Surface Remeshing	Disabled
+-2 Physics Conditions		
+-1 Flow Direction Specification	Method	Boundary-Normal
+-2 Mass Flow Option	Specification Option	Mass Flow Rate
+-3 Species Specification	Method	Mass fraction
^-4 Turbulence Specification	Method	Intensity + Viscosity Ratio
^-3 Physics Values		
+-1 Mass Flow Rate	Method	Constant
^-1 Constant	Value	5333.7 lb/s
+-2 Species Mass Fraction	Method	Constant
^-1 Constant	Value	[0.0, 1.0]
+-3 Turbulence Intensity	Method	Constant
^-1 Constant	Value	0.01
^-4 Turbulent Viscosity Ratio	Method	Constant
^-1 Constant	Value	10.0
+3 Outlet	Index	4
	Type	Pressure Outlet
	Interfaces	
	Part Surfaces	[Lake.Outlet]
+-1 Mesh Conditions		
+-1 Custom Surface Curvature	Custom curvature	Use Continuum Values
+-2 Custom Surface Proximity	Custom proximity	Use Continuum Values
+-3 Custom Surface Size	Custom surface size	Disabled
^-4 Customize Surface Remeshing	Disable Surface Remeshing	Disabled
+-2 Physics Conditions		
+-1 Backflow Direction Specification	Method	Boundary-Normal
+-2 Species Specification	Method	Mass fraction
+-3 Target Mass Flow Option	Target Mass Flow Option	Disabled
^-4 Turbulence Specification	Method	Intensity + Viscosity Ratio
^-3 Physics Values		
+-1 Pressure	Method	Constant
^-1 Constant	Value	0.0 atm
+-2 Species Mass Fraction	Method	Constant
^-1 Constant	Value	[1.0, 0.0]
+-3 Turbulence Intensity	Method	Constant
^-1 Constant	Value	0.01
^-4 Turbulent Viscosity Ratio	Method	Constant
^-1 Constant	Value	10.0
^-4 Soil	Index	1
	Type	Wall
	Interfaces	
	Part Surfaces	[Lake.Soil]
+-1 Mesh Conditions		
+-1 Custom Surface Curvature	Custom curvature	Use Continuum Values
+-2 Custom Surface Proximity	Custom proximity	Use Continuum Values
+-3 Custom Surface Size	Custom surface size	Disabled
^-4 Customize Surface Remeshing	Disable Surface Remeshing	Disabled
+-2 Physics Conditions		
+-1 Shear Stress Specification	Method	No-Slip
+-2 Tangential Velocity Specification	Method	None
	Reference Frame	Relative To Mesh
+-3 Wall Species Option	Method	Impermeable
^-4 Wall Surface Specification	Method	Rough
^-3 Physics Values		
+-1 Blended Wall Function	Kappa	0.42
	E	9.0
+-2 Roughness Height	Method	Constant
^-1 Constant	Value	5.0 in
^-3 Wall Roughness Parameters	B	0.0
	C	0.253
	RplusSmooth	2.25
	RplusRough	90.0
+2 Feature Curves	Feature Curves	1
^-1 Edges	Part Curves	[Lake.Edges]
^-1 Mesh Conditions		
^-1 Custom Surface Size	Custom surface size	Disabled
+3 Mesh Conditions		
^-1 Customize Thin Mesher Parameters	Customize Thin Mesher Parameters	Use Default Values
+4 Physics Conditions		
+-1 Initial Condition Option	Option	Use Continuum Values
+-2 Momentum Source Option	Momentum Source Option	None
+-3 Species Source Option	Species Source Term	Disabled
^-4 Turbulence Source Option	Turbulence Source Option	None
^-5 Physics Values		
+-1 Axis	Direction	[0.0, 0.0, 1.0]
	Coordinate System	Laboratory

		Origin	[0.0, 0.0, 0.0] ft
		Motion	Stationary
		Reference Frame	Lab Reference Frame
		Derived Parts	6
		Coordinate System	Laboratory
		Origin	[700.0, 1000.0, -1.4999999999999998] ft,ft,ft
		Normal	[0.0, 1.0, 0.0] ft,ft,ft
		Section Mode	Single Section
		Displayed Index	-1
		Parts	[Lake]
		Offset	0.0
		Coordinate System	Laboratory
		Origin	[500.0, 500.0, -1.4999999999999998] ft,ft,ft
		Normal	[0.0, 1.0, 0.0] ft,ft,ft
		Section Mode	Single Section
		Displayed Index	-1
		Parts	[Lake]
		Offset	0.0
		Coordinate System	Laboratory
		Origin	[1050.0, 4000.0, -1.4999999999999998] ft,ft,ft
		Normal	[0.0, 1.0, 0.0] ft,ft,ft
		Section Mode	Single Section
		Displayed Index	-1
		Parts	[Lake]
		Offset	0.0
		Seed Type	Part
		Rotation Scale	1.0
		Integration Solver	2nd-Order RK
		Vector Field	Cell Relative Velocity
		Parts	[Lake: FreeSurface]
		Seed Parts	[Lake: FreeSurface]
		On Ratio	281
		Randomize	false
		N Grid Points	[30, 30]
		Integration Direction	Both
		Initial Integration Step	0.5
		Maximum Propagation	20.0
		Max Steps	2000
		Coordinate System	Laboratory
		Origin	[1050.0, 2433.0000000000005, - 1.4999999999999998] ft,ft,ft
		Normal	[1.0, 0.0, 0.0] ft,ft,ft
		Section Mode	Single Section
		Displayed Index	-1
		Parts	[Lake]
		Offset	0.0
		Coordinate System	Laboratory
		Origin	[300.0, 1000.0, -1.4999999999999998] ft,ft,ft
		Normal	[1.0, 0.0, 0.0] ft,ft,ft
		Section Mode	Single Section
		Displayed Index	-1
		Parts	[Lake]
		Offset	0.0
		Time-Step	11.0 s
		Freeze Time	false
		Temporal Discretization	1st-order
		Solver Frozen	false
		Verbosity	0
		Parallel memory optimization scaling factor	1.0
		Solver Frozen	false
		Reconstruction Frozen	false
		Reconstruction Zeroed	false
		Temporary Storage Retained	false
		Solver Frozen	false
		Under-Relaxation Factor	0.7
		Ramp Method	No Ramp
		Verbosity	None
		Max Cycles	30
		Parallel Migration Limit	25
		Extra partition-boundary sweeps	0
		Enable direct-solver	false
		Maximum direct-solver equations	32
		Convergence Tolerance	0.1
		Epsilon	0.0
		Cycle Type	Flex Cycle
		Group Size Control	Auto
		Group Size	4
		Relaxation Scheme	Gauss-Seidel
		Acceleration method	None
		Scaling	Disabled
		Restriction Tolerance	0.9
		Prolongation Tolerance	0.5
		Sweeps	1
		Under-Relaxation Factor	0.3
		Pressure Reference Location	Automatic Selection
		Ramp Method	No Ramp
		Verbosity	None

		Max Cycles	30
		Parallel Migration Limit	25
		Extra partition-boundary sweeps	0
		Enable direct-solver	false
		Maximum direct-solver equations	32
		Convergence Tolerance	0.1
		Epsilon	0.0
		Cycle Type	V Cycle
		Group Size Control	Auto
		Group Size	4
		Relaxation Scheme	Gauss-Seidel
		Acceleration method	Conjugate Gradient
		Scaling	Auto
	-1	Pre-Sweeps	1
		Post-Sweeps	1
		Max Levels	50
+--4	Segregated Species	Under-Relaxation Factor	0.9
		Reconstruction Frozen	false
		Reconstruction Zeroed	false
		Temporary Storage Retained	false
		Solver Frozen	false
	+--1	Under-Relaxation Factor Ramp	No Ramp
	-2	AMG Linear Solver	
		Verbosity	None
		Max Cycles	30
		Parallel Migration Limit	25
		Extra partition-boundary sweeps	0
		Enable direct-solver	false
		Maximum direct-solver equations	32
		Convergence Tolerance	0.1
		Epsilon	0.0
		Cycle Type	V Cycle
		Group Size Control	Auto
		Group Size	4
		Relaxation Scheme	Gauss-Seidel
		Acceleration method	None
		Scaling	Disabled
	-1	Pre-Sweeps	1
		Post-Sweeps	1
		Max Levels	50
+--5	K-Omega Turbulence	Under-Relaxation Factor	0.8
		Reconstruction Frozen	false
		Reconstruction Zeroed	false
		Temporary Storage Retained	false
		Solver Frozen	false
	+--1	Under-Relaxation Factor Ramp	No Ramp
	-2	AMG Linear Solver	
		Verbosity	None
		Max Cycles	30
		Parallel Migration Limit	25
		Extra partition-boundary sweeps	0
		Enable direct-solver	false
		Maximum direct-solver equations	32
		Convergence Tolerance	0.1
		Epsilon	0.0
		Cycle Type	Flex Cycle
		Group Size Control	Auto
		Group Size	4
		Relaxation Scheme	Gauss-Seidel
		Acceleration method	None
		Scaling	Disabled
	-1	Restriction Tolerance	0.9
		Prolongation Tolerance	0.5
		Sweeps	1
+--6	K-Omega Turbulent Viscosity	Under-Relaxation Factor	1.0
		Maximum Ratio	100000.0
		Solver Frozen	false
+--10	Stopping Criteria		
	+--1	Maximum Inner Iterations	20
		Enabled	true
		Criterion Satisfied	true
		Logical Rule	Or
	+--2	Maximum Physical Time	169122.0 s
		Enabled	true
		Criterion Satisfied	true
		Logical Rule	Or
	+--3	Maximum Steps	1000000000
		Enabled	true
		Criterion Satisfied	false
		Logical Rule	Or
	-4	Stop File	
		Stop Inner Iterations	true
		Path	ABORT
		Enabled	true
		Criterion Satisfied	false
		Logical Rule	Or
+--11	Reports		
	+--1	ConcentrationSurfaceLakeWater	8
		Scalar Field Function	MassFraction of WaterLake
		Parts	[Lake: FreeSurface]
		Smooth Values	false
		Units	
	+--2	ConcentrationVolumeLakeWater	MassFraction of WaterLake
		Scalar Field Function	MassFraction of WaterLake
		Parts	[Lake]
		Smooth Values	false
		Units	
	+--3	MassFlow_Inlet	[Lake: Inlet]
		Parts	



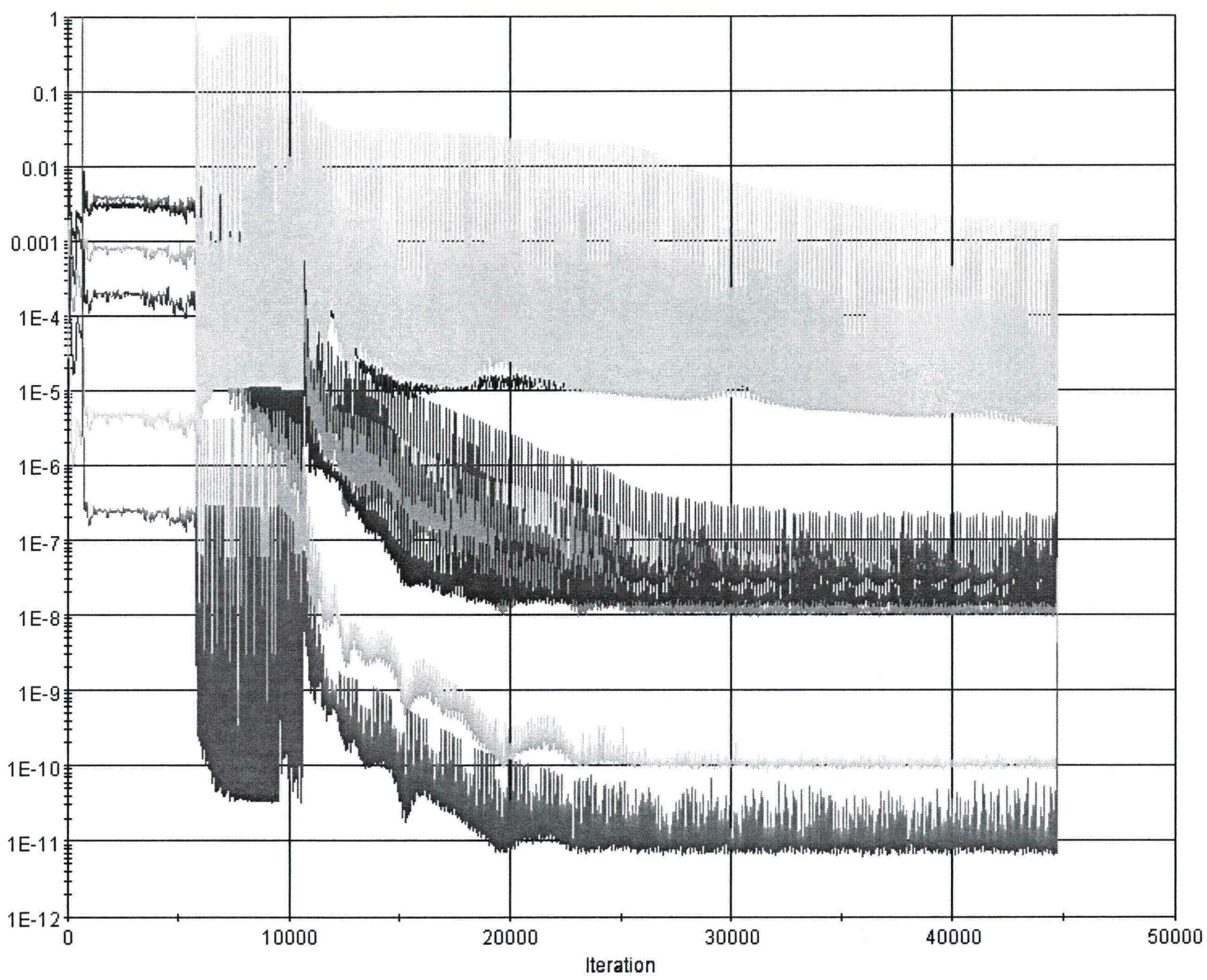
		Smooth Values	false
		Units	lb/s
	+--4	<b>MassFlow_Outlet</b>	Parts [Lake: Outlet]
		Smooth Values	false
		Units	lb/s
	+--5	<b>MassFlow_Total</b>	Parts [Lake: FreeSurface, Lake: Inlet, Lake: Outlet, Lake: Soil]
		Smooth Values	false
		Units	lb/s
	+--6	<b>Velocity_Plane4AveVel</b>	Scalar Field Function Velocity: Magnitude
		Parts	[HorizontalCenter]
		Smooth Values	false
		Units	ft/s
	+--7	<b>Velocity_Plane4MaxVel</b>	Scalar Field Function Velocity: Magnitude
		Parts	[HorizontalCenter]
		Smooth Values	false
		Units	ft/s
	+--8	<b>Velocity_Plane4MinVel</b>	Scalar Field Function Velocity: Magnitude
		Parts	[HorizontalCenter]
		Smooth Values	false
		Units	ft/s
	+--12	<b>Monitors</b>	Monitors 18
		Monitors To Print	[Z-momentum, WaterLake, Sdr, Tke, Y-momentum, X-momentum, Continuity, Inlet Monitor, Outlet Monitor, Total Monitor, Plane4AveVel Monitor, Plane4MinVel Monitor, Plane4MaxVel Monitor, ConcentrationSurfaceLakeWater Monitor, ConcentrationVolumeLakeWater Monitor]
		Output Direction	Horizontal
		Heading Print Frequency	10
	+--1	<b>ConcentrationSurfaceLakeWater Monitor</b>	Report ConcentrationSurfaceLakeWater
		Trigger	Time Step
		Maximum Plot Samples	100000
		Normalization Option	Off
		Frequency	1
	+--2	<b>ConcentrationVolumeLakeWater Monitor</b>	Report ConcentrationVolumeLakeWater
		Trigger	Time Step
		Maximum Plot Samples	100000
		Normalization Option	Off
		Frequency	1
	+--3	<b>Inlet Monitor</b>	Report MassFlow_Inlet
		Trigger	Iteration
		Maximum Plot Samples	5000
		Normalization Option	Off
		Frequency	1
	+--4	<b>Outlet Monitor</b>	Report MassFlow_Outlet
		Trigger	Iteration
		Maximum Plot Samples	5000
		Normalization Option	Off
		Frequency	1
	+--5	<b>Plane4AveVel Monitor</b>	Report Velocity_Plane4AveVel
		Trigger	Iteration
		Maximum Plot Samples	5000
		Normalization Option	Off
		Frequency	1
	+--6	<b>Plane4MaxVel Monitor</b>	Report Velocity_Plane4MaxVel
		Trigger	Iteration
		Maximum Plot Samples	5000
		Normalization Option	Off
		Frequency	1
	+--7	<b>Plane4MinVel Monitor</b>	Report Velocity_Plane4MinVel
		Trigger	Iteration
		Maximum Plot Samples	5000
		Normalization Option	Off
		Frequency	1
	+--8	<b>Total Monitor</b>	Report MassFlow_Total
		Trigger	Iteration
		Maximum Plot Samples	5000
		Normalization Option	Off
		Frequency	1
	+--13	<b>Representations</b>	
		+--1 <b>Geometry</b>	
		+--2 <b>Initial Surface</b>	Faces 572
			Edges 154
		-1 <b>Regions</b>	
		-1 <b>Lake</b>	Faces 572
			Edges 154
		+--1 <b>Boundaries</b>	
			+--1 FreeSurface Faces 142
			+--2 Inlet Faces 2
			+--3 Outlet Faces 2
			-4 Soil Faces 426
		-2 <b>Feature Curves</b>	
		-1 <b>Edges</b>	Edges 154
		+--3 <b>Remeshed Surface</b>	Faces 493496
			Edges 2460
		-1 <b>Regions</b>	
		-1 <b>Lake</b>	Faces 493496
			Edges 2460

	+ -1 Boundaries		
	+ -1 FreeSurface	Faces	250750
	+ -2 Inlet	Faces	32
	+ -3 Outlet	Faces	94
	+ -4 Soil	Faces	242620
	+ -2 Feature Curves		
	+ -1 Edges	Edges	2460
+ -4	<b>Volume Mesh</b>	Cells	748386
		Interior Faces	2880831
		Vertices	1761870
+ -1	<b>Finite Volume Regions</b>		
	+ -1 Lake	Cells	748386
		Interior Faces	2880831
		Vertices	1761870
	+ -1 Finite Volume Boundaries		
	+ -1 FreeSurface	Faces	126581
	+ -2 Inlet	Faces	30
	+ -3 Outlet	Faces	176
	+ -4 Soil	Faces	126832
+ -2	<b>Cell Sets</b>		
+ -14	<b>Coordinate Systems</b>		
+ -15	<b>Tables</b>		
+ -16	<b>Units</b>	Preferred System	United States Customary System
+ -17	<b>Field Functions</b>		
+ -18	<b>Volume Shapes</b>		
+ -1	<b>Block 1</b>	Coordinate System	Laboratory
		Corner1	[295.00000120147945, 558.9999802156383, - 1.4999999696501283] ft,ft,ft
		Corner2	[304.9999897874246, 576.0, 5.000000159571489] ft,ft,ft
+ -19	<b>User Code</b>		
+ -20	<b>Data Set Functions</b>		
+ -21	<b>Layouts</b>		
+ -1	<b>default</b>		
+ -22	<b>Data Mappers</b>		
+ -23	<b>Motions</b>		
+ -1	<b>Stationary</b>		
+ -24	<b>Reference Frames</b>		
+ -1	<b>Lab Reference Frame</b>		

**Solution**

Accumulated CPU Time over all processes (s) 641294.4330000208  
 Elapsed Time (s) 641294.4820000213  
 Time Level 1947  
 Solution Time 169122.0

### Residuals



Volume Average of MassFraction of WaterLake

Part	Value
Lake	3.658991e-01
Total:	3.658991e-01

Surface Average of MassFraction of WaterLake

Part	Value
Lake: FreeSurface	4.209259e-01
Total:	4.209259e-01

### Attachment K - Preparation of Hourly Meteorological Data

Prepared: Erwin T. Prater Date 24 MAY 2012  
Erwin T. Prater - Sargent & Lundy<sup>LLC</sup>

Reviewed: Paul N. Derezotes Date 24 MAY 2012  
Paul N. Derezotes - Sargent & Lundy<sup>LLC</sup>

## **Preparation of Hourly Meteorological Data Used for Cooling Lake Analysis**

### **1 Purpose**

This attachment describes update of a meteorological data input file provided to support a validation study of the cooling lake at the LaSalle County Nuclear Generating Station, near Marseilles, IL. The file was expanded to include older data collected from January 1, 1995 – December 31, 2004. The updated file now includes the period of record from January 1, 1995 – September 30, 2010.

### **2 Parameters included in the Meteorological Data File**

The meteorological data file was compatible with the Laket program (Reference 1), which S&L uses to evaluate the thermal performance of cooling lakes. The parameter content and digital format of Laket meteorological files are listed in Table 1.

### **3 Meteorological Data Selection**

Wind and temperature data were taken from an on-site meteorological tower at the generating station. The on-site tower measured the dry-bulb temperature and wind speed/direction at three levels: 33 ft., 200 ft. and 375 ft above ground level. Wind speed/direction and dry-bulb temperature from the lowest level (33 ft., or 10.1 meter) level were extracted for use in Laket. The on-site meteorological tower contractor supplied the on-site tower data in the form of digital text file.

The on-site meteorological tower did not collect hourly humidity, precipitation type, cloud height and cloud cover, which are required inputs for Laket. These parameters were taken from a National Weather Service observing station at the Peoria, IL airport (station identifier KPIA). That weather station is located approximately 70 miles southwest of the generating station.

### **4 Raw Meteorological Data**

Observed (“raw”) meteorological data from KPIA were used to develop the meteorological data input file for Laket. Raw data were purchased from the National Climatic Data Center (NCDC) in Asheville, NC. Two separate digital files were purchased. These two files are briefly described below.

#### *(1) Surface Weather Observations*

Raw surface weather observations (Reference 2) from KPIA covered the period of record from January 1, 1995 through December 31, 2004. NCDC subjects meteorological data to rigorous quality control checks before archiving it. Nevertheless, meteorological databases still typically include gaps and data values outside of valid ranges. The

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archived data included most of the weather parameters required by Laket (Table 1), with the following exceptions: freezing precipitation code, solar radiation, atmospheric radiation, and partial pressure of water vapor. S&L estimated those parameters using standard methods. To check the thermodynamic consistency of the input data, S&L estimated hourly wet bulb temperature, dew point temperature and humidity to ensure consistency between those parameters and the (on-site) dry-bulb temperature. In instances when the dew point temperature at KPIA exceeded the dry-bulb temperature at the on-site meteorological tower, the dew point temperature at KPIA was set equal to the dry-bulb temperature observed at the on-site tower. This ensured thermodynamic consistency between the relative humidity and the dry-bulb, wet-bulb temperature and dew point temperatures.

(2) Precipitation Data

Raw hourly digital precipitation data (Reference 3) from KPIA were available for the period of record from January 1, 1995 through December 31, 2004.

## 5 Creating Input Meteorological Data for Laket

S&L uses a series of modular computer programs collectively called the Surface Data Generator ("Surgen") and judgements and adjustments by a qualified, experienced, professional meteorologist to create digital meteorological data files for input into Laket. Key requirements of Laket include a specific set of weather parameters and specific digital format (Table 1), and a complete meteorological database with no bad (out of range), or missing, parameters. Surgen modules are executed independently and perform the following functions:

- (1) Interpret the unique digital formats of raw surface weather observations and precipitation data and extract required meteorological parameters.
- (2) Convert numeric units of extracted parameters to those required by the Laket program.
- (3) Scan hourly surface weather observations, and identify periods when values for selected parameters are either missing or invalid (outside of acceptable ranges). Those periods are identified by starting and ending date, and by the length of each gap (in hours).
- (4) Scan hourly surface weather observations, identify periods within the digital file when whole days or specific hours are missing; insert new, or blank records into the file to fill time gaps.
- (5) Estimate values for the following weather parameters: an indicator whether precipitation is liquid or frozen, solar radiation reaching the lake surface, atmospheric radiation reaching the lake surface, partial pressure of water vapor in the atmosphere, wet bulb temperature and dew point temperature.

- (6) Perform simple linear interpolation of weather parameter values through gaps, and insert the new interpolated values into the database.
- (7) Allow insertion of manually selected substitution values into gaps in the database that are judged not to be suitable for simple linear interpolation.
- (8) Translate processed and adjusted databases into the format required by the Laket program.

Since the project required combining wind and temperature data from an on-site meteorological tower with data collected at another site (Peoria, IL), S&L developed a project-specific FORTRAN program which merged the on-site wind speed/direction and dry-bulb temperature data with other data from KPIA. The program produced a single input file that was subsequently processed with Surgen, as described above.

## **6 Review and Adjustment of Meteorological Data**

Surgen identified short periods of missing, or bad (out of range), raw meteorological data and used linear interpolation to fill short gaps that were generally 1-2 hours long. However, there were three periods identified which had data gaps too long for linear interpolation. Data were manually substituted from Peoria in these periods. These periods are listed below:

Wind direction and speed from Peoria, IL was used for the following periods:

- (1) 10/30/97 21:00 local standard time (LST) through 11/03/97 14:00 LST
- (2) 08/23/02 05:00 LST through 09/04/02 11:00 LST

The anemometer height at Peoria during both of these time periods was 32.8 ft (10 meters) (Reference 4).

Dry bulb temperature from Peoria, IL used for the following period:

- (3) 06/15/98 08:00 LST through 06/16/98 11:00 LST

## **7 Laket Meteorological Input File**

Surgen produced a single Laket meteorological input file which was appended to the original meteorological data file produced in 2011. The specifications of the original and combined (updated) file are listed below

---



**Original file:**

Name: PIALSL0510.DAT

Type: ASC text

Size: 7,773 Kb

Creation date/time: 3/17/2011 4:04 PM

**Updated file:**

Name: PIALSL9510.DAT

Type: ASC text

Size: 21,301 Kb

Creation date/time: 3/9/2012 11:08 AM

The updated meteorological data file was tested with a short Laket input file to ensure that Laket could read the updated meteorological data file. Laket read the updated meteorological data file normally.

## 8 Wind Sensor Height

The wind speed/direction sensor height is an input in Laket. The wind speed and direction were taken from the 33 ft. (10.1 meter) level of the on-site meteorological tower at the generating station.

## 9 References

1. Sargent & Lundy (S&L), 2004. "LAKET-PC, A One Dimensional Lake Thermal Prediction Program, S&L Program Number LAK 03.7.292-2.2, Revision 0, October 30, 2004, User Manual", S&L, Chicago IL.
  2. National Climatic Data Center (NCDC), 2006. "Federal Climate Complex Data Documentation for Integrated Surface Data", August 25, 2006. Published by NCDC, Asheville, NC.
  3. National Climatic Data Center (NCDC), 2000. "Data Documentation for Hourly Precipitation Data TD-3240", November 15, 2000. Published by NCDC, Asheville, NC.
  4. National Climatic Data Center (NCDC), 2012. Data file "anem\_elev\_inf" referenced in "Data Documentation for Data Set 6421 (DSI-6421) Enhanced hourly wind station data for the contiguous United States" National Climatic Data Center, Asheville North Carolina. Website: [http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wind\\_daily/td6421.pdf](http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wind_daily/td6421.pdf) Accessed March, 2012.
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**Table 1. Parameters and Digital Record Format of the  
Standard Weather Data File Used by S&L Laket Program**

Field No.	Parameter	Units	Lower Limit	Upper Limit	Digital Format
1	Station Code Number	5 digits			F7.0
2	Year	4 digits			F6.0
3	Month	2 digits			F4.0
4	Day	2 digits			F4.0
5	Hour of Day (00 (midnight)-23 (11 pm))	2 digits			F9.2
6	Cloud Ceiling Height above Ground Level	feet	0	70,000	F9.2
7	Direction Sector from which Wind Blows (1(N) – 16(NNW))		1	16	F9.2
8	Wind Speed	knots	0	96	F9.2
9	Dry Bulb Temperature	deg F	-129	136	F9.2
10	Wet Bulb Temperature	deg F	-129	136	F9.2
11	Dew Point Temperature	deg F	-129	136	F9.2
12	Relative Humidity	percent	0	100	F9.2
13	Station Atmospheric Pressure	inches Hg	25.69	32.01	F9.2
14	Cloud Cover	Tenths	00	10	F9.2
15	Freezing Precipitation Code	1 digit	0 – liquid	1 – solid	F9.2
16	One-Hour Total Water Equivalent Precipitation	100ths inches	0	1,200	F9.2
17	Solar Radiation	Btu/ft <sup>2</sup> -hour	0	4,000	F9.2
18	Atmospheric Radiation	Btu/ft <sup>2</sup> -hour	5	220	F9.2
19	Partial Pressure of Water Vapor	inches Hg	0	2.00	F9.2

### Attachment L - Plant Temperature Rise

Prepared: Daniel W. Nevill Date 6/27/2012  
Daniel W. Nevill - Sargent & Lundy<sup>LLC</sup>

Checked: William D. Brey Date 6-27-2012  
William D. Brey - Sargent & Lundy<sup>LLC</sup>

Reviewed: Pawel Kut Date 06-27-2012  
Pawel Kut - Sargent & Lundy<sup>LLC</sup>

**ATTACHMENT L - TABLE OF CONTENTS**

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L2.0 Methodology .....	L4
L3.0 Assumptions .....	L6
L4.0 Design Inputs.....	L7
L5.0 References .....	L8
L6.0 Evaluations .....	L9
L7.0 Summary and Conclusions.....	L10
L8.0 Limitations and Open Items .....	L11
L9.0 Appendices .....	L12

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**LIST OF APPENDICES**

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L9.2	MUR PU Plant Temperature Rise Results	L15 to L34
L9.3	EPU Total Generated Heat Load	L35 to L37
L9.4	EPU Plant Temperature Rise Results	L38 to L57
L9.5	Plant Temperature Rise Equations	L58

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**L1.0 PURPOSE**

The purpose of this attachment is to determine the Core Standby Cooling System (CSCS) temperature rise across the plant for Measurement Uncertainty Recapture Power Uprate (MUR PU) and Extended Power Uprate (EPU) based on the new heat load to the Ultimate Heat Sink (UHS) determined in L-002453 [Ref. L5.1]. This temperature rise is to be used in the LAKET-PC [Ref. L5.3] model of the LaSalle County Station UHS.

## L2.0 METHODOLOGY

The plant temperature rise is used in LAKET-PC [Ref. L5.3] to compute the rise in water temperature caused by the heat rejected to the UHS during the postulated accident.

There are two types of heat loads that are considered when determining the CSCS temperature rise across the plant: 1) the total generated heat load and 2) the sensible heat load. The total generated heat load can be further divided into decay heat load, pump heat load and cooler heat load. Heat load from the spent fuel pool is not considered since it is improbable that required operator actions could be performed in the post-Loss Of Coolant Accident (LOCA) reactor building environment (Assumption L3.4). The total heat load, consisting of the generated heat load and the sensible heat load, is the heat rejection to the UHS and is used to determine the plant temperature rise.

The total generated heat load (Design Input L4.1) is computed for various time steps between zero seconds and 1E+9 seconds in Calculation L-002453 [Ref. L5.1]. Linear interpolation of the results from L-002453 is used to determine the integrated total generated heat load at each time step.

The total sensible heat load is determined to be 1.22E+09 BTU (Design Input L4.2). It is assumed that all sensible heat is dissipated to the UHS at a constant rate within six hours (See Assumption L3.2).

Once the heat rejection to the UHS is determined by adding the total generated head load and the sensible heat load, the temperature rise through the plant is determined by the following equation:

$$\Delta T = \frac{Q}{c_p m} \quad (\text{Eq. L3-1})$$

where:

$\Delta T$	= plant temperature rise [°F]
$Q$	= heat rejection rate to the UHS [BTU/hr]
$c_p$	= specific heat capacity of water [BTU/(lb <sub>m</sub> -°F)]
$m$	= mass flow rate [lb <sub>m</sub> /hr]

The mass flow rate is determined by converting the CSCS volumetric flow rate of 86 ft<sup>3</sup>/s (Assumption L3.3) to a mass flow rate at a density of 62.0 lb<sub>m</sub>/ft<sup>3</sup> (Assumption L3.1).

### L2.1 Computer Programs and Software

The analysis performed herein utilizes Microsoft Excel® 2003 [Ref. L5.4], which is commercially available. The validation of Excel is implicit in the detailed review of all

spreadsheets used in this analysis. All computer runs were performed using PC No. ZD6661 under the Windows XP operating system. Excel Add-in function STMFUNC is used to calculate the thermal properties of water and steam at varying operating conditions [Ref. L5.5]. The Excel Add-in function STMFUNC has been validated and approved for use in accordance with the S&L Quality Assurance (QA) program.

### L3.0 ASSUMPTIONS

- L3.1 Water Properties - The properties of water are evaluated at a temperature of 100°F and atmospheric pressure. The density and specific heat capacity of water at 100°F and 1 atm are 62.0 lb<sub>m</sub>/ft<sup>3</sup> and 0.998 BTU/lb<sub>m</sub>-°F, respectively [Ref. L5.5].
- L3.2 Sensible Heat Load from Reactor Coolant System - It is conservatively assumed that all of the sensible heat from the reactor and the primary system is dissipated to the UHS within six hours. One-sixth of the heat is assumed to be rejected per 1-hour time step until the full sensible heat load is rejected by the sixth hour. This is based on the assumption that the temperature within the reactor will be at 100°F within six hours.
- L3.3 CSCS Volumetric Flow - The total plant flow during the UHS analysis is assumed to be 38,600 gpm (86.0 ft<sup>3</sup>/s). The total flow is based upon the cumulative flow contribution from thirteen CSCS pumps operating at design flow conditions (eight Residual Heat Removal (RHR)-Service Water pumps, 4,000 gpm each; three Diesel Generator (DG) pumps, two at 1300 gpm and one at 2,000 gpm; and two High Pressure Core Spray DG pumps, 1000 gpm each) (See Attachment D).
- L3.4 Spent Fuel Pool Heat Load - Heat load from the spent fuel pool is not considered because it is improbable that required operator action (RHR alignment) could be performed in the post-LOCA reactor building environment. Instead, the fuel pool emergency makeup pumps are modeled as providing required makeup flow to the fuel pools at 600 gpm [Ref. L5.2].



**L4.0 DESIGN INPUTS**

- L4.1 Total Generated Heat Load - The total generated heat load rejected to the UHS following a LOCA for one unit while the second unit is in normal shutdown from maximum power is determined in L-002453 [Ref. L5.1]. These results are presented in Appendix L9.1 for MUR PU and Appendix L9.3 for EPU.
- L4.2 Sensible Heat - The sensible heat load is 1.22E+09 BTU, per L-002453 [Ref. L5.1].
- L4.3 CSCS Pump Curves - The CSCS pump curves are provided in Attachment D of this calculation.

**L5.0 REFERENCES**

- L5.1 L-002453, "UHS Heat Load," Rev. 3.
- L5.2 SEAG #12-000098, "DIR for LAS-EPU-U1/2-DIR-T0608-1," 4/18/2012.
- L5.3 LAKET-PC Computer Program, Version 2.2, S&L Program No. 03.7.292-2.2, 12/09/2004.
- L5.4 Microsoft® Excel 2003, Sargent & Lundy LLC Program No. 03.2.286-1.0, dated 02/02/2004.
- L5.5 STMFUNC (Steam Table Function Dynamic Link Library) S&L Program Number 03.7.598-2.0, dated 5/15/2003.

## **L6.0 CALCULATIONS**

### **L6.1 Total and Integrated Generated Heat Load Rejected to the UHS**

The total generated heat load rejected to the UHS following a LOCA for one unit while the second unit is in normal shutdown from maximum power is determined for MUR PU (3559 MW<sub>t</sub>) and EPU (4067 MW<sub>t</sub>) in L-002453 [Ref. L5.1]. These results are presented in Appendix L9.1 for MUR PU and Appendix L9.3 for EPU and are used to determine the temperature rise through the plant.

### **L6.2 Plant Temperature Rise**

In order to facilitate the creation of a LAKET-PC [Ref. L5.3] input file, the plant temperature rise results are determined in one hour increments. This requires linear interpolation of the integrated total generated heat load found in L-002453 [Ref. L5.1] to determine the integrated total generated heat load at hourly intervals. Adding the integrated total generated heat load and the sensible heat load gives the total heat load, which is the heat rejected to the UHS used to determine the plant temperature rise. The plant temperature rise is calculated in Excel using Eq. L3-1. The results of this calculation are shown in Appendix L9.2 for MUR PU and Appendix L9.4 for EPU.

**L7.0 SUMMARY AND CONCLUSIONS**

The CSCS temperature rise across the plant following a postulated accident is determined in hourly intervals in order to be used as input to LAKET-PC [Ref. L5.3]. These results are given in Appendix L9.2 for MUR PU and Appendix L9.4 for EPU.

**L8.0 LIMITATIONS AND OPEN ITEMS**

**L8.1 Limitations**

None.

**L8.2 Open Items**

None.

**L9.0 APPENDICES****LIST OF APPENDICES**

<b>App.</b>	<b>Title</b>	<b>No. of Pages</b>
L9.1	MUR PU Total Generated Heat Load [Ref. L5.1]	2
L9.2	MUR PU Plant Temperature Rise Results	20
L9.3	EPU Total Generated Heat Load [Ref. L5.1]	3
L9.4	EPU Plant Temperature Rise Results	20
L9.5	Plant Temperature Rise Equations	1

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**APPENDIX L9.1: MUR PU TOTAL GENERATED HEAT LOAD [Ref. L5.1]**

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
0	2.78E-11	1.2143E+10	1.2143E+10	4.15E+07	5.04E+07	0.00E+00	2.44E+10	-0-
1.00E-01	2.78E-05	1.2049E+10	1.2049E+10	4.15E+07	5.04E+07	0.00E+00	2.42E+10	6.75E+05
1.50E-01	4.17E-05	1.1688E+10	1.1688E+10	4.15E+07	5.04E+07	0.00E+00	2.35E+10	1.01E+06
2.00E-01	5.56E-05	1.1329E+10	1.1329E+10	4.15E+07	5.04E+07	0.00E+00	2.27E+10	1.33E+06
4.00E-01	1.11E-04	9.0741E+09	9.0741E+09	4.15E+07	5.04E+07	0.00E+00	1.82E+10	2.47E+06
6.00E-01	1.67E-04	7.1763E+09	7.1763E+09	4.15E+07	5.04E+07	0.00E+00	1.44E+10	3.37E+06
8.00E-01	2.22E-04	5.9984E+09	5.9984E+09	4.15E+07	5.04E+07	0.00E+00	1.21E+10	4.11E+06
1.00E+00	2.78E-04	4.1175E+09	4.1175E+09	4.15E+07	5.04E+07	0.00E+00	8.33E+09	4.68E+06
1.50E+00	4.17E-04	2.9956E+09	2.9956E+09	4.15E+07	5.04E+07	0.00E+00	6.08E+09	5.68E+06
2.00E+00	5.56E-04	1.8821E+09	1.8821E+09	4.15E+07	5.04E+07	0.00E+00	3.86E+09	6.37E+06
4.00E+00	1.11E-03	8.9758E+08	8.9758E+08	4.15E+07	5.04E+07	0.00E+00	1.89E+09	7.96E+06
6.00E+00	1.67E-03	7.4167E+08	7.4167E+08	4.15E+07	5.04E+07	0.00E+00	1.58E+09	8.93E+06
8.00E+00	2.22E-03	6.9018E+08	6.9018E+08	4.15E+07	5.04E+07	0.00E+00	1.47E+09	9.77E+06
1.00E+01	2.78E-03	6.3979E+08	6.3979E+08	4.15E+07	5.04E+07	0.00E+00	1.37E+09	1.06E+07
1.50E+01	4.17E-03	5.9280E+08	5.9280E+08	4.15E+07	5.04E+07	0.00E+00	1.28E+09	1.24E+07
2.00E+01	5.56E-03	5.5625E+08	5.5625E+08	4.15E+07	5.04E+07	0.00E+00	1.20E+09	1.41E+07
4.00E+01	1.11E-02	4.8801E+08	4.8801E+08	4.15E+07	5.04E+07	0.00E+00	1.07E+09	2.04E+07
6.00E+01	1.67E-02	4.5158E+08	4.5158E+08	4.15E+07	5.04E+07	0.00E+00	9.95E+08	2.62E+07
8.00E+01	2.22E-02	4.2487E+08	4.2487E+08	4.15E+07	5.04E+07	0.00E+00	9.42E+08	3.15E+07
1.00E+02	2.78E-02	4.0714E+08	4.0714E+08	4.15E+07	5.04E+07	0.00E+00	9.06E+08	3.67E+07
1.50E+02	4.17E-02	3.7703E+08	3.7703E+08	4.15E+07	5.04E+07	0.00E+00	8.46E+08	4.88E+07
2.00E+02	5.56E-02	3.5699E+08	3.5699E+08	4.15E+07	5.04E+07	0.00E+00	8.06E+08	6.03E+07
4.00E+02	1.11E-01	3.1364E+08	3.1364E+08	4.15E+07	5.04E+07	0.00E+00	7.19E+08	1.03E+08
6.00E+02	1.67E-01	2.8899E+08	2.8899E+08	4.15E+07	5.04E+07	0.00E+00	6.70E+08	1.41E+08
8.00E+02	2.22E-01	2.7090E+08	2.7090E+08	4.15E+07	5.04E+07	0.00E+00	6.34E+08	1.77E+08
1.00E+03	2.78E-01	2.5657E+08	2.5657E+08	4.15E+07	5.04E+07	0.00E+00	6.05E+08	2.12E+08
1.50E+03	4.17E-01	2.3010E+08	2.3010E+08	4.15E+07	5.04E+07	0.00E+00	5.52E+08	2.92E+08
2.00E+03	5.56E-01	2.1128E+08	2.1128E+08	4.15E+07	5.04E+07	0.00E+00	5.14E+08	3.66E+08
4.00E+03	1.11E+00	1.7000E+08	1.7000E+08	4.15E+07	5.04E+07	0.00E+00	4.32E+08	6.29E+08
6.00E+03	1.67E+00	1.5045E+08	1.5045E+08	4.15E+07	5.04E+07	0.00E+00	3.93E+08	8.58E+08
8.00E+03	2.22E+00	1.3867E+08	1.3867E+08	4.15E+07	5.04E+07	0.00E+00	3.69E+08	1.07E+09
1.00E+04	2.78E+00	1.3065E+08	1.3065E+08	4.15E+07	5.04E+07	0.00E+00	3.53E+08	1.27E+09
1.50E+04	4.17E+00	1.1772E+08	1.1772E+08	4.15E+07	5.04E+07	0.00E+00	3.27E+08	1.74E+09
2.00E+04	5.56E+00	1.0961E+08	1.0961E+08	4.15E+07	5.04E+07	0.00E+00	3.11E+08	2.19E+09
4.00E+04	1.11E+01	9.2502E+07	9.2502E+07	4.15E+07	5.04E+07	0.00E+00	2.77E+08	3.82E+09
6.00E+04	1.67E+01	8.3225E+07	8.3225E+07	4.15E+07	5.04E+07	0.00E+00	2.58E+08	5.31E+09
8.00E+04	2.22E+01	7.6947E+07	7.6947E+07	4.15E+07	5.04E+07	0.00E+00	2.46E+08	6.71E+09

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
8.64E+04	2.40E+01	7.5332E+07	7.5332E+07	4.15E+07	5.04E+07	0.00E+00	2.43E+08	7.14E+09
1.00E+05	2.78E+01	7.2333E+07	7.2333E+07	4.15E+07	5.04E+07	0.00E+00	2.37E+08	8.05E+09
1.50E+05	4.17E+01	6.4076E+07	6.4076E+07	4.15E+07	5.04E+07	0.00E+00	2.20E+08	1.12E+10
1.73E+05	4.81E+01	6.1296E+07	6.1296E+07	4.15E+07	5.04E+07	0.00E+00	2.15E+08	1.26E+10
2.00E+05	5.56E+01	5.8479E+07	5.8479E+07	4.15E+07	5.04E+07	0.00E+00	2.09E+08	1.42E+10
2.59E+05	7.19E+01	5.3585E+07	5.3585E+07	4.15E+07	5.04E+07	0.00E+00	1.99E+08	1.75E+10
3.46E+05	9.61E+01	4.8291E+07	4.8291E+07	4.15E+07	5.04E+07	0.00E+00	1.89E+08	2.22E+10
4.00E+05	1.11E+02	4.5680E+07	4.5680E+07	4.15E+07	5.04E+07	0.00E+00	1.83E+08	2.50E+10
4.32E+05	1.20E+02	4.4345E+07	4.4345E+07	4.15E+07	5.04E+07	0.00E+00	1.81E+08	2.66E+10
6.00E+05	1.67E+02	3.8880E+07	3.8880E+07	4.15E+07	5.04E+07	0.00E+00	1.70E+08	3.48E+10
8.00E+05	2.22E+02	3.4485E+07	3.4485E+07	4.15E+07	5.04E+07	0.00E+00	1.61E+08	4.40E+10
8.64E+05	2.40E+02	3.3392E+07	3.3392E+07	4.15E+07	5.04E+07	0.00E+00	1.59E+08	4.68E+10
1.00E+06	2.78E+02	3.1425E+07	3.1425E+07	4.15E+07	5.04E+07	0.00E+00	1.55E+08	5.27E+10
1.50E+06	4.17E+02	2.6556E+07	2.6556E+07	4.15E+07	5.04E+07	0.00E+00	1.45E+08	7.36E+10
1.73E+06	4.81E+02	2.5050E+07	2.5050E+07	4.15E+07	5.04E+07	0.00E+00	1.42E+08	8.27E+10
2.00E+06	5.56E+02	2.3544E+07	2.3544E+07	4.15E+07	5.04E+07	0.00E+00	1.39E+08	9.33E+10
2.59E+06	7.19E+02	2.1055E+07	2.1055E+07	4.15E+07	5.04E+07	0.00E+00	1.34E+08	1.16E+11
3.46E+06	9.61E+02	1.8457E+07	1.8457E+07	4.15E+07	5.04E+07	0.00E+00	1.29E+08	1.47E+11
4.00E+06	1.11E+03	1.7230E+07	1.7230E+07	4.15E+07	5.04E+07	0.00E+00	1.26E+08	1.67E+11
4.32E+06	1.20E+03	1.6623E+07	1.6623E+07	4.15E+07	5.04E+07	0.00E+00	1.25E+08	1.78E+11
6.00E+06	1.67E+03	1.4207E+07	1.4207E+07	4.15E+07	5.04E+07	0.00E+00	1.20E+08	2.35E+11
8.00E+06	2.22E+03	1.2276E+07	1.2276E+07	4.15E+07	5.04E+07	0.00E+00	1.16E+08	3.01E+11
1.00E+07	2.78E+03	1.0848E+07	1.0848E+07	4.15E+07	5.04E+07	0.00E+00	1.14E+08	3.65E+11
1.50E+07	4.17E+03	8.3941E+06	8.3941E+06	4.15E+07	5.04E+07	0.00E+00	1.09E+08	5.19E+11
2.00E+07	5.56E+03	6.8375E+06	6.8375E+06	4.15E+07	5.04E+07	0.00E+00	1.06E+08	6.68E+11
4.00E+07	1.11E+04	3.9791E+06	3.9791E+06	4.15E+07	5.04E+07	0.00E+00	9.99E+07	1.24E+12
6.00E+07	1.67E+04	2.7649E+06	2.7649E+06	4.15E+07	5.04E+07	0.00E+00	9.75E+07	1.79E+12
8.00E+07	2.22E+04	2.0557E+06	2.0557E+06	4.15E+07	5.04E+07	0.00E+00	9.60E+07	2.32E+12
1.00E+08	2.78E+04	1.6150E+06	1.6150E+06	4.15E+07	5.04E+07	0.00E+00	9.52E+07	2.86E+12
1.50E+08	4.17E+04	1.0677E+06	1.0677E+06	4.15E+07	5.04E+07	0.00E+00	9.41E+07	4.17E+12
2.00E+08	5.56E+04	8.4451E+05	8.4451E+05	4.15E+07	5.04E+07	0.00E+00	9.36E+07	5.47E+12
4.00E+08	1.11E+05	5.8600E+05	5.8600E+05	4.15E+07	5.04E+07	0.00E+00	9.31E+07	1.07E+13
6.00E+08	1.67E+05	4.9627E+05	4.9627E+05	4.15E+07	5.04E+07	0.00E+00	9.29E+07	1.58E+13
8.00E+08	2.22E+05	4.3495E+05	4.3495E+05	4.15E+07	5.04E+07	0.00E+00	9.28E+07	2.10E+13
1.00E+09	2.78E+05	3.8650E+05	3.8650E+05	4.15E+07	5.04E+07	0.00E+00	9.27E+07	2.61E+13



**APPENDIX L9.2: MUR PU PLANT TEMPERATURE RISE RESULTS**

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
0	1	5.77E+08	2.04E+08	7.81E+08	7.81E+08	40.75
1	2	9.85E+08	4.08E+08	1.39E+09	6.13E+08	31.98
2	3	1.35E+09	6.12E+08	1.96E+09	5.65E+08	29.49
3	4	1.69E+09	8.16E+08	2.50E+09	5.44E+08	28.41
4	5	2.01E+09	1.02E+09	3.03E+09	5.27E+08	27.50
5	6	2.32E+09	1.22E+09	3.54E+09	5.12E+08	26.73
6	7	2.61E+09	1.22E+09	3.84E+09	2.94E+08	15.35
7	8	2.91E+09	1.22E+09	4.13E+09	2.94E+08	15.35
8	9	3.20E+09	1.22E+09	4.42E+09	2.94E+08	15.35
9	10	3.49E+09	1.22E+09	4.72E+09	2.94E+08	15.35
10	11	3.79E+09	1.22E+09	5.01E+09	2.94E+08	15.35
11	12	4.06E+09	1.22E+09	5.28E+09	2.71E+08	14.12
12	13	4.33E+09	1.22E+09	5.55E+09	2.68E+08	13.97
13	14	4.59E+09	1.22E+09	5.82E+09	2.68E+08	13.97
14	15	4.86E+09	1.22E+09	6.09E+09	2.68E+08	13.97
15	16	5.13E+09	1.22E+09	6.35E+09	2.68E+08	13.97
16	17	5.39E+09	1.22E+09	6.62E+09	2.62E+08	13.70
17	18	5.64E+09	1.22E+09	6.87E+09	2.52E+08	13.16
18	19	5.90E+09	1.22E+09	7.12E+09	2.52E+08	13.16
19	20	6.15E+09	1.22E+09	7.37E+09	2.52E+08	13.16
20	21	6.40E+09	1.22E+09	7.62E+09	2.52E+08	13.16
21	22	6.65E+09	1.22E+09	7.88E+09	2.52E+08	13.16
22	23	6.90E+09	1.22E+09	8.12E+09	2.46E+08	12.84
23	24	7.14E+09	1.22E+09	8.37E+09	2.44E+08	12.75
24	25	7.38E+09	1.22E+09	8.61E+09	2.40E+08	12.51
25	26	7.62E+09	1.22E+09	8.85E+09	2.40E+08	12.51
26	27	7.86E+09	1.22E+09	9.08E+09	2.40E+08	12.51
27	28	8.10E+09	1.22E+09	9.32E+09	2.37E+08	12.38
28	29	8.33E+09	1.22E+09	9.55E+09	2.28E+08	11.92
29	30	8.55E+09	1.22E+09	9.78E+09	2.28E+08	11.92
30	31	8.78E+09	1.22E+09	1.00E+10	2.28E+08	11.92
31	32	9.01E+09	1.22E+09	1.02E+10	2.28E+08	11.92
32	33	9.24E+09	1.22E+09	1.05E+10	2.28E+08	11.92
33	34	9.47E+09	1.22E+09	1.07E+10	2.28E+08	11.92
34	35	9.70E+09	1.22E+09	1.09E+10	2.28E+08	11.92
35	36	9.92E+09	1.22E+09	1.11E+10	2.28E+08	11.92
36	37	1.02E+10	1.22E+09	1.14E+10	2.28E+08	11.92
37	38	1.04E+10	1.22E+09	1.16E+10	2.28E+08	11.92
38	39	1.06E+10	1.22E+09	1.18E+10	2.28E+08	11.92
39	40	1.08E+10	1.22E+09	1.21E+10	2.28E+08	11.92
40	41	1.11E+10	1.22E+09	1.23E+10	2.28E+08	11.92
41	42	1.13E+10	1.22E+09	1.25E+10	2.25E+08	11.73
42	43	1.15E+10	1.22E+09	1.27E+10	2.17E+08	11.34
43	44	1.17E+10	1.22E+09	1.29E+10	2.17E+08	11.34

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
44	45	1.19E+10	1.22E+09	1.32E+10	2.17E+08	11.34
45	46	1.22E+10	1.22E+09	1.34E+10	2.17E+08	11.34
46	47	1.24E+10	1.22E+09	1.36E+10	2.17E+08	11.34
47	48	1.26E+10	1.22E+09	1.38E+10	2.17E+08	11.34
48	49	1.28E+10	1.22E+09	1.40E+10	2.12E+08	11.07
49	50	1.30E+10	1.22E+09	1.42E+10	2.12E+08	11.05
50	51	1.32E+10	1.22E+09	1.45E+10	2.12E+08	11.05
51	52	1.34E+10	1.22E+09	1.47E+10	2.12E+08	11.05
52	53	1.37E+10	1.22E+09	1.49E+10	2.12E+08	11.05
53	54	1.39E+10	1.22E+09	1.51E+10	2.12E+08	11.05
54	55	1.41E+10	1.22E+09	1.53E+10	2.12E+08	11.05
55	56	1.43E+10	1.22E+09	1.55E+10	2.08E+08	10.87
56	57	1.45E+10	1.22E+09	1.57E+10	2.04E+08	10.65
57	58	1.47E+10	1.22E+09	1.59E+10	2.04E+08	10.65
58	59	1.49E+10	1.22E+09	1.61E+10	2.04E+08	10.65
59	60	1.51E+10	1.22E+09	1.63E+10	2.04E+08	10.65
60	61	1.53E+10	1.22E+09	1.65E+10	2.04E+08	10.65
61	62	1.55E+10	1.22E+09	1.67E+10	2.04E+08	10.65
62	63	1.57E+10	1.22E+09	1.69E+10	2.04E+08	10.65
63	64	1.59E+10	1.22E+09	1.71E+10	2.04E+08	10.65
64	65	1.61E+10	1.22E+09	1.73E+10	2.04E+08	10.65
65	66	1.63E+10	1.22E+09	1.75E+10	2.04E+08	10.65
66	67	1.65E+10	1.22E+09	1.78E+10	2.04E+08	10.65
67	68	1.67E+10	1.22E+09	1.80E+10	2.04E+08	10.65
68	69	1.69E+10	1.22E+09	1.82E+10	2.04E+08	10.65
69	70	1.71E+10	1.22E+09	1.84E+10	2.04E+08	10.65
70	71	1.73E+10	1.22E+09	1.86E+10	2.04E+08	10.65
71	72	1.75E+10	1.22E+09	1.88E+10	2.03E+08	10.62
72	73	1.77E+10	1.22E+09	1.90E+10	1.94E+08	10.12
73	74	1.79E+10	1.22E+09	1.92E+10	1.94E+08	10.12
74	75	1.81E+10	1.22E+09	1.94E+10	1.94E+08	10.12
75	76	1.83E+10	1.22E+09	1.95E+10	1.94E+08	10.12
76	77	1.85E+10	1.22E+09	1.97E+10	1.94E+08	10.12
77	78	1.87E+10	1.22E+09	1.99E+10	1.94E+08	10.12
78	79	1.89E+10	1.22E+09	2.01E+10	1.94E+08	10.12
79	80	1.91E+10	1.22E+09	2.03E+10	1.94E+08	10.12
80	81	1.93E+10	1.22E+09	2.05E+10	1.94E+08	10.12
81	82	1.95E+10	1.22E+09	2.07E+10	1.94E+08	10.12
82	83	1.97E+10	1.22E+09	2.09E+10	1.94E+08	10.12
83	84	1.99E+10	1.22E+09	2.11E+10	1.94E+08	10.12
84	85	2.01E+10	1.22E+09	2.13E+10	1.94E+08	10.12
85	86	2.03E+10	1.22E+09	2.15E+10	1.94E+08	10.12
86	87	2.05E+10	1.22E+09	2.17E+10	1.94E+08	10.12
87	88	2.06E+10	1.22E+09	2.19E+10	1.94E+08	10.12
88	89	2.08E+10	1.22E+09	2.21E+10	1.94E+08	10.12

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
89	90	2.10E+10	1.22E+09	2.23E+10	1.94E+08	10.12
90	91	2.12E+10	1.22E+09	2.25E+10	1.94E+08	10.12
91	92	2.14E+10	1.22E+09	2.26E+10	1.94E+08	10.12
92	93	2.16E+10	1.22E+09	2.28E+10	1.94E+08	10.12
93	94	2.18E+10	1.22E+09	2.30E+10	1.94E+08	10.12
94	95	2.20E+10	1.22E+09	2.32E+10	1.94E+08	10.12
95	96	2.22E+10	1.22E+09	2.34E+10	1.94E+08	10.12
96	97	2.24E+10	1.22E+09	2.36E+10	1.87E+08	9.75
97	98	2.26E+10	1.22E+09	2.38E+10	1.86E+08	9.70
98	99	2.28E+10	1.22E+09	2.40E+10	1.86E+08	9.70
99	100	2.29E+10	1.22E+09	2.42E+10	1.86E+08	9.70
100	101	2.31E+10	1.22E+09	2.44E+10	1.86E+08	9.70
101	102	2.33E+10	1.22E+09	2.45E+10	1.86E+08	9.70
102	103	2.35E+10	1.22E+09	2.47E+10	1.86E+08	9.70
103	104	2.37E+10	1.22E+09	2.49E+10	1.86E+08	9.70
104	105	2.39E+10	1.22E+09	2.51E+10	1.86E+08	9.70
105	106	2.41E+10	1.22E+09	2.53E+10	1.86E+08	9.70
106	107	2.42E+10	1.22E+09	2.55E+10	1.86E+08	9.70
107	108	2.44E+10	1.22E+09	2.57E+10	1.86E+08	9.70
108	109	2.46E+10	1.22E+09	2.58E+10	1.86E+08	9.70
109	110	2.48E+10	1.22E+09	2.60E+10	1.86E+08	9.70
110	111	2.50E+10	1.22E+09	2.62E+10	1.86E+08	9.70
111	112	2.52E+10	1.22E+09	2.64E+10	1.82E+08	9.52
112	113	2.54E+10	1.22E+09	2.66E+10	1.82E+08	9.50
113	114	2.55E+10	1.22E+09	2.68E+10	1.82E+08	9.50
114	115	2.57E+10	1.22E+09	2.69E+10	1.82E+08	9.50
115	116	2.59E+10	1.22E+09	2.71E+10	1.82E+08	9.50
116	117	2.61E+10	1.22E+09	2.73E+10	1.82E+08	9.50
117	118	2.63E+10	1.22E+09	2.75E+10	1.82E+08	9.50
118	119	2.64E+10	1.22E+09	2.77E+10	1.82E+08	9.50
119	120	2.66E+10	1.22E+09	2.79E+10	1.82E+08	9.50
120	121	2.68E+10	1.22E+09	2.80E+10	1.75E+08	9.14
121	122	2.70E+10	1.22E+09	2.82E+10	1.75E+08	9.14
122	123	2.72E+10	1.22E+09	2.84E+10	1.75E+08	9.14
123	124	2.73E+10	1.22E+09	2.86E+10	1.75E+08	9.14
124	125	2.75E+10	1.22E+09	2.87E+10	1.75E+08	9.14
125	126	2.77E+10	1.22E+09	2.89E+10	1.75E+08	9.14
126	127	2.79E+10	1.22E+09	2.91E+10	1.75E+08	9.14
127	128	2.80E+10	1.22E+09	2.93E+10	1.75E+08	9.14
128	129	2.82E+10	1.22E+09	2.94E+10	1.75E+08	9.14
129	130	2.84E+10	1.22E+09	2.96E+10	1.75E+08	9.14
130	131	2.86E+10	1.22E+09	2.98E+10	1.75E+08	9.14
131	132	2.87E+10	1.22E+09	3.00E+10	1.75E+08	9.14
132	133	2.89E+10	1.22E+09	3.01E+10	1.75E+08	9.14
133	134	2.91E+10	1.22E+09	3.03E+10	1.75E+08	9.14

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
134	135	2.93E+10	1.22E+09	3.05E+10	1.75E+08	9.14
135	136	2.94E+10	1.22E+09	3.07E+10	1.75E+08	9.14
136	137	2.96E+10	1.22E+09	3.08E+10	1.75E+08	9.14
137	138	2.98E+10	1.22E+09	3.10E+10	1.75E+08	9.14
138	139	3.00E+10	1.22E+09	3.12E+10	1.75E+08	9.14
139	140	3.01E+10	1.22E+09	3.14E+10	1.75E+08	9.14
140	141	3.03E+10	1.22E+09	3.15E+10	1.75E+08	9.14
141	142	3.05E+10	1.22E+09	3.17E+10	1.75E+08	9.14
142	143	3.07E+10	1.22E+09	3.19E+10	1.75E+08	9.14
143	144	3.08E+10	1.22E+09	3.21E+10	1.75E+08	9.14
144	145	3.10E+10	1.22E+09	3.22E+10	1.75E+08	9.14
145	146	3.12E+10	1.22E+09	3.24E+10	1.75E+08	9.14
146	147	3.14E+10	1.22E+09	3.26E+10	1.75E+08	9.14
147	148	3.15E+10	1.22E+09	3.28E+10	1.75E+08	9.14
148	149	3.17E+10	1.22E+09	3.29E+10	1.75E+08	9.14
149	150	3.19E+10	1.22E+09	3.31E+10	1.75E+08	9.14
150	151	3.21E+10	1.22E+09	3.33E+10	1.75E+08	9.14
151	152	3.22E+10	1.22E+09	3.35E+10	1.75E+08	9.14
152	153	3.24E+10	1.22E+09	3.36E+10	1.75E+08	9.14
153	154	3.26E+10	1.22E+09	3.38E+10	1.75E+08	9.14
154	155	3.28E+10	1.22E+09	3.40E+10	1.75E+08	9.14
155	156	3.29E+10	1.22E+09	3.42E+10	1.75E+08	9.14
156	157	3.31E+10	1.22E+09	3.43E+10	1.75E+08	9.14
157	158	3.33E+10	1.22E+09	3.45E+10	1.75E+08	9.14
158	159	3.35E+10	1.22E+09	3.47E+10	1.75E+08	9.14
159	160	3.36E+10	1.22E+09	3.49E+10	1.75E+08	9.14
160	161	3.38E+10	1.22E+09	3.50E+10	1.75E+08	9.14
161	162	3.40E+10	1.22E+09	3.52E+10	1.75E+08	9.14
162	163	3.42E+10	1.22E+09	3.54E+10	1.75E+08	9.14
163	164	3.43E+10	1.22E+09	3.56E+10	1.75E+08	9.14
164	165	3.45E+10	1.22E+09	3.57E+10	1.75E+08	9.14
165	166	3.47E+10	1.22E+09	3.59E+10	1.75E+08	9.14
166	167	3.49E+10	1.22E+09	3.61E+10	1.72E+08	8.97
167	168	3.50E+10	1.22E+09	3.62E+10	1.65E+08	8.63
168	169	3.52E+10	1.22E+09	3.64E+10	1.65E+08	8.63
169	170	3.54E+10	1.22E+09	3.66E+10	1.65E+08	8.63
170	171	3.55E+10	1.22E+09	3.67E+10	1.65E+08	8.63
171	172	3.57E+10	1.22E+09	3.69E+10	1.65E+08	8.63
172	173	3.58E+10	1.22E+09	3.71E+10	1.65E+08	8.63
173	174	3.60E+10	1.22E+09	3.72E+10	1.65E+08	8.63
174	175	3.62E+10	1.22E+09	3.74E+10	1.65E+08	8.63
175	176	3.63E+10	1.22E+09	3.76E+10	1.65E+08	8.63
176	177	3.65E+10	1.22E+09	3.77E+10	1.65E+08	8.63
177	178	3.67E+10	1.22E+09	3.79E+10	1.65E+08	8.63
178	179	3.68E+10	1.22E+09	3.81E+10	1.65E+08	8.63

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
179	180	3.70E+10	1.22E+09	3.82E+10	1.65E+08	8.63
180	181	3.72E+10	1.22E+09	3.84E+10	1.65E+08	8.63
181	182	3.73E+10	1.22E+09	3.86E+10	1.65E+08	8.63
182	183	3.75E+10	1.22E+09	3.87E+10	1.65E+08	8.63
183	184	3.77E+10	1.22E+09	3.89E+10	1.65E+08	8.63
184	185	3.78E+10	1.22E+09	3.91E+10	1.65E+08	8.63
185	186	3.80E+10	1.22E+09	3.92E+10	1.65E+08	8.63
186	187	3.82E+10	1.22E+09	3.94E+10	1.65E+08	8.63
187	188	3.83E+10	1.22E+09	3.96E+10	1.65E+08	8.63
188	189	3.85E+10	1.22E+09	3.97E+10	1.65E+08	8.63
189	190	3.87E+10	1.22E+09	3.99E+10	1.65E+08	8.63
190	191	3.88E+10	1.22E+09	4.00E+10	1.65E+08	8.63
191	192	3.90E+10	1.22E+09	4.02E+10	1.65E+08	8.63
192	193	3.92E+10	1.22E+09	4.04E+10	1.65E+08	8.63
193	194	3.93E+10	1.22E+09	4.05E+10	1.65E+08	8.63
194	195	3.95E+10	1.22E+09	4.07E+10	1.65E+08	8.63
195	196	3.96E+10	1.22E+09	4.09E+10	1.65E+08	8.63
196	197	3.98E+10	1.22E+09	4.10E+10	1.65E+08	8.63
197	198	4.00E+10	1.22E+09	4.12E+10	1.65E+08	8.63
198	199	4.01E+10	1.22E+09	4.14E+10	1.65E+08	8.63
199	200	4.03E+10	1.22E+09	4.15E+10	1.65E+08	8.63
200	201	4.05E+10	1.22E+09	4.17E+10	1.65E+08	8.63
201	202	4.06E+10	1.22E+09	4.19E+10	1.65E+08	8.63
202	203	4.08E+10	1.22E+09	4.20E+10	1.65E+08	8.63
203	204	4.10E+10	1.22E+09	4.22E+10	1.65E+08	8.63
204	205	4.11E+10	1.22E+09	4.24E+10	1.65E+08	8.63
205	206	4.13E+10	1.22E+09	4.25E+10	1.65E+08	8.63
206	207	4.15E+10	1.22E+09	4.27E+10	1.65E+08	8.63
207	208	4.16E+10	1.22E+09	4.29E+10	1.65E+08	8.63
208	209	4.18E+10	1.22E+09	4.30E+10	1.65E+08	8.63
209	210	4.20E+10	1.22E+09	4.32E+10	1.65E+08	8.63
210	211	4.21E+10	1.22E+09	4.34E+10	1.65E+08	8.63
211	212	4.23E+10	1.22E+09	4.35E+10	1.65E+08	8.63
212	213	4.25E+10	1.22E+09	4.37E+10	1.65E+08	8.63
213	214	4.26E+10	1.22E+09	4.38E+10	1.65E+08	8.63
214	215	4.28E+10	1.22E+09	4.40E+10	1.65E+08	8.63
215	216	4.30E+10	1.22E+09	4.42E+10	1.65E+08	8.63
216	217	4.31E+10	1.22E+09	4.43E+10	1.65E+08	8.63
217	218	4.33E+10	1.22E+09	4.45E+10	1.65E+08	8.63
218	219	4.35E+10	1.22E+09	4.47E+10	1.65E+08	8.63
219	220	4.36E+10	1.22E+09	4.48E+10	1.65E+08	8.63
220	221	4.38E+10	1.22E+09	4.50E+10	1.65E+08	8.63
221	222	4.39E+10	1.22E+09	4.52E+10	1.65E+08	8.63
222	223	4.41E+10	1.22E+09	4.53E+10	1.61E+08	8.41
223	224	4.43E+10	1.22E+09	4.55E+10	1.60E+08	8.34

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
224	225	4.44E+10	1.22E+09	4.57E+10	1.60E+08	8.34
225	226	4.46E+10	1.22E+09	4.58E+10	1.60E+08	8.34
226	227	4.47E+10	1.22E+09	4.60E+10	1.60E+08	8.34
227	228	4.49E+10	1.22E+09	4.61E+10	1.60E+08	8.34
228	229	4.51E+10	1.22E+09	4.63E+10	1.60E+08	8.34
229	230	4.52E+10	1.22E+09	4.65E+10	1.60E+08	8.34
230	231	4.54E+10	1.22E+09	4.66E+10	1.60E+08	8.34
231	232	4.55E+10	1.22E+09	4.68E+10	1.60E+08	8.34
232	233	4.57E+10	1.22E+09	4.69E+10	1.60E+08	8.34
233	234	4.59E+10	1.22E+09	4.71E+10	1.60E+08	8.34
234	235	4.60E+10	1.22E+09	4.72E+10	1.60E+08	8.34
235	236	4.62E+10	1.22E+09	4.74E+10	1.60E+08	8.34
236	237	4.63E+10	1.22E+09	4.76E+10	1.60E+08	8.34
237	238	4.65E+10	1.22E+09	4.77E+10	1.60E+08	8.34
238	239	4.67E+10	1.22E+09	4.79E+10	1.60E+08	8.34
239	240	4.68E+10	1.22E+09	4.80E+10	1.60E+08	8.34
240	241	4.70E+10	1.22E+09	4.82E+10	1.57E+08	8.18
241	242	4.71E+10	1.22E+09	4.84E+10	1.57E+08	8.18
242	243	4.73E+10	1.22E+09	4.85E+10	1.57E+08	8.18
243	244	4.75E+10	1.22E+09	4.87E+10	1.57E+08	8.18
244	245	4.76E+10	1.22E+09	4.88E+10	1.57E+08	8.18
245	246	4.78E+10	1.22E+09	4.90E+10	1.57E+08	8.18
246	247	4.79E+10	1.22E+09	4.91E+10	1.57E+08	8.18
247	248	4.81E+10	1.22E+09	4.93E+10	1.57E+08	8.18
248	249	4.82E+10	1.22E+09	4.95E+10	1.57E+08	8.18
249	250	4.84E+10	1.22E+09	4.96E+10	1.57E+08	8.18
250	251	4.85E+10	1.22E+09	4.98E+10	1.57E+08	8.18
251	252	4.87E+10	1.22E+09	4.99E+10	1.57E+08	8.18
252	253	4.89E+10	1.22E+09	5.01E+10	1.57E+08	8.18
253	254	4.90E+10	1.22E+09	5.02E+10	1.57E+08	8.18
254	255	4.92E+10	1.22E+09	5.04E+10	1.57E+08	8.18
255	256	4.93E+10	1.22E+09	5.06E+10	1.57E+08	8.18
256	257	4.95E+10	1.22E+09	5.07E+10	1.57E+08	8.18
257	258	4.96E+10	1.22E+09	5.09E+10	1.57E+08	8.18
258	259	4.98E+10	1.22E+09	5.10E+10	1.57E+08	8.18
259	260	5.00E+10	1.22E+09	5.12E+10	1.57E+08	8.18
260	261	5.01E+10	1.22E+09	5.13E+10	1.57E+08	8.18
261	262	5.03E+10	1.22E+09	5.15E+10	1.57E+08	8.18
262	263	5.04E+10	1.22E+09	5.17E+10	1.57E+08	8.18
263	264	5.06E+10	1.22E+09	5.18E+10	1.57E+08	8.18
264	265	5.07E+10	1.22E+09	5.20E+10	1.57E+08	8.18
265	266	5.09E+10	1.22E+09	5.21E+10	1.57E+08	8.18
266	267	5.11E+10	1.22E+09	5.23E+10	1.57E+08	8.18
267	268	5.12E+10	1.22E+09	5.24E+10	1.57E+08	8.18
268	269	5.14E+10	1.22E+09	5.26E+10	1.57E+08	8.18

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
269	270	5.15E+10	1.22E+09	5.28E+10	1.57E+08	8.18
270	271	5.17E+10	1.22E+09	5.29E+10	1.57E+08	8.18
271	272	5.18E+10	1.22E+09	5.31E+10	1.57E+08	8.18
272	273	5.20E+10	1.22E+09	5.32E+10	1.57E+08	8.18
273	274	5.22E+10	1.22E+09	5.34E+10	1.57E+08	8.18
274	275	5.23E+10	1.22E+09	5.35E+10	1.57E+08	8.18
275	276	5.25E+10	1.22E+09	5.37E+10	1.57E+08	8.18
276	277	5.26E+10	1.22E+09	5.38E+10	1.57E+08	8.18
277	278	5.28E+10	1.22E+09	5.40E+10	1.55E+08	8.10
278	279	5.29E+10	1.22E+09	5.42E+10	1.50E+08	7.83
279	280	5.31E+10	1.22E+09	5.43E+10	1.50E+08	7.83
280	281	5.32E+10	1.22E+09	5.45E+10	1.50E+08	7.83
281	282	5.34E+10	1.22E+09	5.46E+10	1.50E+08	7.83
282	283	5.35E+10	1.22E+09	5.48E+10	1.50E+08	7.83
283	284	5.37E+10	1.22E+09	5.49E+10	1.50E+08	7.83
284	285	5.38E+10	1.22E+09	5.51E+10	1.50E+08	7.83
285	286	5.40E+10	1.22E+09	5.52E+10	1.50E+08	7.83
286	287	5.41E+10	1.22E+09	5.54E+10	1.50E+08	7.83
287	288	5.43E+10	1.22E+09	5.55E+10	1.50E+08	7.83
288	289	5.44E+10	1.22E+09	5.57E+10	1.50E+08	7.83
289	290	5.46E+10	1.22E+09	5.58E+10	1.50E+08	7.83
290	291	5.47E+10	1.22E+09	5.60E+10	1.50E+08	7.83
291	292	5.49E+10	1.22E+09	5.61E+10	1.50E+08	7.83
292	293	5.50E+10	1.22E+09	5.63E+10	1.50E+08	7.83
293	294	5.52E+10	1.22E+09	5.64E+10	1.50E+08	7.83
294	295	5.53E+10	1.22E+09	5.66E+10	1.50E+08	7.83
295	296	5.55E+10	1.22E+09	5.67E+10	1.50E+08	7.83
296	297	5.56E+10	1.22E+09	5.69E+10	1.50E+08	7.83
297	298	5.58E+10	1.22E+09	5.70E+10	1.50E+08	7.83
298	299	5.59E+10	1.22E+09	5.72E+10	1.50E+08	7.83
299	300	5.61E+10	1.22E+09	5.73E+10	1.50E+08	7.83
300	301	5.62E+10	1.22E+09	5.75E+10	1.50E+08	7.83
301	302	5.64E+10	1.22E+09	5.76E+10	1.50E+08	7.83
302	303	5.65E+10	1.22E+09	5.78E+10	1.50E+08	7.83
303	304	5.67E+10	1.22E+09	5.79E+10	1.50E+08	7.83
304	305	5.68E+10	1.22E+09	5.81E+10	1.50E+08	7.83
305	306	5.70E+10	1.22E+09	5.82E+10	1.50E+08	7.83
306	307	5.71E+10	1.22E+09	5.84E+10	1.50E+08	7.83
307	308	5.73E+10	1.22E+09	5.85E+10	1.50E+08	7.83
308	309	5.74E+10	1.22E+09	5.86E+10	1.50E+08	7.83
309	310	5.76E+10	1.22E+09	5.88E+10	1.50E+08	7.83
310	311	5.77E+10	1.22E+09	5.89E+10	1.50E+08	7.83
311	312	5.79E+10	1.22E+09	5.91E+10	1.50E+08	7.83
312	313	5.80E+10	1.22E+09	5.92E+10	1.50E+08	7.83
313	314	5.82E+10	1.22E+09	5.94E+10	1.50E+08	7.83

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
314	315	5.83E+10	1.22E+09	5.95E+10	1.50E+08	7.83
315	316	5.85E+10	1.22E+09	5.97E+10	1.50E+08	7.83
316	317	5.86E+10	1.22E+09	5.98E+10	1.50E+08	7.83
317	318	5.88E+10	1.22E+09	6.00E+10	1.50E+08	7.83
318	319	5.89E+10	1.22E+09	6.01E+10	1.50E+08	7.83
319	320	5.91E+10	1.22E+09	6.03E+10	1.50E+08	7.83
320	321	5.92E+10	1.22E+09	6.04E+10	1.50E+08	7.83
321	322	5.94E+10	1.22E+09	6.06E+10	1.50E+08	7.83
322	323	5.95E+10	1.22E+09	6.07E+10	1.50E+08	7.83
323	324	5.97E+10	1.22E+09	6.09E+10	1.50E+08	7.83
324	325	5.98E+10	1.22E+09	6.10E+10	1.50E+08	7.83
325	326	6.00E+10	1.22E+09	6.12E+10	1.50E+08	7.83
326	327	6.01E+10	1.22E+09	6.13E+10	1.50E+08	7.83
327	328	6.03E+10	1.22E+09	6.15E+10	1.50E+08	7.83
328	329	6.04E+10	1.22E+09	6.16E+10	1.50E+08	7.83
329	330	6.06E+10	1.22E+09	6.18E+10	1.50E+08	7.83
330	331	6.07E+10	1.22E+09	6.19E+10	1.50E+08	7.83
331	332	6.09E+10	1.22E+09	6.21E+10	1.50E+08	7.83
332	333	6.10E+10	1.22E+09	6.22E+10	1.50E+08	7.83
333	334	6.12E+10	1.22E+09	6.24E+10	1.50E+08	7.83
334	335	6.13E+10	1.22E+09	6.25E+10	1.50E+08	7.83
335	336	6.15E+10	1.22E+09	6.27E+10	1.50E+08	7.83
336	337	6.16E+10	1.22E+09	6.28E+10	1.50E+08	7.83
337	338	6.18E+10	1.22E+09	6.30E+10	1.50E+08	7.83
338	339	6.19E+10	1.22E+09	6.31E+10	1.50E+08	7.83
339	340	6.21E+10	1.22E+09	6.33E+10	1.50E+08	7.83
340	341	6.22E+10	1.22E+09	6.34E+10	1.50E+08	7.83
341	342	6.24E+10	1.22E+09	6.36E+10	1.50E+08	7.83
342	343	6.25E+10	1.22E+09	6.37E+10	1.50E+08	7.83
343	344	6.27E+10	1.22E+09	6.39E+10	1.50E+08	7.83
344	345	6.28E+10	1.22E+09	6.40E+10	1.50E+08	7.83
345	346	6.30E+10	1.22E+09	6.42E+10	1.50E+08	7.83
346	347	6.31E+10	1.22E+09	6.43E+10	1.50E+08	7.83
347	348	6.33E+10	1.22E+09	6.45E+10	1.50E+08	7.83
348	349	6.34E+10	1.22E+09	6.46E+10	1.50E+08	7.83
349	350	6.36E+10	1.22E+09	6.48E+10	1.50E+08	7.83
350	351	6.37E+10	1.22E+09	6.49E+10	1.50E+08	7.83
351	352	6.39E+10	1.22E+09	6.51E+10	1.50E+08	7.83
352	353	6.40E+10	1.22E+09	6.52E+10	1.50E+08	7.83
353	354	6.42E+10	1.22E+09	6.54E+10	1.50E+08	7.83
354	355	6.43E+10	1.22E+09	6.55E+10	1.50E+08	7.83
355	356	6.45E+10	1.22E+09	6.57E+10	1.50E+08	7.83
356	357	6.46E+10	1.22E+09	6.58E+10	1.50E+08	7.83
357	358	6.48E+10	1.22E+09	6.60E+10	1.50E+08	7.83
358	359	6.49E+10	1.22E+09	6.61E+10	1.50E+08	7.83



Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
359	360	6.51E+10	1.22E+09	6.63E+10	1.50E+08	7.83
360	361	6.52E+10	1.22E+09	6.64E+10	1.50E+08	7.83
361	362	6.54E+10	1.22E+09	6.66E+10	1.50E+08	7.83
362	363	6.55E+10	1.22E+09	6.67E+10	1.50E+08	7.83
363	364	6.57E+10	1.22E+09	6.69E+10	1.50E+08	7.83
364	365	6.58E+10	1.22E+09	6.70E+10	1.50E+08	7.83
365	366	6.60E+10	1.22E+09	6.72E+10	1.50E+08	7.83
366	367	6.61E+10	1.22E+09	6.73E+10	1.50E+08	7.83
367	368	6.63E+10	1.22E+09	6.75E+10	1.50E+08	7.83
368	369	6.64E+10	1.22E+09	6.76E+10	1.50E+08	7.83
369	370	6.66E+10	1.22E+09	6.78E+10	1.50E+08	7.83
370	371	6.67E+10	1.22E+09	6.79E+10	1.50E+08	7.83
371	372	6.69E+10	1.22E+09	6.81E+10	1.50E+08	7.83
372	373	6.70E+10	1.22E+09	6.82E+10	1.50E+08	7.83
373	374	6.72E+10	1.22E+09	6.84E+10	1.50E+08	7.83
374	375	6.73E+10	1.22E+09	6.85E+10	1.50E+08	7.83
375	376	6.75E+10	1.22E+09	6.87E+10	1.50E+08	7.83
376	377	6.76E+10	1.22E+09	6.88E+10	1.50E+08	7.83
377	378	6.78E+10	1.22E+09	6.90E+10	1.50E+08	7.83
378	379	6.79E+10	1.22E+09	6.91E+10	1.50E+08	7.83
379	380	6.81E+10	1.22E+09	6.93E+10	1.50E+08	7.83
380	381	6.82E+10	1.22E+09	6.94E+10	1.50E+08	7.83
381	382	6.84E+10	1.22E+09	6.96E+10	1.50E+08	7.83
382	383	6.85E+10	1.22E+09	6.97E+10	1.50E+08	7.83
383	384	6.87E+10	1.22E+09	6.99E+10	1.50E+08	7.83
384	385	6.88E+10	1.22E+09	7.00E+10	1.50E+08	7.83
385	386	6.90E+10	1.22E+09	7.02E+10	1.50E+08	7.83
386	387	6.91E+10	1.22E+09	7.03E+10	1.50E+08	7.83
387	388	6.93E+10	1.22E+09	7.05E+10	1.50E+08	7.83
388	389	6.94E+10	1.22E+09	7.06E+10	1.50E+08	7.83
389	390	6.96E+10	1.22E+09	7.08E+10	1.50E+08	7.83
390	391	6.97E+10	1.22E+09	7.09E+10	1.50E+08	7.83
391	392	6.99E+10	1.22E+09	7.11E+10	1.50E+08	7.83
392	393	7.00E+10	1.22E+09	7.12E+10	1.50E+08	7.83
393	394	7.02E+10	1.22E+09	7.14E+10	1.50E+08	7.83
394	395	7.03E+10	1.22E+09	7.15E+10	1.50E+08	7.83
395	396	7.05E+10	1.22E+09	7.17E+10	1.50E+08	7.83
396	397	7.06E+10	1.22E+09	7.18E+10	1.50E+08	7.83
397	398	7.08E+10	1.22E+09	7.20E+10	1.50E+08	7.83
398	399	7.09E+10	1.22E+09	7.21E+10	1.50E+08	7.83
399	400	7.11E+10	1.22E+09	7.23E+10	1.50E+08	7.83
400	401	7.12E+10	1.22E+09	7.24E+10	1.50E+08	7.83
401	402	7.14E+10	1.22E+09	7.26E+10	1.50E+08	7.83
402	403	7.15E+10	1.22E+09	7.27E+10	1.50E+08	7.83
403	404	7.17E+10	1.22E+09	7.29E+10	1.50E+08	7.83

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
404	405	7.18E+10	1.22E+09	7.30E+10	1.50E+08	7.83
405	406	7.20E+10	1.22E+09	7.32E+10	1.50E+08	7.83
406	407	7.21E+10	1.22E+09	7.33E+10	1.50E+08	7.83
407	408	7.23E+10	1.22E+09	7.35E+10	1.50E+08	7.83
408	409	7.24E+10	1.22E+09	7.36E+10	1.50E+08	7.83
409	410	7.26E+10	1.22E+09	7.38E+10	1.50E+08	7.83
410	411	7.27E+10	1.22E+09	7.39E+10	1.50E+08	7.83
411	412	7.29E+10	1.22E+09	7.41E+10	1.50E+08	7.83
412	413	7.30E+10	1.22E+09	7.42E+10	1.50E+08	7.83
413	414	7.32E+10	1.22E+09	7.44E+10	1.50E+08	7.83
414	415	7.33E+10	1.22E+09	7.45E+10	1.50E+08	7.83
415	416	7.35E+10	1.22E+09	7.47E+10	1.50E+08	7.83
416	417	7.36E+10	1.22E+09	7.48E+10	1.48E+08	7.71
417	418	7.38E+10	1.22E+09	7.50E+10	1.44E+08	7.49
418	419	7.39E+10	1.22E+09	7.51E+10	1.44E+08	7.49
419	420	7.40E+10	1.22E+09	7.53E+10	1.44E+08	7.49
420	421	7.42E+10	1.22E+09	7.54E+10	1.44E+08	7.49
421	422	7.43E+10	1.22E+09	7.56E+10	1.44E+08	7.49
422	423	7.45E+10	1.22E+09	7.57E+10	1.44E+08	7.49
423	424	7.46E+10	1.22E+09	7.58E+10	1.44E+08	7.49
424	425	7.48E+10	1.22E+09	7.60E+10	1.44E+08	7.49
425	426	7.49E+10	1.22E+09	7.61E+10	1.44E+08	7.49
426	427	7.50E+10	1.22E+09	7.63E+10	1.44E+08	7.49
427	428	7.52E+10	1.22E+09	7.64E+10	1.44E+08	7.49
428	429	7.53E+10	1.22E+09	7.66E+10	1.44E+08	7.49
429	430	7.55E+10	1.22E+09	7.67E+10	1.44E+08	7.49
430	431	7.56E+10	1.22E+09	7.68E+10	1.44E+08	7.49
431	432	7.58E+10	1.22E+09	7.70E+10	1.44E+08	7.49
432	433	7.59E+10	1.22E+09	7.71E+10	1.44E+08	7.49
433	434	7.61E+10	1.22E+09	7.73E+10	1.44E+08	7.49
434	435	7.62E+10	1.22E+09	7.74E+10	1.44E+08	7.49
435	436	7.63E+10	1.22E+09	7.76E+10	1.44E+08	7.49
436	437	7.65E+10	1.22E+09	7.77E+10	1.44E+08	7.49
437	438	7.66E+10	1.22E+09	7.79E+10	1.44E+08	7.49
438	439	7.68E+10	1.22E+09	7.80E+10	1.44E+08	7.49
439	440	7.69E+10	1.22E+09	7.81E+10	1.44E+08	7.49
440	441	7.71E+10	1.22E+09	7.83E+10	1.44E+08	7.49
441	442	7.72E+10	1.22E+09	7.84E+10	1.44E+08	7.49
442	443	7.73E+10	1.22E+09	7.86E+10	1.44E+08	7.49
443	444	7.75E+10	1.22E+09	7.87E+10	1.44E+08	7.49
444	445	7.76E+10	1.22E+09	7.89E+10	1.44E+08	7.49
445	446	7.78E+10	1.22E+09	7.90E+10	1.44E+08	7.49
446	447	7.79E+10	1.22E+09	7.91E+10	1.44E+08	7.49
447	448	7.81E+10	1.22E+09	7.93E+10	1.44E+08	7.49
448	449	7.82E+10	1.22E+09	7.94E+10	1.44E+08	7.49

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
449	450	7.83E+10	1.22E+09	7.96E+10	1.44E+08	7.49
450	451	7.85E+10	1.22E+09	7.97E+10	1.44E+08	7.49
451	452	7.86E+10	1.22E+09	7.99E+10	1.44E+08	7.49
452	453	7.88E+10	1.22E+09	8.00E+10	1.44E+08	7.49
453	454	7.89E+10	1.22E+09	8.01E+10	1.44E+08	7.49
454	455	7.91E+10	1.22E+09	8.03E+10	1.44E+08	7.49
455	456	7.92E+10	1.22E+09	8.04E+10	1.44E+08	7.49
456	457	7.94E+10	1.22E+09	8.06E+10	1.44E+08	7.49
457	458	7.95E+10	1.22E+09	8.07E+10	1.44E+08	7.49
458	459	7.96E+10	1.22E+09	8.09E+10	1.44E+08	7.49
459	460	7.98E+10	1.22E+09	8.10E+10	1.44E+08	7.49
460	461	7.99E+10	1.22E+09	8.12E+10	1.44E+08	7.49
461	462	8.01E+10	1.22E+09	8.13E+10	1.44E+08	7.49
462	463	8.02E+10	1.22E+09	8.14E+10	1.44E+08	7.49
463	464	8.04E+10	1.22E+09	8.16E+10	1.44E+08	7.49
464	465	8.05E+10	1.22E+09	8.17E+10	1.44E+08	7.49
465	466	8.06E+10	1.22E+09	8.19E+10	1.44E+08	7.49
466	467	8.08E+10	1.22E+09	8.20E+10	1.44E+08	7.49
467	468	8.09E+10	1.22E+09	8.22E+10	1.44E+08	7.49
468	469	8.11E+10	1.22E+09	8.23E+10	1.44E+08	7.49
469	470	8.12E+10	1.22E+09	8.24E+10	1.44E+08	7.49
470	471	8.14E+10	1.22E+09	8.26E+10	1.44E+08	7.49
471	472	8.15E+10	1.22E+09	8.27E+10	1.44E+08	7.49
472	473	8.17E+10	1.22E+09	8.29E+10	1.44E+08	7.49
473	474	8.18E+10	1.22E+09	8.30E+10	1.44E+08	7.49
474	475	8.19E+10	1.22E+09	8.32E+10	1.44E+08	7.49
475	476	8.21E+10	1.22E+09	8.33E+10	1.44E+08	7.49
476	477	8.22E+10	1.22E+09	8.34E+10	1.44E+08	7.49
477	478	8.24E+10	1.22E+09	8.36E+10	1.44E+08	7.49
478	479	8.25E+10	1.22E+09	8.37E+10	1.44E+08	7.49
479	480	8.27E+10	1.22E+09	8.39E+10	1.44E+08	7.49
480	481	8.28E+10	1.22E+09	8.40E+10	1.42E+08	7.42
481	482	8.29E+10	1.22E+09	8.42E+10	1.41E+08	7.34
482	483	8.31E+10	1.22E+09	8.43E+10	1.41E+08	7.34
483	484	8.32E+10	1.22E+09	8.44E+10	1.41E+08	7.34
484	485	8.34E+10	1.22E+09	8.46E+10	1.41E+08	7.34
485	486	8.35E+10	1.22E+09	8.47E+10	1.41E+08	7.34
486	487	8.36E+10	1.22E+09	8.49E+10	1.41E+08	7.34
487	488	8.38E+10	1.22E+09	8.50E+10	1.41E+08	7.34
488	489	8.39E+10	1.22E+09	8.51E+10	1.41E+08	7.34
489	490	8.41E+10	1.22E+09	8.53E+10	1.41E+08	7.34
490	491	8.42E+10	1.22E+09	8.54E+10	1.41E+08	7.34
491	492	8.43E+10	1.22E+09	8.56E+10	1.41E+08	7.34
492	493	8.45E+10	1.22E+09	8.57E+10	1.41E+08	7.34
493	494	8.46E+10	1.22E+09	8.58E+10	1.41E+08	7.34

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
494	495	8.48E+10	1.22E+09	8.60E+10	1.41E+08	7.34
495	496	8.49E+10	1.22E+09	8.61E+10	1.41E+08	7.34
496	497	8.50E+10	1.22E+09	8.63E+10	1.41E+08	7.34
497	498	8.52E+10	1.22E+09	8.64E+10	1.41E+08	7.34
498	499	8.53E+10	1.22E+09	8.66E+10	1.41E+08	7.34
499	500	8.55E+10	1.22E+09	8.67E+10	1.41E+08	7.34
500	501	8.56E+10	1.22E+09	8.68E+10	1.41E+08	7.34
501	502	8.57E+10	1.22E+09	8.70E+10	1.41E+08	7.34
502	503	8.59E+10	1.22E+09	8.71E+10	1.41E+08	7.34
503	504	8.60E+10	1.22E+09	8.73E+10	1.41E+08	7.34
504	505	8.62E+10	1.22E+09	8.74E+10	1.41E+08	7.34
505	506	8.63E+10	1.22E+09	8.75E+10	1.41E+08	7.34
506	507	8.65E+10	1.22E+09	8.77E+10	1.41E+08	7.34
507	508	8.66E+10	1.22E+09	8.78E+10	1.41E+08	7.34
508	509	8.67E+10	1.22E+09	8.80E+10	1.41E+08	7.34
509	510	8.69E+10	1.22E+09	8.81E+10	1.41E+08	7.34
510	511	8.70E+10	1.22E+09	8.82E+10	1.41E+08	7.34
511	512	8.72E+10	1.22E+09	8.84E+10	1.41E+08	7.34
512	513	8.73E+10	1.22E+09	8.85E+10	1.41E+08	7.34
513	514	8.74E+10	1.22E+09	8.87E+10	1.41E+08	7.34
514	515	8.76E+10	1.22E+09	8.88E+10	1.41E+08	7.34
515	516	8.77E+10	1.22E+09	8.89E+10	1.41E+08	7.34
516	517	8.79E+10	1.22E+09	8.91E+10	1.41E+08	7.34
517	518	8.80E+10	1.22E+09	8.92E+10	1.41E+08	7.34
518	519	8.81E+10	1.22E+09	8.94E+10	1.41E+08	7.34
519	520	8.83E+10	1.22E+09	8.95E+10	1.41E+08	7.34
520	521	8.84E+10	1.22E+09	8.96E+10	1.41E+08	7.34
521	522	8.86E+10	1.22E+09	8.98E+10	1.41E+08	7.34
522	523	8.87E+10	1.22E+09	8.99E+10	1.41E+08	7.34
523	524	8.88E+10	1.22E+09	9.01E+10	1.41E+08	7.34
524	525	8.90E+10	1.22E+09	9.02E+10	1.41E+08	7.34
525	526	8.91E+10	1.22E+09	9.03E+10	1.41E+08	7.34
526	527	8.93E+10	1.22E+09	9.05E+10	1.41E+08	7.34
527	528	8.94E+10	1.22E+09	9.06E+10	1.41E+08	7.34
528	529	8.95E+10	1.22E+09	9.08E+10	1.41E+08	7.34
529	530	8.97E+10	1.22E+09	9.09E+10	1.41E+08	7.34
530	531	8.98E+10	1.22E+09	9.10E+10	1.41E+08	7.34
531	532	9.00E+10	1.22E+09	9.12E+10	1.41E+08	7.34
532	533	9.01E+10	1.22E+09	9.13E+10	1.41E+08	7.34
533	534	9.02E+10	1.22E+09	9.15E+10	1.41E+08	7.34
534	535	9.04E+10	1.22E+09	9.16E+10	1.41E+08	7.34
535	536	9.05E+10	1.22E+09	9.18E+10	1.41E+08	7.34
536	537	9.07E+10	1.22E+09	9.19E+10	1.41E+08	7.34
537	538	9.08E+10	1.22E+09	9.20E+10	1.41E+08	7.34
538	539	9.09E+10	1.22E+09	9.22E+10	1.41E+08	7.34

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
539	540	9.11E+10	1.22E+09	9.23E+10	1.41E+08	7.34
540	541	9.12E+10	1.22E+09	9.25E+10	1.41E+08	7.34
541	542	9.14E+10	1.22E+09	9.26E+10	1.41E+08	7.34
542	543	9.15E+10	1.22E+09	9.27E+10	1.41E+08	7.34
543	544	9.17E+10	1.22E+09	9.29E+10	1.41E+08	7.34
544	545	9.18E+10	1.22E+09	9.30E+10	1.41E+08	7.34
545	546	9.19E+10	1.22E+09	9.32E+10	1.41E+08	7.34
546	547	9.21E+10	1.22E+09	9.33E+10	1.41E+08	7.34
547	548	9.22E+10	1.22E+09	9.34E+10	1.41E+08	7.34
548	549	9.24E+10	1.22E+09	9.36E+10	1.41E+08	7.34
549	550	9.25E+10	1.22E+09	9.37E+10	1.41E+08	7.34
550	551	9.26E+10	1.22E+09	9.39E+10	1.41E+08	7.34
551	552	9.28E+10	1.22E+09	9.40E+10	1.41E+08	7.34
552	553	9.29E+10	1.22E+09	9.41E+10	1.41E+08	7.34
553	554	9.31E+10	1.22E+09	9.43E+10	1.41E+08	7.34
554	555	9.32E+10	1.22E+09	9.44E+10	1.41E+08	7.34
555	556	9.33E+10	1.22E+09	9.46E+10	1.39E+08	7.24
556	557	9.35E+10	1.22E+09	9.47E+10	1.37E+08	7.13
557	558	9.36E+10	1.22E+09	9.48E+10	1.37E+08	7.13
558	559	9.37E+10	1.22E+09	9.50E+10	1.37E+08	7.13
559	560	9.39E+10	1.22E+09	9.51E+10	1.37E+08	7.13
560	561	9.40E+10	1.22E+09	9.52E+10	1.37E+08	7.13
561	562	9.42E+10	1.22E+09	9.54E+10	1.37E+08	7.13
562	563	9.43E+10	1.22E+09	9.55E+10	1.37E+08	7.13
563	564	9.44E+10	1.22E+09	9.57E+10	1.37E+08	7.13
564	565	9.46E+10	1.22E+09	9.58E+10	1.37E+08	7.13
565	566	9.47E+10	1.22E+09	9.59E+10	1.37E+08	7.13
566	567	9.48E+10	1.22E+09	9.61E+10	1.37E+08	7.13
567	568	9.50E+10	1.22E+09	9.62E+10	1.37E+08	7.13
568	569	9.51E+10	1.22E+09	9.63E+10	1.37E+08	7.13
569	570	9.52E+10	1.22E+09	9.65E+10	1.37E+08	7.13
570	571	9.54E+10	1.22E+09	9.66E+10	1.37E+08	7.13
571	572	9.55E+10	1.22E+09	9.67E+10	1.37E+08	7.13
572	573	9.57E+10	1.22E+09	9.69E+10	1.37E+08	7.13
573	574	9.58E+10	1.22E+09	9.70E+10	1.37E+08	7.13
574	575	9.59E+10	1.22E+09	9.72E+10	1.37E+08	7.13
575	576	9.61E+10	1.22E+09	9.73E+10	1.37E+08	7.13
576	577	9.62E+10	1.22E+09	9.74E+10	1.37E+08	7.13
577	578	9.63E+10	1.22E+09	9.76E+10	1.37E+08	7.13
578	579	9.65E+10	1.22E+09	9.77E+10	1.37E+08	7.13
579	580	9.66E+10	1.22E+09	9.78E+10	1.37E+08	7.13
580	581	9.67E+10	1.22E+09	9.80E+10	1.37E+08	7.13
581	582	9.69E+10	1.22E+09	9.81E+10	1.37E+08	7.13
582	583	9.70E+10	1.22E+09	9.82E+10	1.37E+08	7.13
583	584	9.72E+10	1.22E+09	9.84E+10	1.37E+08	7.13

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
584	585	9.73E+10	1.22E+09	9.85E+10	1.37E+08	7.13
585	586	9.74E+10	1.22E+09	9.87E+10	1.37E+08	7.13
586	587	9.76E+10	1.22E+09	9.88E+10	1.37E+08	7.13
587	588	9.77E+10	1.22E+09	9.89E+10	1.37E+08	7.13
588	589	9.78E+10	1.22E+09	9.91E+10	1.37E+08	7.13
589	590	9.80E+10	1.22E+09	9.92E+10	1.37E+08	7.13
590	591	9.81E+10	1.22E+09	9.93E+10	1.37E+08	7.13
591	592	9.83E+10	1.22E+09	9.95E+10	1.37E+08	7.13
592	593	9.84E+10	1.22E+09	9.96E+10	1.37E+08	7.13
593	594	9.85E+10	1.22E+09	9.97E+10	1.37E+08	7.13
594	595	9.87E+10	1.22E+09	9.99E+10	1.37E+08	7.13
595	596	9.88E+10	1.22E+09	1.00E+11	1.37E+08	7.13
596	597	9.89E+10	1.22E+09	1.00E+11	1.37E+08	7.13
597	598	9.91E+10	1.22E+09	1.00E+11	1.37E+08	7.13
598	599	9.92E+10	1.22E+09	1.00E+11	1.37E+08	7.13
599	600	9.93E+10	1.22E+09	1.01E+11	1.37E+08	7.13
600	601	9.95E+10	1.22E+09	1.01E+11	1.37E+08	7.13
601	602	9.96E+10	1.22E+09	1.01E+11	1.37E+08	7.13
602	603	9.98E+10	1.22E+09	1.01E+11	1.37E+08	7.13
603	604	9.99E+10	1.22E+09	1.01E+11	1.37E+08	7.13
604	605	1.00E+11	1.22E+09	1.01E+11	1.37E+08	7.13
605	606	1.00E+11	1.22E+09	1.01E+11	1.37E+08	7.13
606	607	1.00E+11	1.22E+09	1.02E+11	1.37E+08	7.13
607	608	1.00E+11	1.22E+09	1.02E+11	1.37E+08	7.13
608	609	1.01E+11	1.22E+09	1.02E+11	1.37E+08	7.13
609	610	1.01E+11	1.22E+09	1.02E+11	1.37E+08	7.13
610	611	1.01E+11	1.22E+09	1.02E+11	1.37E+08	7.13
611	612	1.01E+11	1.22E+09	1.02E+11	1.37E+08	7.13
612	613	1.01E+11	1.22E+09	1.02E+11	1.37E+08	7.13
613	614	1.01E+11	1.22E+09	1.02E+11	1.37E+08	7.13
614	615	1.01E+11	1.22E+09	1.03E+11	1.37E+08	7.13
615	616	1.02E+11	1.22E+09	1.03E+11	1.37E+08	7.13
616	617	1.02E+11	1.22E+09	1.03E+11	1.37E+08	7.13
617	618	1.02E+11	1.22E+09	1.03E+11	1.37E+08	7.13
618	619	1.02E+11	1.22E+09	1.03E+11	1.37E+08	7.13
619	620	1.02E+11	1.22E+09	1.03E+11	1.37E+08	7.13
620	621	1.02E+11	1.22E+09	1.03E+11	1.37E+08	7.13
621	622	1.02E+11	1.22E+09	1.04E+11	1.37E+08	7.13
622	623	1.02E+11	1.22E+09	1.04E+11	1.37E+08	7.13
623	624	1.03E+11	1.22E+09	1.04E+11	1.37E+08	7.13
624	625	1.03E+11	1.22E+09	1.04E+11	1.37E+08	7.13
625	626	1.03E+11	1.22E+09	1.04E+11	1.37E+08	7.13
626	627	1.03E+11	1.22E+09	1.04E+11	1.37E+08	7.13
627	628	1.03E+11	1.22E+09	1.04E+11	1.37E+08	7.13
628	629	1.03E+11	1.22E+09	1.05E+11	1.37E+08	7.13

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
629	630	1.03E+11	1.22E+09	1.05E+11	1.37E+08	7.13
630	631	1.04E+11	1.22E+09	1.05E+11	1.37E+08	7.13
631	632	1.04E+11	1.22E+09	1.05E+11	1.37E+08	7.13
632	633	1.04E+11	1.22E+09	1.05E+11	1.37E+08	7.13
633	634	1.04E+11	1.22E+09	1.05E+11	1.37E+08	7.13
634	635	1.04E+11	1.22E+09	1.05E+11	1.37E+08	7.13
635	636	1.04E+11	1.22E+09	1.05E+11	1.37E+08	7.13
636	637	1.04E+11	1.22E+09	1.06E+11	1.37E+08	7.13
637	638	1.05E+11	1.22E+09	1.06E+11	1.37E+08	7.13
638	639	1.05E+11	1.22E+09	1.06E+11	1.37E+08	7.13
639	640	1.05E+11	1.22E+09	1.06E+11	1.37E+08	7.13
640	641	1.05E+11	1.22E+09	1.06E+11	1.37E+08	7.13
641	642	1.05E+11	1.22E+09	1.06E+11	1.37E+08	7.13
642	643	1.05E+11	1.22E+09	1.06E+11	1.37E+08	7.13
643	644	1.05E+11	1.22E+09	1.07E+11	1.37E+08	7.13
644	645	1.05E+11	1.22E+09	1.07E+11	1.37E+08	7.13
645	646	1.06E+11	1.22E+09	1.07E+11	1.37E+08	7.13
646	647	1.06E+11	1.22E+09	1.07E+11	1.37E+08	7.13
647	648	1.06E+11	1.22E+09	1.07E+11	1.37E+08	7.13
648	649	1.06E+11	1.22E+09	1.07E+11	1.37E+08	7.13
649	650	1.06E+11	1.22E+09	1.07E+11	1.37E+08	7.13
650	651	1.06E+11	1.22E+09	1.08E+11	1.37E+08	7.13
651	652	1.06E+11	1.22E+09	1.08E+11	1.37E+08	7.13
652	653	1.07E+11	1.22E+09	1.08E+11	1.37E+08	7.13
653	654	1.07E+11	1.22E+09	1.08E+11	1.37E+08	7.13
654	655	1.07E+11	1.22E+09	1.08E+11	1.37E+08	7.13
655	656	1.07E+11	1.22E+09	1.08E+11	1.37E+08	7.13
656	657	1.07E+11	1.22E+09	1.08E+11	1.37E+08	7.13
657	658	1.07E+11	1.22E+09	1.08E+11	1.37E+08	7.13
658	659	1.07E+11	1.22E+09	1.09E+11	1.37E+08	7.13
659	660	1.08E+11	1.22E+09	1.09E+11	1.37E+08	7.13
660	661	1.08E+11	1.22E+09	1.09E+11	1.37E+08	7.13
661	662	1.08E+11	1.22E+09	1.09E+11	1.37E+08	7.13
662	663	1.08E+11	1.22E+09	1.09E+11	1.37E+08	7.13
663	664	1.08E+11	1.22E+09	1.09E+11	1.37E+08	7.13
664	665	1.08E+11	1.22E+09	1.09E+11	1.37E+08	7.13
665	666	1.08E+11	1.22E+09	1.10E+11	1.37E+08	7.13
666	667	1.08E+11	1.22E+09	1.10E+11	1.37E+08	7.13
667	668	1.09E+11	1.22E+09	1.10E+11	1.37E+08	7.13
668	669	1.09E+11	1.22E+09	1.10E+11	1.37E+08	7.13
669	670	1.09E+11	1.22E+09	1.10E+11	1.37E+08	7.13
670	671	1.09E+11	1.22E+09	1.10E+11	1.37E+08	7.13
671	672	1.09E+11	1.22E+09	1.10E+11	1.37E+08	7.13
672	673	1.09E+11	1.22E+09	1.11E+11	1.37E+08	7.13
673	674	1.09E+11	1.22E+09	1.11E+11	1.37E+08	7.13

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
674	675	1.10E+11	1.22E+09	1.11E+11	1.37E+08	7.13
675	676	1.10E+11	1.22E+09	1.11E+11	1.37E+08	7.13
676	677	1.10E+11	1.22E+09	1.11E+11	1.37E+08	7.13
677	678	1.10E+11	1.22E+09	1.11E+11	1.37E+08	7.13
678	679	1.10E+11	1.22E+09	1.11E+11	1.37E+08	7.13
679	680	1.10E+11	1.22E+09	1.11E+11	1.37E+08	7.13
680	681	1.10E+11	1.22E+09	1.12E+11	1.37E+08	7.13
681	682	1.11E+11	1.22E+09	1.12E+11	1.37E+08	7.13
682	683	1.11E+11	1.22E+09	1.12E+11	1.37E+08	7.13
683	684	1.11E+11	1.22E+09	1.12E+11	1.37E+08	7.13
684	685	1.11E+11	1.22E+09	1.12E+11	1.37E+08	7.13
685	686	1.11E+11	1.22E+09	1.12E+11	1.37E+08	7.13
686	687	1.11E+11	1.22E+09	1.12E+11	1.37E+08	7.13
687	688	1.11E+11	1.22E+09	1.13E+11	1.37E+08	7.13
688	689	1.11E+11	1.22E+09	1.13E+11	1.37E+08	7.13
689	690	1.12E+11	1.22E+09	1.13E+11	1.37E+08	7.13
690	691	1.12E+11	1.22E+09	1.13E+11	1.37E+08	7.13
691	692	1.12E+11	1.22E+09	1.13E+11	1.37E+08	7.13
692	693	1.12E+11	1.22E+09	1.13E+11	1.37E+08	7.13
693	694	1.12E+11	1.22E+09	1.13E+11	1.37E+08	7.13
694	695	1.12E+11	1.22E+09	1.14E+11	1.37E+08	7.13
695	696	1.12E+11	1.22E+09	1.14E+11	1.37E+08	7.13
696	697	1.13E+11	1.22E+09	1.14E+11	1.37E+08	7.13
697	698	1.13E+11	1.22E+09	1.14E+11	1.37E+08	7.13
698	699	1.13E+11	1.22E+09	1.14E+11	1.37E+08	7.13
699	700	1.13E+11	1.22E+09	1.14E+11	1.37E+08	7.13
700	701	1.13E+11	1.22E+09	1.14E+11	1.37E+08	7.13
701	702	1.13E+11	1.22E+09	1.14E+11	1.37E+08	7.13
702	703	1.13E+11	1.22E+09	1.15E+11	1.37E+08	7.13
703	704	1.14E+11	1.22E+09	1.15E+11	1.37E+08	7.13
704	705	1.14E+11	1.22E+09	1.15E+11	1.37E+08	7.13
705	706	1.14E+11	1.22E+09	1.15E+11	1.37E+08	7.13
706	707	1.14E+11	1.22E+09	1.15E+11	1.37E+08	7.13
707	708	1.14E+11	1.22E+09	1.15E+11	1.37E+08	7.13
708	709	1.14E+11	1.22E+09	1.15E+11	1.37E+08	7.13
709	710	1.14E+11	1.22E+09	1.16E+11	1.37E+08	7.13
710	711	1.14E+11	1.22E+09	1.16E+11	1.37E+08	7.13
711	712	1.15E+11	1.22E+09	1.16E+11	1.37E+08	7.13
712	713	1.15E+11	1.22E+09	1.16E+11	1.37E+08	7.13
713	714	1.15E+11	1.22E+09	1.16E+11	1.37E+08	7.13
714	715	1.15E+11	1.22E+09	1.16E+11	1.37E+08	7.13
715	716	1.15E+11	1.22E+09	1.16E+11	1.37E+08	7.13
716	717	1.15E+11	1.22E+09	1.17E+11	1.37E+08	7.13
717	718	1.15E+11	1.22E+09	1.17E+11	1.37E+08	7.13
718	719	1.16E+11	1.22E+09	1.17E+11	1.37E+08	7.13



Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
719	720	1.16E+11	1.22E+09	1.17E+11	1.34E+08	6.98
720	721	1.16E+11	1.22E+09	1.17E+11	1.31E+08	6.86
721	722	1.16E+11	1.22E+09	1.17E+11	1.31E+08	6.86
722	723	1.16E+11	1.22E+09	1.17E+11	1.31E+08	6.86
723	724	1.16E+11	1.22E+09	1.17E+11	1.31E+08	6.86
724	725	1.16E+11	1.22E+09	1.18E+11	1.31E+08	6.86
725	726	1.17E+11	1.22E+09	1.18E+11	1.31E+08	6.86
726	727	1.17E+11	1.22E+09	1.18E+11	1.31E+08	6.86
727	728	1.17E+11	1.22E+09	1.18E+11	1.31E+08	6.86
728	729	1.17E+11	1.22E+09	1.18E+11	1.31E+08	6.86
729	730	1.17E+11	1.22E+09	1.18E+11	1.31E+08	6.86
730	731	1.17E+11	1.22E+09	1.18E+11	1.31E+08	6.86
731	732	1.17E+11	1.22E+09	1.19E+11	1.31E+08	6.86
732	733	1.17E+11	1.22E+09	1.19E+11	1.31E+08	6.86
733	734	1.18E+11	1.22E+09	1.19E+11	1.31E+08	6.86
734	735	1.18E+11	1.22E+09	1.19E+11	1.31E+08	6.86
735	736	1.18E+11	1.22E+09	1.19E+11	1.31E+08	6.86
736	737	1.18E+11	1.22E+09	1.19E+11	1.31E+08	6.86
737	738	1.18E+11	1.22E+09	1.19E+11	1.31E+08	6.86
738	739	1.18E+11	1.22E+09	1.19E+11	1.31E+08	6.86
739	740	1.18E+11	1.22E+09	1.20E+11	1.31E+08	6.86
740	741	1.18E+11	1.22E+09	1.20E+11	1.31E+08	6.86
741	742	1.19E+11	1.22E+09	1.20E+11	1.31E+08	6.86
742	743	1.19E+11	1.22E+09	1.20E+11	1.31E+08	6.86
743	744	1.19E+11	1.22E+09	1.20E+11	1.31E+08	6.86
744	745	1.19E+11	1.22E+09	1.20E+11	1.31E+08	6.86
745	746	1.19E+11	1.22E+09	1.20E+11	1.31E+08	6.86
746	747	1.19E+11	1.22E+09	1.20E+11	1.31E+08	6.86
747	748	1.19E+11	1.22E+09	1.21E+11	1.31E+08	6.86
748	749	1.20E+11	1.22E+09	1.21E+11	1.31E+08	6.86
749	750	1.20E+11	1.22E+09	1.21E+11	1.31E+08	6.86
750	751	1.20E+11	1.22E+09	1.21E+11	1.31E+08	6.86
751	752	1.20E+11	1.22E+09	1.21E+11	1.31E+08	6.86
752	753	1.20E+11	1.22E+09	1.21E+11	1.31E+08	6.86
753	754	1.20E+11	1.22E+09	1.21E+11	1.31E+08	6.86
754	755	1.20E+11	1.22E+09	1.22E+11	1.31E+08	6.86
755	756	1.20E+11	1.22E+09	1.22E+11	1.31E+08	6.86
756	757	1.21E+11	1.22E+09	1.22E+11	1.31E+08	6.86
757	758	1.21E+11	1.22E+09	1.22E+11	1.31E+08	6.86
758	759	1.21E+11	1.22E+09	1.22E+11	1.31E+08	6.86
759	760	1.21E+11	1.22E+09	1.22E+11	1.31E+08	6.86
760	761	1.21E+11	1.22E+09	1.22E+11	1.31E+08	6.86
761	762	1.21E+11	1.22E+09	1.22E+11	1.31E+08	6.86
762	763	1.21E+11	1.22E+09	1.23E+11	1.31E+08	6.86
763	764	1.22E+11	1.22E+09	1.23E+11	1.31E+08	6.86

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
764	765	1.22E+11	1.22E+09	1.23E+11	1.31E+08	6.86
765	766	1.22E+11	1.22E+09	1.23E+11	1.31E+08	6.86
766	767	1.22E+11	1.22E+09	1.23E+11	1.31E+08	6.86
767	768	1.22E+11	1.22E+09	1.23E+11	1.31E+08	6.86
768	769	1.22E+11	1.22E+09	1.23E+11	1.31E+08	6.86
769	770	1.22E+11	1.22E+09	1.24E+11	1.31E+08	6.86
770	771	1.22E+11	1.22E+09	1.24E+11	1.31E+08	6.86
771	772	1.23E+11	1.22E+09	1.24E+11	1.31E+08	6.86
772	773	1.23E+11	1.22E+09	1.24E+11	1.31E+08	6.86
773	774	1.23E+11	1.22E+09	1.24E+11	1.31E+08	6.86
774	775	1.23E+11	1.22E+09	1.24E+11	1.31E+08	6.86
775	776	1.23E+11	1.22E+09	1.24E+11	1.31E+08	6.86
776	777	1.23E+11	1.22E+09	1.24E+11	1.31E+08	6.86
777	778	1.23E+11	1.22E+09	1.25E+11	1.31E+08	6.86
778	779	1.23E+11	1.22E+09	1.25E+11	1.31E+08	6.86
779	780	1.24E+11	1.22E+09	1.25E+11	1.31E+08	6.86
780	781	1.24E+11	1.22E+09	1.25E+11	1.31E+08	6.86
781	782	1.24E+11	1.22E+09	1.25E+11	1.31E+08	6.86
782	783	1.24E+11	1.22E+09	1.25E+11	1.31E+08	6.86
783	784	1.24E+11	1.22E+09	1.25E+11	1.31E+08	6.86
784	785	1.24E+11	1.22E+09	1.25E+11	1.31E+08	6.86
785	786	1.24E+11	1.22E+09	1.26E+11	1.31E+08	6.86
786	787	1.25E+11	1.22E+09	1.26E+11	1.31E+08	6.86
787	788	1.25E+11	1.22E+09	1.26E+11	1.31E+08	6.86
788	789	1.25E+11	1.22E+09	1.26E+11	1.31E+08	6.86
789	790	1.25E+11	1.22E+09	1.26E+11	1.31E+08	6.86
790	791	1.25E+11	1.22E+09	1.26E+11	1.31E+08	6.86
791	792	1.25E+11	1.22E+09	1.26E+11	1.31E+08	6.86
792	793	1.25E+11	1.22E+09	1.27E+11	1.31E+08	6.86
793	794	1.25E+11	1.22E+09	1.27E+11	1.31E+08	6.86
794	795	1.26E+11	1.22E+09	1.27E+11	1.31E+08	6.86
795	796	1.26E+11	1.22E+09	1.27E+11	1.31E+08	6.86
796	797	1.26E+11	1.22E+09	1.27E+11	1.31E+08	6.86
797	798	1.26E+11	1.22E+09	1.27E+11	1.31E+08	6.86
798	799	1.26E+11	1.22E+09	1.27E+11	1.31E+08	6.86
799	800	1.26E+11	1.22E+09	1.27E+11	1.31E+08	6.86
800	801	1.26E+11	1.22E+09	1.28E+11	1.31E+08	6.86
801	802	1.27E+11	1.22E+09	1.28E+11	1.31E+08	6.86
802	803	1.27E+11	1.22E+09	1.28E+11	1.31E+08	6.86
803	804	1.27E+11	1.22E+09	1.28E+11	1.31E+08	6.86
804	805	1.27E+11	1.22E+09	1.28E+11	1.31E+08	6.86
805	806	1.27E+11	1.22E+09	1.28E+11	1.31E+08	6.86
806	807	1.27E+11	1.22E+09	1.28E+11	1.31E+08	6.86
807	808	1.27E+11	1.22E+09	1.29E+11	1.31E+08	6.86
808	809	1.27E+11	1.22E+09	1.29E+11	1.31E+08	6.86

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
809	810	1.28E+11	1.22E+09	1.29E+11	1.31E+08	6.86
810	811	1.28E+11	1.22E+09	1.29E+11	1.31E+08	6.86
811	812	1.28E+11	1.22E+09	1.29E+11	1.31E+08	6.86
812	813	1.28E+11	1.22E+09	1.29E+11	1.31E+08	6.86
813	814	1.28E+11	1.22E+09	1.29E+11	1.31E+08	6.86
814	815	1.28E+11	1.22E+09	1.29E+11	1.31E+08	6.86
815	816	1.28E+11	1.22E+09	1.30E+11	1.31E+08	6.86
816	817	1.28E+11	1.22E+09	1.30E+11	1.31E+08	6.86
817	818	1.29E+11	1.22E+09	1.30E+11	1.31E+08	6.86
818	819	1.29E+11	1.22E+09	1.30E+11	1.31E+08	6.86
819	820	1.29E+11	1.22E+09	1.30E+11	1.31E+08	6.86
820	821	1.29E+11	1.22E+09	1.30E+11	1.31E+08	6.86
821	822	1.29E+11	1.22E+09	1.30E+11	1.31E+08	6.86
822	823	1.29E+11	1.22E+09	1.30E+11	1.31E+08	6.86
823	824	1.29E+11	1.22E+09	1.31E+11	1.31E+08	6.86
824	825	1.30E+11	1.22E+09	1.31E+11	1.31E+08	6.86
825	826	1.30E+11	1.22E+09	1.31E+11	1.31E+08	6.86
826	827	1.30E+11	1.22E+09	1.31E+11	1.31E+08	6.86
827	828	1.30E+11	1.22E+09	1.31E+11	1.31E+08	6.86
828	829	1.30E+11	1.22E+09	1.31E+11	1.31E+08	6.86
829	830	1.30E+11	1.22E+09	1.31E+11	1.31E+08	6.86
830	831	1.30E+11	1.22E+09	1.32E+11	1.31E+08	6.86
831	832	1.30E+11	1.22E+09	1.32E+11	1.31E+08	6.86
832	833	1.31E+11	1.22E+09	1.32E+11	1.31E+08	6.86
833	834	1.31E+11	1.22E+09	1.32E+11	1.31E+08	6.86
834	835	1.31E+11	1.22E+09	1.32E+11	1.31E+08	6.86
835	836	1.31E+11	1.22E+09	1.32E+11	1.31E+08	6.86
836	837	1.31E+11	1.22E+09	1.32E+11	1.31E+08	6.86
837	838	1.31E+11	1.22E+09	1.32E+11	1.31E+08	6.86
838	839	1.31E+11	1.22E+09	1.33E+11	1.31E+08	6.86
839	840	1.31E+11	1.22E+09	1.33E+11	1.31E+08	6.86
840	841	1.32E+11	1.22E+09	1.33E+11	1.31E+08	6.86
841	842	1.32E+11	1.22E+09	1.33E+11	1.31E+08	6.86
842	843	1.32E+11	1.22E+09	1.33E+11	1.31E+08	6.86
843	844	1.32E+11	1.22E+09	1.33E+11	1.31E+08	6.86
844	845	1.32E+11	1.22E+09	1.33E+11	1.31E+08	6.86
845	846	1.32E+11	1.22E+09	1.34E+11	1.31E+08	6.86
846	847	1.32E+11	1.22E+09	1.34E+11	1.31E+08	6.86
847	848	1.33E+11	1.22E+09	1.34E+11	1.31E+08	6.86
848	849	1.33E+11	1.22E+09	1.34E+11	1.31E+08	6.86
849	850	1.33E+11	1.22E+09	1.34E+11	1.31E+08	6.86
850	851	1.33E+11	1.22E+09	1.34E+11	1.31E+08	6.86
851	852	1.33E+11	1.22E+09	1.34E+11	1.31E+08	6.86
852	853	1.33E+11	1.22E+09	1.34E+11	1.31E+08	6.86
853	854	1.33E+11	1.22E+09	1.35E+11	1.31E+08	6.86

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
854	855	1.33E+11	1.22E+09	1.35E+11	1.31E+08	6.86
855	856	1.34E+11	1.22E+09	1.35E+11	1.31E+08	6.86
856	857	1.34E+11	1.22E+09	1.35E+11	1.31E+08	6.86
857	858	1.34E+11	1.22E+09	1.35E+11	1.31E+08	6.86
858	859	1.34E+11	1.22E+09	1.35E+11	1.31E+08	6.86
859	860	1.34E+11	1.22E+09	1.35E+11	1.31E+08	6.86
860	861	1.34E+11	1.22E+09	1.35E+11	1.31E+08	6.86
861	862	1.34E+11	1.22E+09	1.36E+11	1.31E+08	6.86
862	863	1.35E+11	1.22E+09	1.36E+11	1.31E+08	6.86
863	864	1.35E+11	1.22E+09	1.36E+11	1.31E+08	6.86

**APPENDIX L9.3: EPU TOTAL GENERATED HEAT LOAD [Ref. L5.1]**

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
0	2.78E-11	1.3879E+10	1.3879E+10	4.15E+07	5.04E+07	0.00E+00	2.79E+10	-0-
1.00E-01	2.78E-05	1.3774E+10	1.3774E+10	4.15E+07	5.04E+07	0.00E+00	2.76E+10	7.71E+05
1.50E-01	4.17E-05	1.3362E+10	1.3362E+10	4.15E+07	5.04E+07	0.00E+00	2.68E+10	1.15E+06
2.00E-01	5.56E-05	1.2951E+10	1.2951E+10	4.15E+07	5.04E+07	0.00E+00	2.60E+10	1.52E+06
4.00E-01	1.11E-04	1.0373E+10	1.0373E+10	4.15E+07	5.04E+07	0.00E+00	2.08E+10	2.82E+06
6.00E-01	1.67E-04	8.2054E+09	8.2054E+09	4.15E+07	5.04E+07	0.00E+00	1.65E+10	3.85E+06
8.00E-01	2.22E-04	6.8591E+09	6.8591E+09	4.15E+07	5.04E+07	0.00E+00	1.38E+10	4.70E+06
1.00E+00	2.78E-04	4.7092E+09	4.7092E+09	4.15E+07	5.04E+07	0.00E+00	9.51E+09	5.34E+06
1.50E+00	4.17E-04	3.4268E+09	3.4268E+09	4.15E+07	5.04E+07	0.00E+00	6.95E+09	6.49E+06
2.00E+00	5.56E-04	2.1554E+09	2.1554E+09	4.15E+07	5.04E+07	0.00E+00	4.40E+09	7.27E+06
4.00E+00	1.11E-03	1.0298E+09	1.0298E+09	4.15E+07	5.04E+07	0.00E+00	2.15E+09	9.10E+06
6.00E+00	1.67E-03	8.5177E+08	8.5177E+08	4.15E+07	5.04E+07	0.00E+00	1.80E+09	1.02E+07
8.00E+00	2.22E-03	7.9292E+08	7.9292E+08	4.15E+07	5.04E+07	0.00E+00	1.68E+09	1.12E+07
1.00E+01	2.78E-03	7.3532E+08	7.3532E+08	4.15E+07	5.04E+07	0.00E+00	1.56E+09	1.21E+07
1.50E+01	4.17E-03	6.8147E+08	6.8147E+08	4.15E+07	5.04E+07	0.00E+00	1.45E+09	1.42E+07
2.00E+01	5.56E-03	6.3969E+08	6.3969E+08	4.15E+07	5.04E+07	0.00E+00	1.37E+09	1.61E+07
4.00E+01	1.11E-02	5.6169E+08	5.6169E+08	4.15E+07	5.04E+07	0.00E+00	1.22E+09	2.33E+07
6.00E+01	1.67E-02	5.2005E+08	5.2005E+08	4.15E+07	5.04E+07	0.00E+00	1.13E+09	2.98E+07
8.00E+01	2.22E-02	4.8938E+08	4.8938E+08	4.15E+07	5.04E+07	0.00E+00	1.07E+09	3.59E+07
1.00E+02	2.78E-02	4.6939E+08	4.6939E+08	4.15E+07	5.04E+07	0.00E+00	1.03E+09	4.18E+07
1.50E+02	4.17E-02	4.3511E+08	4.3511E+08	4.15E+07	5.04E+07	0.00E+00	9.62E+08	5.56E+07
2.00E+02	5.56E-02	4.1249E+08	4.1249E+08	4.15E+07	5.04E+07	0.00E+00	9.17E+08	6.87E+07
3.00E+02	8.33E-02	3.8279E+08	3.8279E+08	4.15E+07	5.04E+07	0.00E+00	8.58E+08	9.33E+07
4.00E+02	1.11E-01	3.6294E+08	3.6294E+08	4.15E+07	5.04E+07	0.00E+00	8.18E+08	1.17E+08
6.00E+02	1.67E-01	3.3463E+08	3.3463E+08	4.15E+07	5.04E+07	0.00E+00	7.61E+08	1.60E+08
8.00E+02	2.22E-01	3.1409E+08	3.1409E+08	4.15E+07	5.04E+07	0.00E+00	7.20E+08	2.02E+08
1.00E+03	2.78E-01	2.9757E+08	2.9757E+08	4.15E+07	5.04E+07	0.00E+00	6.87E+08	2.41E+08
1.50E+03	4.17E-01	2.6731E+08	2.6731E+08	4.15E+07	5.04E+07	0.00E+00	6.27E+08	3.32E+08
1.80E+03	5.00E-01	2.5343E+08	2.5343E+08	4.15E+07	5.04E+07	0.00E+00	5.99E+08	3.83E+08
2.00E+03	5.56E-01	2.4552E+08	2.4552E+08	4.15E+07	5.04E+07	0.00E+00	5.83E+08	4.16E+08
3.00E+03	8.33E-01	2.1679E+08	2.1679E+08	4.15E+07	5.04E+07	0.00E+00	5.26E+08	5.70E+08
4.00E+03	1.11E+00	1.9847E+08	1.9847E+08	4.15E+07	5.04E+07	0.00E+00	4.89E+08	7.11E+08
4.80E+03	1.33E+00	1.8779E+08	1.8779E+08	4.15E+07	5.04E+07	0.00E+00	4.67E+08	8.17E+08
6.00E+03	1.67E+00	1.7613E+08	1.7613E+08	4.15E+07	5.04E+07	0.00E+00	4.44E+08	9.69E+08
8.00E+03	2.22E+00	1.6280E+08	1.6280E+08	4.15E+07	5.04E+07	0.00E+00	4.18E+08	1.21E+09
1.00E+04	2.78E+00	1.5364E+08	1.5364E+08	4.15E+07	5.04E+07	0.00E+00	3.99E+08	1.44E+09
1.50E+04	4.17E+00	1.3907E+08	1.3907E+08	4.15E+07	5.04E+07	0.00E+00	3.70E+08	1.97E+09

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
2.00E+04	5.56E+00	1.2976E+08	1.2976E+08	4.15E+07	5.04E+07	0.00E+00	3.51E+08	2.47E+09
3.00E+04	8.33E+00	1.1781E+08	1.1781E+08	4.15E+07	5.04E+07	0.00E+00	3.28E+08	3.41E+09
4.00E+04	1.11E+01	1.1002E+08	1.1002E+08	4.15E+07	5.04E+07	0.00E+00	3.12E+08	4.30E+09
6.00E+04	1.67E+01	9.9417E+07	9.9417E+07	4.15E+07	5.04E+07	0.00E+00	2.91E+08	5.98E+09
8.00E+04	2.22E+01	9.2102E+07	9.2102E+07	4.15E+07	5.04E+07	0.00E+00	2.76E+08	7.55E+09
8.64E+04	2.40E+01	9.0201E+07	9.0201E+07	4.15E+07	5.04E+07	0.00E+00	2.72E+08	8.04E+09
1.00E+05	2.78E+01	8.6662E+07	8.6662E+07	4.15E+07	5.04E+07	0.00E+00	2.65E+08	9.05E+09
1.50E+05	4.17E+01	7.6905E+07	7.6905E+07	4.15E+07	5.04E+07	0.00E+00	2.46E+08	1.26E+10
1.73E+05	4.80E+01	7.3546E+07	7.3546E+07	4.15E+07	5.04E+07	0.00E+00	2.39E+08	1.41E+10
1.80E+05	5.00E+01	7.2630E+07	7.2630E+07	4.15E+07	5.04E+07	0.00E+00	2.37E+08	1.46E+10
2.00E+05	5.56E+01	7.0187E+07	7.0187E+07	4.15E+07	5.04E+07	0.00E+00	2.32E+08	1.59E+10
2.59E+05	7.20E+01	6.4344E+07	6.4344E+07	4.15E+07	5.04E+07	0.00E+00	2.21E+08	1.96E+10
3.46E+05	9.60E+01	5.7946E+07	5.7946E+07	4.15E+07	5.04E+07	0.00E+00	2.08E+08	2.48E+10
3.60E+05	1.00E+02	5.7085E+07	5.7085E+07	4.15E+07	5.04E+07	0.00E+00	2.06E+08	2.56E+10
4.00E+05	1.11E+02	5.4809E+07	5.4809E+07	4.15E+07	5.04E+07	0.00E+00	2.02E+08	2.79E+10
4.32E+05	1.20E+02	5.3227E+07	5.3227E+07	4.15E+07	5.04E+07	0.00E+00	1.98E+08	2.97E+10
6.00E+05	1.67E+02	4.6676E+07	4.6676E+07	4.15E+07	5.04E+07	0.00E+00	1.85E+08	3.86E+10
8.00E+05	2.22E+02	4.1471E+07	4.1471E+07	4.15E+07	5.04E+07	0.00E+00	1.75E+08	4.86E+10
8.64E+05	2.40E+02	4.0208E+07	4.0208E+07	4.15E+07	5.04E+07	0.00E+00	1.72E+08	5.17E+10
1.00E+06	2.78E+02	3.7890E+07	3.7890E+07	4.15E+07	5.04E+07	0.00E+00	1.68E+08	5.81E+10
1.50E+06	4.17E+02	3.2144E+07	3.2144E+07	4.15E+07	5.04E+07	0.00E+00	1.56E+08	8.06E+10
1.73E+06	4.80E+02	3.0340E+07	3.0340E+07	4.15E+07	5.04E+07	0.00E+00	1.53E+08	9.04E+10
2.00E+06	5.56E+02	2.8577E+07	2.8577E+07	4.15E+07	5.04E+07	0.00E+00	1.49E+08	1.02E+11
2.59E+06	7.20E+02	2.5621E+07	2.5621E+07	4.15E+07	5.04E+07	0.00E+00	1.43E+08	1.26E+11
3.46E+06	9.60E+02	2.2512E+07	2.2512E+07	4.15E+07	5.04E+07	0.00E+00	1.37E+08	1.59E+11
4.00E+06	1.11E+03	2.1069E+07	2.1069E+07	4.15E+07	5.04E+07	0.00E+00	1.34E+08	1.80E+11
4.32E+06	1.20E+03	2.0347E+07	2.0347E+07	4.15E+07	5.04E+07	0.00E+00	1.33E+08	1.92E+11
6.00E+06	1.67E+03	1.7502E+07	1.7502E+07	4.15E+07	5.04E+07	0.00E+00	1.27E+08	2.52E+11
8.00E+06	2.22E+03	1.5253E+07	1.5253E+07	4.15E+07	5.04E+07	0.00E+00	1.22E+08	3.22E+11
1.00E+07	2.78E+03	1.3625E+07	1.3625E+07	4.15E+07	5.04E+07	0.00E+00	1.19E+08	3.89E+11
1.50E+07	4.17E+03	1.0840E+07	1.0840E+07	4.15E+07	5.04E+07	0.00E+00	1.14E+08	5.50E+11
2.00E+07	5.56E+03	9.0590E+06	9.0590E+06	4.15E+07	5.04E+07	0.00E+00	1.10E+08	7.06E+11
4.00E+07	1.11E+04	5.7085E+06	5.7085E+06	4.15E+07	5.04E+07	0.00E+00	1.03E+08	1.30E+12
6.00E+07	1.67E+04	4.1374E+06	4.1374E+06	4.15E+07	5.04E+07	0.00E+00	1.00E+08	1.86E+12
8.00E+07	2.22E+04	3.1603E+06	3.1603E+06	4.15E+07	5.04E+07	0.00E+00	9.82E+07	2.42E+12
1.00E+08	2.78E+04	2.5191E+06	2.5191E+06	4.15E+07	5.04E+07	0.00E+00	9.70E+07	2.96E+12
1.50E+08	4.17E+04	1.6738E+06	1.6738E+06	4.15E+07	5.04E+07	0.00E+00	9.53E+07	4.29E+12
2.00E+08	5.56E+04	1.3094E+06	1.3094E+06	4.15E+07	5.04E+07	0.00E+00	9.45E+07	5.61E+12

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
4.00E+08	1.11E+05	8.8563E+05	8.8563E+05	4.15E+07	5.04E+07	0.00E+00	9.37E+07	1.08E+13
6.00E+08	1.67E+05	7.4392E+05	7.4392E+05	4.15E+07	5.04E+07	0.00E+00	9.34E+07	1.60E+13
8.00E+08	2.22E+05	6.4788E+05	6.4788E+05	4.15E+07	5.04E+07	0.00E+00	9.32E+07	2.12E+13
1.00E+09	2.78E+05	5.7057E+05	5.7057E+05	4.15E+07	5.04E+07	0.00E+00	9.31E+07	2.64E+13

**APPENDIX L9.4: EPU PLANT TEMPERATURE RISE RESULTS**

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
0	1	6.54E+08	2.04E+08	8.58E+08	8.58E+08	44.80
1	2	1.11E+09	4.08E+08	1.52E+09	6.62E+08	34.57
2	3	1.52E+09	6.12E+08	2.13E+09	6.12E+08	31.95
3	4	1.91E+09	8.16E+08	2.72E+09	5.89E+08	30.73
4	5	2.27E+09	1.02E+09	3.29E+09	5.69E+08	29.69
5	6	2.62E+09	1.22E+09	3.85E+09	5.55E+08	28.99
6	7	2.96E+09	1.22E+09	4.18E+09	3.39E+08	17.72
7	8	3.30E+09	1.22E+09	4.52E+09	3.39E+08	17.72
8	9	3.63E+09	1.22E+09	4.85E+09	3.26E+08	17.03
9	10	3.95E+09	1.22E+09	5.17E+09	3.20E+08	16.69
10	11	4.27E+09	1.22E+09	5.49E+09	3.20E+08	16.69
11	12	4.57E+09	1.22E+09	5.79E+09	3.03E+08	15.84
12	13	4.87E+09	1.22E+09	6.09E+09	3.01E+08	15.73
13	14	5.17E+09	1.22E+09	6.40E+09	3.01E+08	15.73
14	15	5.47E+09	1.22E+09	6.70E+09	3.01E+08	15.73
15	16	5.77E+09	1.22E+09	7.00E+09	3.01E+08	15.73
16	17	6.07E+09	1.22E+09	7.29E+09	2.95E+08	15.42
17	18	6.35E+09	1.22E+09	7.58E+09	2.83E+08	14.80
18	19	6.64E+09	1.22E+09	7.86E+09	2.83E+08	14.80
19	20	6.92E+09	1.22E+09	8.14E+09	2.83E+08	14.80
20	21	7.20E+09	1.22E+09	8.43E+09	2.83E+08	14.80
21	22	7.49E+09	1.22E+09	8.71E+09	2.83E+08	14.80
22	23	7.76E+09	1.22E+09	8.99E+09	2.76E+08	14.42
23	24	8.04E+09	1.22E+09	9.26E+09	2.74E+08	14.31
24	25	8.31E+09	1.22E+09	9.53E+09	2.69E+08	14.03
25	26	8.58E+09	1.22E+09	9.80E+09	2.69E+08	14.03
26	27	8.84E+09	1.22E+09	1.01E+10	2.69E+08	14.03
27	28	9.11E+09	1.22E+09	1.03E+10	2.66E+08	13.88
28	29	9.37E+09	1.22E+09	1.06E+10	2.55E+08	13.34
29	30	9.62E+09	1.22E+09	1.08E+10	2.55E+08	13.34
30	31	9.88E+09	1.22E+09	1.11E+10	2.55E+08	13.34
31	32	1.01E+10	1.22E+09	1.14E+10	2.55E+08	13.34
32	33	1.04E+10	1.22E+09	1.16E+10	2.55E+08	13.34
33	34	1.06E+10	1.22E+09	1.19E+10	2.55E+08	13.34
34	35	1.09E+10	1.22E+09	1.21E+10	2.55E+08	13.34
35	36	1.12E+10	1.22E+09	1.24E+10	2.55E+08	13.34
36	37	1.14E+10	1.22E+09	1.26E+10	2.55E+08	13.34
37	38	1.17E+10	1.22E+09	1.29E+10	2.55E+08	13.34
38	39	1.19E+10	1.22E+09	1.31E+10	2.55E+08	13.34
39	40	1.22E+10	1.22E+09	1.34E+10	2.55E+08	13.34
40	41	1.24E+10	1.22E+09	1.37E+10	2.55E+08	13.34
41	42	1.27E+10	1.22E+09	1.39E+10	2.51E+08	13.11



Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
42	43	1.29E+10	1.22E+09	1.41E+10	2.42E+08	12.65
43	44	1.32E+10	1.22E+09	1.44E+10	2.42E+08	12.65
44	45	1.34E+10	1.22E+09	1.46E+10	2.42E+08	12.65
45	46	1.37E+10	1.22E+09	1.49E+10	2.42E+08	12.65
46	47	1.39E+10	1.22E+09	1.51E+10	2.42E+08	12.65
47	48	1.41E+10	1.22E+09	1.54E+10	2.42E+08	12.65
48	49	1.44E+10	1.22E+09	1.56E+10	2.38E+08	12.43
49	50	1.46E+10	1.22E+09	1.58E+10	2.38E+08	12.43
50	51	1.48E+10	1.22E+09	1.61E+10	2.35E+08	12.25
51	52	1.51E+10	1.22E+09	1.63E+10	2.35E+08	12.25
52	53	1.53E+10	1.22E+09	1.65E+10	2.35E+08	12.25
53	54	1.56E+10	1.22E+09	1.68E+10	2.35E+08	12.25
54	55	1.58E+10	1.22E+09	1.70E+10	2.35E+08	12.25
55	56	1.60E+10	1.22E+09	1.72E+10	2.31E+08	12.06
56	57	1.62E+10	1.22E+09	1.75E+10	2.26E+08	11.82
57	58	1.65E+10	1.22E+09	1.77E+10	2.26E+08	11.82
58	59	1.67E+10	1.22E+09	1.79E+10	2.26E+08	11.82
59	60	1.69E+10	1.22E+09	1.81E+10	2.26E+08	11.82
60	61	1.72E+10	1.22E+09	1.84E+10	2.26E+08	11.82
61	62	1.74E+10	1.22E+09	1.86E+10	2.26E+08	11.82
62	63	1.76E+10	1.22E+09	1.88E+10	2.26E+08	11.82
63	64	1.78E+10	1.22E+09	1.91E+10	2.26E+08	11.82
64	65	1.81E+10	1.22E+09	1.93E+10	2.26E+08	11.82
65	66	1.83E+10	1.22E+09	1.95E+10	2.26E+08	11.82
66	67	1.85E+10	1.22E+09	1.97E+10	2.26E+08	11.82
67	68	1.87E+10	1.22E+09	2.00E+10	2.26E+08	11.82
68	69	1.90E+10	1.22E+09	2.02E+10	2.26E+08	11.82
69	70	1.92E+10	1.22E+09	2.04E+10	2.26E+08	11.82
70	71	1.94E+10	1.22E+09	2.06E+10	2.26E+08	11.82
71	72	1.96E+10	1.22E+09	2.09E+10	2.26E+08	11.82
72	73	1.99E+10	1.22E+09	2.11E+10	2.14E+08	11.18
73	74	2.01E+10	1.22E+09	2.13E+10	2.14E+08	11.18
74	75	2.03E+10	1.22E+09	2.15E+10	2.14E+08	11.18
75	76	2.05E+10	1.22E+09	2.17E+10	2.14E+08	11.18
76	77	2.07E+10	1.22E+09	2.19E+10	2.14E+08	11.18
77	78	2.09E+10	1.22E+09	2.22E+10	2.14E+08	11.18
78	79	2.11E+10	1.22E+09	2.24E+10	2.14E+08	11.18
79	80	2.14E+10	1.22E+09	2.26E+10	2.14E+08	11.18
80	81	2.16E+10	1.22E+09	2.28E+10	2.14E+08	11.18
81	82	2.18E+10	1.22E+09	2.30E+10	2.14E+08	11.18
82	83	2.20E+10	1.22E+09	2.32E+10	2.14E+08	11.18
83	84	2.22E+10	1.22E+09	2.34E+10	2.14E+08	11.18
84	85	2.24E+10	1.22E+09	2.36E+10	2.14E+08	11.18
85	86	2.26E+10	1.22E+09	2.39E+10	2.14E+08	11.18
86	87	2.29E+10	1.22E+09	2.41E+10	2.14E+08	11.18

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
87	88	2.31E+10	1.22E+09	2.43E+10	2.14E+08	11.18
88	89	2.33E+10	1.22E+09	2.45E+10	2.14E+08	11.18
89	90	2.35E+10	1.22E+09	2.47E+10	2.14E+08	11.18
90	91	2.37E+10	1.22E+09	2.49E+10	2.14E+08	11.18
91	92	2.39E+10	1.22E+09	2.51E+10	2.14E+08	11.18
92	93	2.41E+10	1.22E+09	2.54E+10	2.14E+08	11.18
93	94	2.44E+10	1.22E+09	2.56E+10	2.14E+08	11.18
94	95	2.46E+10	1.22E+09	2.58E+10	2.14E+08	11.18
95	96	2.48E+10	1.22E+09	2.60E+10	2.14E+08	11.18
96	97	2.50E+10	1.22E+09	2.62E+10	2.07E+08	10.80
97	98	2.52E+10	1.22E+09	2.64E+10	2.07E+08	10.80
98	99	2.54E+10	1.22E+09	2.66E+10	2.07E+08	10.80
99	100	2.56E+10	1.22E+09	2.68E+10	2.07E+08	10.80
100	101	2.58E+10	1.22E+09	2.70E+10	2.04E+08	10.64
101	102	2.60E+10	1.22E+09	2.72E+10	2.04E+08	10.64
102	103	2.62E+10	1.22E+09	2.74E+10	2.04E+08	10.64
103	104	2.64E+10	1.22E+09	2.76E+10	2.04E+08	10.64
104	105	2.66E+10	1.22E+09	2.79E+10	2.04E+08	10.64
105	106	2.68E+10	1.22E+09	2.81E+10	2.04E+08	10.64
106	107	2.70E+10	1.22E+09	2.83E+10	2.04E+08	10.64
107	108	2.72E+10	1.22E+09	2.85E+10	2.04E+08	10.64
108	109	2.74E+10	1.22E+09	2.87E+10	2.04E+08	10.64
109	110	2.76E+10	1.22E+09	2.89E+10	2.04E+08	10.64
110	111	2.79E+10	1.22E+09	2.91E+10	2.04E+08	10.64
111	112	2.81E+10	1.22E+09	2.93E+10	2.00E+08	10.46
112	113	2.83E+10	1.22E+09	2.95E+10	2.00E+08	10.44
113	114	2.85E+10	1.22E+09	2.97E+10	2.00E+08	10.44
114	115	2.87E+10	1.22E+09	2.99E+10	2.00E+08	10.44
115	116	2.89E+10	1.22E+09	3.01E+10	2.00E+08	10.44
116	117	2.91E+10	1.22E+09	3.03E+10	2.00E+08	10.44
117	118	2.93E+10	1.22E+09	3.05E+10	2.00E+08	10.44
118	119	2.95E+10	1.22E+09	3.07E+10	2.00E+08	10.44
119	120	2.97E+10	1.22E+09	3.09E+10	2.00E+08	10.44
120	121	2.98E+10	1.22E+09	3.11E+10	1.92E+08	10.01
121	122	3.00E+10	1.22E+09	3.13E+10	1.92E+08	10.01
122	123	3.02E+10	1.22E+09	3.15E+10	1.92E+08	10.01
123	124	3.04E+10	1.22E+09	3.16E+10	1.92E+08	10.01
124	125	3.06E+10	1.22E+09	3.18E+10	1.92E+08	10.01
125	126	3.08E+10	1.22E+09	3.20E+10	1.92E+08	10.01
126	127	3.10E+10	1.22E+09	3.22E+10	1.92E+08	10.01
127	128	3.12E+10	1.22E+09	3.24E+10	1.92E+08	10.01
128	129	3.14E+10	1.22E+09	3.26E+10	1.92E+08	10.01
129	130	3.16E+10	1.22E+09	3.28E+10	1.92E+08	10.01
130	131	3.18E+10	1.22E+09	3.30E+10	1.92E+08	10.01
131	132	3.20E+10	1.22E+09	3.32E+10	1.92E+08	10.01

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
132	133	3.21E+10	1.22E+09	3.34E+10	1.92E+08	10.01
133	134	3.23E+10	1.22E+09	3.36E+10	1.92E+08	10.01
134	135	3.25E+10	1.22E+09	3.38E+10	1.92E+08	10.01
135	136	3.27E+10	1.22E+09	3.39E+10	1.92E+08	10.01
136	137	3.29E+10	1.22E+09	3.41E+10	1.92E+08	10.01
137	138	3.31E+10	1.22E+09	3.43E+10	1.92E+08	10.01
138	139	3.33E+10	1.22E+09	3.45E+10	1.92E+08	10.01
139	140	3.35E+10	1.22E+09	3.47E+10	1.92E+08	10.01
140	141	3.37E+10	1.22E+09	3.49E+10	1.92E+08	10.01
141	142	3.39E+10	1.22E+09	3.51E+10	1.92E+08	10.01
142	143	3.41E+10	1.22E+09	3.53E+10	1.92E+08	10.01
143	144	3.43E+10	1.22E+09	3.55E+10	1.92E+08	10.01
144	145	3.44E+10	1.22E+09	3.57E+10	1.92E+08	10.01
145	146	3.46E+10	1.22E+09	3.59E+10	1.92E+08	10.01
146	147	3.48E+10	1.22E+09	3.61E+10	1.92E+08	10.01
147	148	3.50E+10	1.22E+09	3.62E+10	1.92E+08	10.01
148	149	3.52E+10	1.22E+09	3.64E+10	1.92E+08	10.01
149	150	3.54E+10	1.22E+09	3.66E+10	1.92E+08	10.01
150	151	3.56E+10	1.22E+09	3.68E+10	1.92E+08	10.01
151	152	3.58E+10	1.22E+09	3.70E+10	1.92E+08	10.01
152	153	3.60E+10	1.22E+09	3.72E+10	1.92E+08	10.01
153	154	3.62E+10	1.22E+09	3.74E+10	1.92E+08	10.01
154	155	3.64E+10	1.22E+09	3.76E+10	1.92E+08	10.01
155	156	3.66E+10	1.22E+09	3.78E+10	1.92E+08	10.01
156	157	3.67E+10	1.22E+09	3.80E+10	1.92E+08	10.01
157	158	3.69E+10	1.22E+09	3.82E+10	1.92E+08	10.01
158	159	3.71E+10	1.22E+09	3.84E+10	1.92E+08	10.01
159	160	3.73E+10	1.22E+09	3.85E+10	1.92E+08	10.01
160	161	3.75E+10	1.22E+09	3.87E+10	1.92E+08	10.01
161	162	3.77E+10	1.22E+09	3.89E+10	1.92E+08	10.01
162	163	3.79E+10	1.22E+09	3.91E+10	1.92E+08	10.01
163	164	3.81E+10	1.22E+09	3.93E+10	1.92E+08	10.01
164	165	3.83E+10	1.22E+09	3.95E+10	1.92E+08	10.01
165	166	3.85E+10	1.22E+09	3.97E+10	1.92E+08	10.01
166	167	3.87E+10	1.22E+09	3.99E+10	1.88E+08	9.81
167	168	3.88E+10	1.22E+09	4.01E+10	1.80E+08	9.40
168	169	3.90E+10	1.22E+09	4.02E+10	1.80E+08	9.40
169	170	3.92E+10	1.22E+09	4.04E+10	1.80E+08	9.40
170	171	3.94E+10	1.22E+09	4.06E+10	1.80E+08	9.40
171	172	3.96E+10	1.22E+09	4.08E+10	1.80E+08	9.40
172	173	3.97E+10	1.22E+09	4.10E+10	1.80E+08	9.40
173	174	3.99E+10	1.22E+09	4.11E+10	1.80E+08	9.40
174	175	4.01E+10	1.22E+09	4.13E+10	1.80E+08	9.40
175	176	4.03E+10	1.22E+09	4.15E+10	1.80E+08	9.40
176	177	4.05E+10	1.22E+09	4.17E+10	1.80E+08	9.40

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
177	178	4.06E+10	1.22E+09	4.19E+10	1.80E+08	9.40
178	179	4.08E+10	1.22E+09	4.20E+10	1.80E+08	9.40
179	180	4.10E+10	1.22E+09	4.22E+10	1.80E+08	9.40
180	181	4.12E+10	1.22E+09	4.24E+10	1.80E+08	9.40
181	182	4.14E+10	1.22E+09	4.26E+10	1.80E+08	9.40
182	183	4.15E+10	1.22E+09	4.28E+10	1.80E+08	9.40
183	184	4.17E+10	1.22E+09	4.29E+10	1.80E+08	9.40
184	185	4.19E+10	1.22E+09	4.31E+10	1.80E+08	9.40
185	186	4.21E+10	1.22E+09	4.33E+10	1.80E+08	9.40
186	187	4.23E+10	1.22E+09	4.35E+10	1.80E+08	9.40
187	188	4.24E+10	1.22E+09	4.37E+10	1.80E+08	9.40
188	189	4.26E+10	1.22E+09	4.38E+10	1.80E+08	9.40
189	190	4.28E+10	1.22E+09	4.40E+10	1.80E+08	9.40
190	191	4.30E+10	1.22E+09	4.42E+10	1.80E+08	9.40
191	192	4.32E+10	1.22E+09	4.44E+10	1.80E+08	9.40
192	193	4.33E+10	1.22E+09	4.46E+10	1.80E+08	9.40
193	194	4.35E+10	1.22E+09	4.48E+10	1.80E+08	9.40
194	195	4.37E+10	1.22E+09	4.49E+10	1.80E+08	9.40
195	196	4.39E+10	1.22E+09	4.51E+10	1.80E+08	9.40
196	197	4.41E+10	1.22E+09	4.53E+10	1.80E+08	9.40
197	198	4.42E+10	1.22E+09	4.55E+10	1.80E+08	9.40
198	199	4.44E+10	1.22E+09	4.57E+10	1.80E+08	9.40
199	200	4.46E+10	1.22E+09	4.58E+10	1.80E+08	9.40
200	201	4.48E+10	1.22E+09	4.60E+10	1.80E+08	9.40
201	202	4.50E+10	1.22E+09	4.62E+10	1.80E+08	9.40
202	203	4.51E+10	1.22E+09	4.64E+10	1.80E+08	9.40
203	204	4.53E+10	1.22E+09	4.66E+10	1.80E+08	9.40
204	205	4.55E+10	1.22E+09	4.67E+10	1.80E+08	9.40
205	206	4.57E+10	1.22E+09	4.69E+10	1.80E+08	9.40
206	207	4.59E+10	1.22E+09	4.71E+10	1.80E+08	9.40
207	208	4.60E+10	1.22E+09	4.73E+10	1.80E+08	9.40
208	209	4.62E+10	1.22E+09	4.75E+10	1.80E+08	9.40
209	210	4.64E+10	1.22E+09	4.76E+10	1.80E+08	9.40
210	211	4.66E+10	1.22E+09	4.78E+10	1.80E+08	9.40
211	212	4.68E+10	1.22E+09	4.80E+10	1.80E+08	9.40
212	213	4.69E+10	1.22E+09	4.82E+10	1.80E+08	9.40
213	214	4.71E+10	1.22E+09	4.84E+10	1.80E+08	9.40
214	215	4.73E+10	1.22E+09	4.85E+10	1.80E+08	9.40
215	216	4.75E+10	1.22E+09	4.87E+10	1.80E+08	9.40
216	217	4.77E+10	1.22E+09	4.89E+10	1.80E+08	9.40
217	218	4.78E+10	1.22E+09	4.91E+10	1.80E+08	9.40
218	219	4.80E+10	1.22E+09	4.93E+10	1.80E+08	9.40
219	220	4.82E+10	1.22E+09	4.94E+10	1.80E+08	9.40
220	221	4.84E+10	1.22E+09	4.96E+10	1.80E+08	9.40
221	222	4.86E+10	1.22E+09	4.98E+10	1.80E+08	9.40

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
222	223	4.87E+10	1.22E+09	5.00E+10	1.75E+08	9.14
223	224	4.89E+10	1.22E+09	5.01E+10	1.74E+08	9.06
224	225	4.91E+10	1.22E+09	5.03E+10	1.74E+08	9.06
225	226	4.93E+10	1.22E+09	5.05E+10	1.74E+08	9.06
226	227	4.94E+10	1.22E+09	5.07E+10	1.74E+08	9.06
227	228	4.96E+10	1.22E+09	5.08E+10	1.74E+08	9.06
228	229	4.98E+10	1.22E+09	5.10E+10	1.74E+08	9.06
229	230	5.00E+10	1.22E+09	5.12E+10	1.74E+08	9.06
230	231	5.01E+10	1.22E+09	5.14E+10	1.74E+08	9.06
231	232	5.03E+10	1.22E+09	5.15E+10	1.74E+08	9.06
232	233	5.05E+10	1.22E+09	5.17E+10	1.74E+08	9.06
233	234	5.07E+10	1.22E+09	5.19E+10	1.74E+08	9.06
234	235	5.08E+10	1.22E+09	5.21E+10	1.74E+08	9.06
235	236	5.10E+10	1.22E+09	5.22E+10	1.74E+08	9.06
236	237	5.12E+10	1.22E+09	5.24E+10	1.74E+08	9.06
237	238	5.13E+10	1.22E+09	5.26E+10	1.74E+08	9.06
238	239	5.15E+10	1.22E+09	5.27E+10	1.74E+08	9.06
239	240	5.17E+10	1.22E+09	5.29E+10	1.74E+08	9.06
240	241	5.19E+10	1.22E+09	5.31E+10	1.70E+08	8.88
241	242	5.20E+10	1.22E+09	5.33E+10	1.70E+08	8.88
242	243	5.22E+10	1.22E+09	5.34E+10	1.70E+08	8.88
243	244	5.24E+10	1.22E+09	5.36E+10	1.70E+08	8.88
244	245	5.25E+10	1.22E+09	5.38E+10	1.70E+08	8.88
245	246	5.27E+10	1.22E+09	5.39E+10	1.70E+08	8.88
246	247	5.29E+10	1.22E+09	5.41E+10	1.70E+08	8.88
247	248	5.31E+10	1.22E+09	5.43E+10	1.70E+08	8.88
248	249	5.32E+10	1.22E+09	5.44E+10	1.70E+08	8.88
249	250	5.34E+10	1.22E+09	5.46E+10	1.70E+08	8.88
250	251	5.36E+10	1.22E+09	5.48E+10	1.70E+08	8.88
251	252	5.37E+10	1.22E+09	5.50E+10	1.70E+08	8.88
252	253	5.39E+10	1.22E+09	5.51E+10	1.70E+08	8.88
253	254	5.41E+10	1.22E+09	5.53E+10	1.70E+08	8.88
254	255	5.42E+10	1.22E+09	5.55E+10	1.70E+08	8.88
255	256	5.44E+10	1.22E+09	5.56E+10	1.70E+08	8.88
256	257	5.46E+10	1.22E+09	5.58E+10	1.70E+08	8.88
257	258	5.48E+10	1.22E+09	5.60E+10	1.70E+08	8.88
258	259	5.49E+10	1.22E+09	5.61E+10	1.70E+08	8.88
259	260	5.51E+10	1.22E+09	5.63E+10	1.70E+08	8.88
260	261	5.53E+10	1.22E+09	5.65E+10	1.70E+08	8.88
261	262	5.54E+10	1.22E+09	5.67E+10	1.70E+08	8.88
262	263	5.56E+10	1.22E+09	5.68E+10	1.70E+08	8.88
263	264	5.58E+10	1.22E+09	5.70E+10	1.70E+08	8.88
264	265	5.59E+10	1.22E+09	5.72E+10	1.70E+08	8.88
265	266	5.61E+10	1.22E+09	5.73E+10	1.70E+08	8.88
266	267	5.63E+10	1.22E+09	5.75E+10	1.70E+08	8.88

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
267	268	5.65E+10	1.22E+09	5.77E+10	1.70E+08	8.88
268	269	5.66E+10	1.22E+09	5.78E+10	1.70E+08	8.88
269	270	5.68E+10	1.22E+09	5.80E+10	1.70E+08	8.88
270	271	5.70E+10	1.22E+09	5.82E+10	1.70E+08	8.88
271	272	5.71E+10	1.22E+09	5.84E+10	1.70E+08	8.88
272	273	5.73E+10	1.22E+09	5.85E+10	1.70E+08	8.88
273	274	5.75E+10	1.22E+09	5.87E+10	1.70E+08	8.88
274	275	5.76E+10	1.22E+09	5.89E+10	1.70E+08	8.88
275	276	5.78E+10	1.22E+09	5.90E+10	1.70E+08	8.88
276	277	5.80E+10	1.22E+09	5.92E+10	1.70E+08	8.88
277	278	5.82E+10	1.22E+09	5.94E+10	1.68E+08	8.78
278	279	5.83E+10	1.22E+09	5.95E+10	1.62E+08	8.45
279	280	5.85E+10	1.22E+09	5.97E+10	1.62E+08	8.45
280	281	5.86E+10	1.22E+09	5.99E+10	1.62E+08	8.45
281	282	5.88E+10	1.22E+09	6.00E+10	1.62E+08	8.45
282	283	5.90E+10	1.22E+09	6.02E+10	1.62E+08	8.45
283	284	5.91E+10	1.22E+09	6.03E+10	1.62E+08	8.45
284	285	5.93E+10	1.22E+09	6.05E+10	1.62E+08	8.45
285	286	5.94E+10	1.22E+09	6.07E+10	1.62E+08	8.45
286	287	5.96E+10	1.22E+09	6.08E+10	1.62E+08	8.45
287	288	5.98E+10	1.22E+09	6.10E+10	1.62E+08	8.45
288	289	5.99E+10	1.22E+09	6.12E+10	1.62E+08	8.45
289	290	6.01E+10	1.22E+09	6.13E+10	1.62E+08	8.45
290	291	6.03E+10	1.22E+09	6.15E+10	1.62E+08	8.45
291	292	6.04E+10	1.22E+09	6.16E+10	1.62E+08	8.45
292	293	6.06E+10	1.22E+09	6.18E+10	1.62E+08	8.45
293	294	6.07E+10	1.22E+09	6.20E+10	1.62E+08	8.45
294	295	6.09E+10	1.22E+09	6.21E+10	1.62E+08	8.45
295	296	6.11E+10	1.22E+09	6.23E+10	1.62E+08	8.45
296	297	6.12E+10	1.22E+09	6.25E+10	1.62E+08	8.45
297	298	6.14E+10	1.22E+09	6.26E+10	1.62E+08	8.45
298	299	6.16E+10	1.22E+09	6.28E+10	1.62E+08	8.45
299	300	6.17E+10	1.22E+09	6.29E+10	1.62E+08	8.45
300	301	6.19E+10	1.22E+09	6.31E+10	1.62E+08	8.45
301	302	6.20E+10	1.22E+09	6.33E+10	1.62E+08	8.45
302	303	6.22E+10	1.22E+09	6.34E+10	1.62E+08	8.45
303	304	6.24E+10	1.22E+09	6.36E+10	1.62E+08	8.45
304	305	6.25E+10	1.22E+09	6.38E+10	1.62E+08	8.45
305	306	6.27E+10	1.22E+09	6.39E+10	1.62E+08	8.45
306	307	6.29E+10	1.22E+09	6.41E+10	1.62E+08	8.45
307	308	6.30E+10	1.22E+09	6.42E+10	1.62E+08	8.45
308	309	6.32E+10	1.22E+09	6.44E+10	1.62E+08	8.45
309	310	6.33E+10	1.22E+09	6.46E+10	1.62E+08	8.45
310	311	6.35E+10	1.22E+09	6.47E+10	1.62E+08	8.45
311	312	6.37E+10	1.22E+09	6.49E+10	1.62E+08	8.45

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
312	313	6.38E+10	1.22E+09	6.50E+10	1.62E+08	8.45
313	314	6.40E+10	1.22E+09	6.52E+10	1.62E+08	8.45
314	315	6.41E+10	1.22E+09	6.54E+10	1.62E+08	8.45
315	316	6.43E+10	1.22E+09	6.55E+10	1.62E+08	8.45
316	317	6.45E+10	1.22E+09	6.57E+10	1.62E+08	8.45
317	318	6.46E+10	1.22E+09	6.59E+10	1.62E+08	8.45
318	319	6.48E+10	1.22E+09	6.60E+10	1.62E+08	8.45
319	320	6.50E+10	1.22E+09	6.62E+10	1.62E+08	8.45
320	321	6.51E+10	1.22E+09	6.63E+10	1.62E+08	8.45
321	322	6.53E+10	1.22E+09	6.65E+10	1.62E+08	8.45
322	323	6.54E+10	1.22E+09	6.67E+10	1.62E+08	8.45
323	324	6.56E+10	1.22E+09	6.68E+10	1.62E+08	8.45
324	325	6.58E+10	1.22E+09	6.70E+10	1.62E+08	8.45
325	326	6.59E+10	1.22E+09	6.72E+10	1.62E+08	8.45
326	327	6.61E+10	1.22E+09	6.73E+10	1.62E+08	8.45
327	328	6.63E+10	1.22E+09	6.75E+10	1.62E+08	8.45
328	329	6.64E+10	1.22E+09	6.76E+10	1.62E+08	8.45
329	330	6.66E+10	1.22E+09	6.78E+10	1.62E+08	8.45
330	331	6.67E+10	1.22E+09	6.80E+10	1.62E+08	8.45
331	332	6.69E+10	1.22E+09	6.81E+10	1.62E+08	8.45
332	333	6.71E+10	1.22E+09	6.83E+10	1.62E+08	8.45
333	334	6.72E+10	1.22E+09	6.84E+10	1.62E+08	8.45
334	335	6.74E+10	1.22E+09	6.86E+10	1.62E+08	8.45
335	336	6.75E+10	1.22E+09	6.88E+10	1.62E+08	8.45
336	337	6.77E+10	1.22E+09	6.89E+10	1.62E+08	8.45
337	338	6.79E+10	1.22E+09	6.91E+10	1.62E+08	8.45
338	339	6.80E+10	1.22E+09	6.93E+10	1.62E+08	8.45
339	340	6.82E+10	1.22E+09	6.94E+10	1.62E+08	8.45
340	341	6.84E+10	1.22E+09	6.96E+10	1.62E+08	8.45
341	342	6.85E+10	1.22E+09	6.97E+10	1.62E+08	8.45
342	343	6.87E+10	1.22E+09	6.99E+10	1.62E+08	8.45
343	344	6.88E+10	1.22E+09	7.01E+10	1.62E+08	8.45
344	345	6.90E+10	1.22E+09	7.02E+10	1.62E+08	8.45
345	346	6.92E+10	1.22E+09	7.04E+10	1.62E+08	8.45
346	347	6.93E+10	1.22E+09	7.06E+10	1.62E+08	8.45
347	348	6.95E+10	1.22E+09	7.07E+10	1.62E+08	8.45
348	349	6.97E+10	1.22E+09	7.09E+10	1.62E+08	8.45
349	350	6.98E+10	1.22E+09	7.10E+10	1.62E+08	8.45
350	351	7.00E+10	1.22E+09	7.12E+10	1.62E+08	8.45
351	352	7.01E+10	1.22E+09	7.14E+10	1.62E+08	8.45
352	353	7.03E+10	1.22E+09	7.15E+10	1.62E+08	8.45
353	354	7.05E+10	1.22E+09	7.17E+10	1.62E+08	8.45
354	355	7.06E+10	1.22E+09	7.18E+10	1.62E+08	8.45
355	356	7.08E+10	1.22E+09	7.20E+10	1.62E+08	8.45
356	357	7.09E+10	1.22E+09	7.22E+10	1.62E+08	8.45

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
357	358	7.11E+10	1.22E+09	7.23E+10	1.62E+08	8.45
358	359	7.13E+10	1.22E+09	7.25E+10	1.62E+08	8.45
359	360	7.14E+10	1.22E+09	7.27E+10	1.62E+08	8.45
360	361	7.16E+10	1.22E+09	7.28E+10	1.62E+08	8.45
361	362	7.18E+10	1.22E+09	7.30E+10	1.62E+08	8.45
362	363	7.19E+10	1.22E+09	7.31E+10	1.62E+08	8.45
363	364	7.21E+10	1.22E+09	7.33E+10	1.62E+08	8.45
364	365	7.22E+10	1.22E+09	7.35E+10	1.62E+08	8.45
365	366	7.24E+10	1.22E+09	7.36E+10	1.62E+08	8.45
366	367	7.26E+10	1.22E+09	7.38E+10	1.62E+08	8.45
367	368	7.27E+10	1.22E+09	7.40E+10	1.62E+08	8.45
368	369	7.29E+10	1.22E+09	7.41E+10	1.62E+08	8.45
369	370	7.31E+10	1.22E+09	7.43E+10	1.62E+08	8.45
370	371	7.32E+10	1.22E+09	7.44E+10	1.62E+08	8.45
371	372	7.34E+10	1.22E+09	7.46E+10	1.62E+08	8.45
372	373	7.35E+10	1.22E+09	7.48E+10	1.62E+08	8.45
373	374	7.37E+10	1.22E+09	7.49E+10	1.62E+08	8.45
374	375	7.39E+10	1.22E+09	7.51E+10	1.62E+08	8.45
375	376	7.40E+10	1.22E+09	7.52E+10	1.62E+08	8.45
376	377	7.42E+10	1.22E+09	7.54E+10	1.62E+08	8.45
377	378	7.43E+10	1.22E+09	7.56E+10	1.62E+08	8.45
378	379	7.45E+10	1.22E+09	7.57E+10	1.62E+08	8.45
379	380	7.47E+10	1.22E+09	7.59E+10	1.62E+08	8.45
380	381	7.48E+10	1.22E+09	7.61E+10	1.62E+08	8.45
381	382	7.50E+10	1.22E+09	7.62E+10	1.62E+08	8.45
382	383	7.52E+10	1.22E+09	7.64E+10	1.62E+08	8.45
383	384	7.53E+10	1.22E+09	7.65E+10	1.62E+08	8.45
384	385	7.55E+10	1.22E+09	7.67E+10	1.62E+08	8.45
385	386	7.56E+10	1.22E+09	7.69E+10	1.62E+08	8.45
386	387	7.58E+10	1.22E+09	7.70E+10	1.62E+08	8.45
387	388	7.60E+10	1.22E+09	7.72E+10	1.62E+08	8.45
388	389	7.61E+10	1.22E+09	7.74E+10	1.62E+08	8.45
389	390	7.63E+10	1.22E+09	7.75E+10	1.62E+08	8.45
390	391	7.65E+10	1.22E+09	7.77E+10	1.62E+08	8.45
391	392	7.66E+10	1.22E+09	7.78E+10	1.62E+08	8.45
392	393	7.68E+10	1.22E+09	7.80E+10	1.62E+08	8.45
393	394	7.69E+10	1.22E+09	7.82E+10	1.62E+08	8.45
394	395	7.71E+10	1.22E+09	7.83E+10	1.62E+08	8.45
395	396	7.73E+10	1.22E+09	7.85E+10	1.62E+08	8.45
396	397	7.74E+10	1.22E+09	7.87E+10	1.62E+08	8.45
397	398	7.76E+10	1.22E+09	7.88E+10	1.62E+08	8.45
398	399	7.78E+10	1.22E+09	7.90E+10	1.62E+08	8.45
399	400	7.79E+10	1.22E+09	7.91E+10	1.62E+08	8.45
400	401	7.81E+10	1.22E+09	7.93E+10	1.62E+08	8.45
401	402	7.82E+10	1.22E+09	7.95E+10	1.62E+08	8.45



Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
402	403	7.84E+10	1.22E+09	7.96E+10	1.62E+08	8.45
403	404	7.86E+10	1.22E+09	7.98E+10	1.62E+08	8.45
404	405	7.87E+10	1.22E+09	7.99E+10	1.62E+08	8.45
405	406	7.89E+10	1.22E+09	8.01E+10	1.62E+08	8.45
406	407	7.90E+10	1.22E+09	8.03E+10	1.62E+08	8.45
407	408	7.92E+10	1.22E+09	8.04E+10	1.62E+08	8.45
408	409	7.94E+10	1.22E+09	8.06E+10	1.62E+08	8.45
409	410	7.95E+10	1.22E+09	8.08E+10	1.62E+08	8.45
410	411	7.97E+10	1.22E+09	8.09E+10	1.62E+08	8.45
411	412	7.99E+10	1.22E+09	8.11E+10	1.62E+08	8.45
412	413	8.00E+10	1.22E+09	8.12E+10	1.62E+08	8.45
413	414	8.02E+10	1.22E+09	8.14E+10	1.62E+08	8.45
414	415	8.03E+10	1.22E+09	8.16E+10	1.62E+08	8.45
415	416	8.05E+10	1.22E+09	8.17E+10	1.62E+08	8.45
416	417	8.07E+10	1.22E+09	8.19E+10	1.59E+08	8.32
417	418	8.08E+10	1.22E+09	8.20E+10	1.54E+08	8.06
418	419	8.10E+10	1.22E+09	8.22E+10	1.54E+08	8.06
419	420	8.11E+10	1.22E+09	8.24E+10	1.54E+08	8.06
420	421	8.13E+10	1.22E+09	8.25E+10	1.54E+08	8.06
421	422	8.14E+10	1.22E+09	8.27E+10	1.54E+08	8.06
422	423	8.16E+10	1.22E+09	8.28E+10	1.54E+08	8.06
423	424	8.17E+10	1.22E+09	8.30E+10	1.54E+08	8.06
424	425	8.19E+10	1.22E+09	8.31E+10	1.54E+08	8.06
425	426	8.21E+10	1.22E+09	8.33E+10	1.54E+08	8.06
426	427	8.22E+10	1.22E+09	8.34E+10	1.54E+08	8.06
427	428	8.24E+10	1.22E+09	8.36E+10	1.54E+08	8.06
428	429	8.25E+10	1.22E+09	8.37E+10	1.54E+08	8.06
429	430	8.27E+10	1.22E+09	8.39E+10	1.54E+08	8.06
430	431	8.28E+10	1.22E+09	8.40E+10	1.54E+08	8.06
431	432	8.30E+10	1.22E+09	8.42E+10	1.54E+08	8.06
432	433	8.31E+10	1.22E+09	8.44E+10	1.54E+08	8.06
433	434	8.33E+10	1.22E+09	8.45E+10	1.54E+08	8.06
434	435	8.34E+10	1.22E+09	8.47E+10	1.54E+08	8.06
435	436	8.36E+10	1.22E+09	8.48E+10	1.54E+08	8.06
436	437	8.38E+10	1.22E+09	8.50E+10	1.54E+08	8.06
437	438	8.39E+10	1.22E+09	8.51E+10	1.54E+08	8.06
438	439	8.41E+10	1.22E+09	8.53E+10	1.54E+08	8.06
439	440	8.42E+10	1.22E+09	8.54E+10	1.54E+08	8.06
440	441	8.44E+10	1.22E+09	8.56E+10	1.54E+08	8.06
441	442	8.45E+10	1.22E+09	8.57E+10	1.54E+08	8.06
442	443	8.47E+10	1.22E+09	8.59E+10	1.54E+08	8.06
443	444	8.48E+10	1.22E+09	8.61E+10	1.54E+08	8.06
444	445	8.50E+10	1.22E+09	8.62E+10	1.54E+08	8.06
445	446	8.51E+10	1.22E+09	8.64E+10	1.54E+08	8.06
446	447	8.53E+10	1.22E+09	8.65E+10	1.54E+08	8.06

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
447	448	8.54E+10	1.22E+09	8.67E+10	1.54E+08	8.06
448	449	8.56E+10	1.22E+09	8.68E+10	1.54E+08	8.06
449	450	8.58E+10	1.22E+09	8.70E+10	1.54E+08	8.06
450	451	8.59E+10	1.22E+09	8.71E+10	1.54E+08	8.06
451	452	8.61E+10	1.22E+09	8.73E+10	1.54E+08	8.06
452	453	8.62E+10	1.22E+09	8.74E+10	1.54E+08	8.06
453	454	8.64E+10	1.22E+09	8.76E+10	1.54E+08	8.06
454	455	8.65E+10	1.22E+09	8.78E+10	1.54E+08	8.06
455	456	8.67E+10	1.22E+09	8.79E+10	1.54E+08	8.06
456	457	8.68E+10	1.22E+09	8.81E+10	1.54E+08	8.06
457	458	8.70E+10	1.22E+09	8.82E+10	1.54E+08	8.06
458	459	8.71E+10	1.22E+09	8.84E+10	1.54E+08	8.06
459	460	8.73E+10	1.22E+09	8.85E+10	1.54E+08	8.06
460	461	8.75E+10	1.22E+09	8.87E+10	1.54E+08	8.06
461	462	8.76E+10	1.22E+09	8.88E+10	1.54E+08	8.06
462	463	8.78E+10	1.22E+09	8.90E+10	1.54E+08	8.06
463	464	8.79E+10	1.22E+09	8.91E+10	1.54E+08	8.06
464	465	8.81E+10	1.22E+09	8.93E+10	1.54E+08	8.06
465	466	8.82E+10	1.22E+09	8.95E+10	1.54E+08	8.06
466	467	8.84E+10	1.22E+09	8.96E+10	1.54E+08	8.06
467	468	8.85E+10	1.22E+09	8.98E+10	1.54E+08	8.06
468	469	8.87E+10	1.22E+09	8.99E+10	1.54E+08	8.06
469	470	8.88E+10	1.22E+09	9.01E+10	1.54E+08	8.06
470	471	8.90E+10	1.22E+09	9.02E+10	1.54E+08	8.06
471	472	8.92E+10	1.22E+09	9.04E+10	1.54E+08	8.06
472	473	8.93E+10	1.22E+09	9.05E+10	1.54E+08	8.06
473	474	8.95E+10	1.22E+09	9.07E+10	1.54E+08	8.06
474	475	8.96E+10	1.22E+09	9.08E+10	1.54E+08	8.06
475	476	8.98E+10	1.22E+09	9.10E+10	1.54E+08	8.06
476	477	8.99E+10	1.22E+09	9.12E+10	1.54E+08	8.06
477	478	9.01E+10	1.22E+09	9.13E+10	1.54E+08	8.06
478	479	9.02E+10	1.22E+09	9.15E+10	1.54E+08	8.06
479	480	9.04E+10	1.22E+09	9.16E+10	1.54E+08	8.06
480	481	9.05E+10	1.22E+09	9.18E+10	1.51E+08	7.87
481	482	9.07E+10	1.22E+09	9.19E+10	1.51E+08	7.87
482	483	9.08E+10	1.22E+09	9.21E+10	1.51E+08	7.87
483	484	9.10E+10	1.22E+09	9.22E+10	1.51E+08	7.87
484	485	9.11E+10	1.22E+09	9.24E+10	1.51E+08	7.87
485	486	9.13E+10	1.22E+09	9.25E+10	1.51E+08	7.87
486	487	9.14E+10	1.22E+09	9.27E+10	1.51E+08	7.87
487	488	9.16E+10	1.22E+09	9.28E+10	1.51E+08	7.87
488	489	9.17E+10	1.22E+09	9.30E+10	1.51E+08	7.87
489	490	9.19E+10	1.22E+09	9.31E+10	1.51E+08	7.87
490	491	9.21E+10	1.22E+09	9.33E+10	1.51E+08	7.87
491	492	9.22E+10	1.22E+09	9.34E+10	1.51E+08	7.87

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
492	493	9.24E+10	1.22E+09	9.36E+10	1.51E+08	7.87
493	494	9.25E+10	1.22E+09	9.37E+10	1.51E+08	7.87
494	495	9.27E+10	1.22E+09	9.39E+10	1.51E+08	7.87
495	496	9.28E+10	1.22E+09	9.40E+10	1.51E+08	7.87
496	497	9.30E+10	1.22E+09	9.42E+10	1.51E+08	7.87
497	498	9.31E+10	1.22E+09	9.43E+10	1.51E+08	7.87
498	499	9.33E+10	1.22E+09	9.45E+10	1.51E+08	7.87
499	500	9.34E+10	1.22E+09	9.46E+10	1.51E+08	7.87
500	501	9.36E+10	1.22E+09	9.48E+10	1.51E+08	7.87
501	502	9.37E+10	1.22E+09	9.49E+10	1.51E+08	7.87
502	503	9.39E+10	1.22E+09	9.51E+10	1.51E+08	7.87
503	504	9.40E+10	1.22E+09	9.52E+10	1.51E+08	7.87
504	505	9.42E+10	1.22E+09	9.54E+10	1.51E+08	7.87
505	506	9.43E+10	1.22E+09	9.55E+10	1.51E+08	7.87
506	507	9.45E+10	1.22E+09	9.57E+10	1.51E+08	7.87
507	508	9.46E+10	1.22E+09	9.58E+10	1.51E+08	7.87
508	509	9.48E+10	1.22E+09	9.60E+10	1.51E+08	7.87
509	510	9.49E+10	1.22E+09	9.61E+10	1.51E+08	7.87
510	511	9.51E+10	1.22E+09	9.63E+10	1.51E+08	7.87
511	512	9.52E+10	1.22E+09	9.64E+10	1.51E+08	7.87
512	513	9.54E+10	1.22E+09	9.66E+10	1.51E+08	7.87
513	514	9.55E+10	1.22E+09	9.67E+10	1.51E+08	7.87
514	515	9.57E+10	1.22E+09	9.69E+10	1.51E+08	7.87
515	516	9.58E+10	1.22E+09	9.70E+10	1.51E+08	7.87
516	517	9.60E+10	1.22E+09	9.72E+10	1.51E+08	7.87
517	518	9.61E+10	1.22E+09	9.73E+10	1.51E+08	7.87
518	519	9.63E+10	1.22E+09	9.75E+10	1.51E+08	7.87
519	520	9.64E+10	1.22E+09	9.76E+10	1.51E+08	7.87
520	521	9.66E+10	1.22E+09	9.78E+10	1.51E+08	7.87
521	522	9.67E+10	1.22E+09	9.80E+10	1.51E+08	7.87
522	523	9.69E+10	1.22E+09	9.81E+10	1.51E+08	7.87
523	524	9.70E+10	1.22E+09	9.83E+10	1.51E+08	7.87
524	525	9.72E+10	1.22E+09	9.84E+10	1.51E+08	7.87
525	526	9.73E+10	1.22E+09	9.86E+10	1.51E+08	7.87
526	527	9.75E+10	1.22E+09	9.87E+10	1.51E+08	7.87
527	528	9.76E+10	1.22E+09	9.89E+10	1.51E+08	7.87
528	529	9.78E+10	1.22E+09	9.90E+10	1.51E+08	7.87
529	530	9.79E+10	1.22E+09	9.92E+10	1.51E+08	7.87
530	531	9.81E+10	1.22E+09	9.93E+10	1.51E+08	7.87
531	532	9.82E+10	1.22E+09	9.95E+10	1.51E+08	7.87
532	533	9.84E+10	1.22E+09	9.96E+10	1.51E+08	7.87
533	534	9.85E+10	1.22E+09	9.98E+10	1.51E+08	7.87
534	535	9.87E+10	1.22E+09	9.99E+10	1.51E+08	7.87
535	536	9.88E+10	1.22E+09	1.00E+11	1.51E+08	7.87
536	537	9.90E+10	1.22E+09	1.00E+11	1.51E+08	7.87

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
537	538	9.91E+10	1.22E+09	1.00E+11	1.51E+08	7.87
538	539	9.93E+10	1.22E+09	1.01E+11	1.51E+08	7.87
539	540	9.94E+10	1.22E+09	1.01E+11	1.51E+08	7.87
540	541	9.96E+10	1.22E+09	1.01E+11	1.51E+08	7.87
541	542	9.97E+10	1.22E+09	1.01E+11	1.51E+08	7.87
542	543	9.99E+10	1.22E+09	1.01E+11	1.51E+08	7.87
543	544	1.00E+11	1.22E+09	1.01E+11	1.51E+08	7.87
544	545	1.00E+11	1.22E+09	1.01E+11	1.51E+08	7.87
545	546	1.00E+11	1.22E+09	1.02E+11	1.51E+08	7.87
546	547	1.00E+11	1.22E+09	1.02E+11	1.51E+08	7.87
547	548	1.01E+11	1.22E+09	1.02E+11	1.51E+08	7.87
548	549	1.01E+11	1.22E+09	1.02E+11	1.51E+08	7.87
549	550	1.01E+11	1.22E+09	1.02E+11	1.51E+08	7.87
550	551	1.01E+11	1.22E+09	1.02E+11	1.51E+08	7.87
551	552	1.01E+11	1.22E+09	1.02E+11	1.51E+08	7.87
552	553	1.01E+11	1.22E+09	1.03E+11	1.51E+08	7.87
553	554	1.02E+11	1.22E+09	1.03E+11	1.51E+08	7.87
554	555	1.02E+11	1.22E+09	1.03E+11	1.51E+08	7.87
555	556	1.02E+11	1.22E+09	1.03E+11	1.49E+08	7.76
556	557	1.02E+11	1.22E+09	1.03E+11	1.46E+08	7.63
557	558	1.02E+11	1.22E+09	1.03E+11	1.46E+08	7.63
558	559	1.02E+11	1.22E+09	1.04E+11	1.46E+08	7.63
559	560	1.02E+11	1.22E+09	1.04E+11	1.46E+08	7.63
560	561	1.03E+11	1.22E+09	1.04E+11	1.46E+08	7.63
561	562	1.03E+11	1.22E+09	1.04E+11	1.46E+08	7.63
562	563	1.03E+11	1.22E+09	1.04E+11	1.46E+08	7.63
563	564	1.03E+11	1.22E+09	1.04E+11	1.46E+08	7.63
564	565	1.03E+11	1.22E+09	1.04E+11	1.46E+08	7.63
565	566	1.03E+11	1.22E+09	1.05E+11	1.46E+08	7.63
566	567	1.03E+11	1.22E+09	1.05E+11	1.46E+08	7.63
567	568	1.04E+11	1.22E+09	1.05E+11	1.46E+08	7.63
568	569	1.04E+11	1.22E+09	1.05E+11	1.46E+08	7.63
569	570	1.04E+11	1.22E+09	1.05E+11	1.46E+08	7.63
570	571	1.04E+11	1.22E+09	1.05E+11	1.46E+08	7.63
571	572	1.04E+11	1.22E+09	1.05E+11	1.46E+08	7.63
572	573	1.04E+11	1.22E+09	1.06E+11	1.46E+08	7.63
573	574	1.04E+11	1.22E+09	1.06E+11	1.46E+08	7.63
574	575	1.05E+11	1.22E+09	1.06E+11	1.46E+08	7.63
575	576	1.05E+11	1.22E+09	1.06E+11	1.46E+08	7.63
576	577	1.05E+11	1.22E+09	1.06E+11	1.46E+08	7.63
577	578	1.05E+11	1.22E+09	1.06E+11	1.46E+08	7.63
578	579	1.05E+11	1.22E+09	1.06E+11	1.46E+08	7.63
579	580	1.05E+11	1.22E+09	1.07E+11	1.46E+08	7.63
580	581	1.06E+11	1.22E+09	1.07E+11	1.46E+08	7.63
581	582	1.06E+11	1.22E+09	1.07E+11	1.46E+08	7.63

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
582	583	1.06E+11	1.22E+09	1.07E+11	1.46E+08	7.63
583	584	1.06E+11	1.22E+09	1.07E+11	1.46E+08	7.63
584	585	1.06E+11	1.22E+09	1.07E+11	1.46E+08	7.63
585	586	1.06E+11	1.22E+09	1.07E+11	1.46E+08	7.63
586	587	1.06E+11	1.22E+09	1.08E+11	1.46E+08	7.63
587	588	1.07E+11	1.22E+09	1.08E+11	1.46E+08	7.63
588	589	1.07E+11	1.22E+09	1.08E+11	1.46E+08	7.63
589	590	1.07E+11	1.22E+09	1.08E+11	1.46E+08	7.63
590	591	1.07E+11	1.22E+09	1.08E+11	1.46E+08	7.63
591	592	1.07E+11	1.22E+09	1.08E+11	1.46E+08	7.63
592	593	1.07E+11	1.22E+09	1.08E+11	1.46E+08	7.63
593	594	1.07E+11	1.22E+09	1.09E+11	1.46E+08	7.63
594	595	1.08E+11	1.22E+09	1.09E+11	1.46E+08	7.63
595	596	1.08E+11	1.22E+09	1.09E+11	1.46E+08	7.63
596	597	1.08E+11	1.22E+09	1.09E+11	1.46E+08	7.63
597	598	1.08E+11	1.22E+09	1.09E+11	1.46E+08	7.63
598	599	1.08E+11	1.22E+09	1.09E+11	1.46E+08	7.63
599	600	1.08E+11	1.22E+09	1.10E+11	1.46E+08	7.63
600	601	1.08E+11	1.22E+09	1.10E+11	1.46E+08	7.63
601	602	1.09E+11	1.22E+09	1.10E+11	1.46E+08	7.63
602	603	1.09E+11	1.22E+09	1.10E+11	1.46E+08	7.63
603	604	1.09E+11	1.22E+09	1.10E+11	1.46E+08	7.63
604	605	1.09E+11	1.22E+09	1.10E+11	1.46E+08	7.63
605	606	1.09E+11	1.22E+09	1.10E+11	1.46E+08	7.63
606	607	1.09E+11	1.22E+09	1.11E+11	1.46E+08	7.63
607	608	1.09E+11	1.22E+09	1.11E+11	1.46E+08	7.63
608	609	1.10E+11	1.22E+09	1.11E+11	1.46E+08	7.63
609	610	1.10E+11	1.22E+09	1.11E+11	1.46E+08	7.63
610	611	1.10E+11	1.22E+09	1.11E+11	1.46E+08	7.63
611	612	1.10E+11	1.22E+09	1.11E+11	1.46E+08	7.63
612	613	1.10E+11	1.22E+09	1.11E+11	1.46E+08	7.63
613	614	1.10E+11	1.22E+09	1.12E+11	1.46E+08	7.63
614	615	1.10E+11	1.22E+09	1.12E+11	1.46E+08	7.63
615	616	1.11E+11	1.22E+09	1.12E+11	1.46E+08	7.63
616	617	1.11E+11	1.22E+09	1.12E+11	1.46E+08	7.63
617	618	1.11E+11	1.22E+09	1.12E+11	1.46E+08	7.63
618	619	1.11E+11	1.22E+09	1.12E+11	1.46E+08	7.63
619	620	1.11E+11	1.22E+09	1.12E+11	1.46E+08	7.63
620	621	1.11E+11	1.22E+09	1.13E+11	1.46E+08	7.63
621	622	1.11E+11	1.22E+09	1.13E+11	1.46E+08	7.63
622	623	1.12E+11	1.22E+09	1.13E+11	1.46E+08	7.63
623	624	1.12E+11	1.22E+09	1.13E+11	1.46E+08	7.63
624	625	1.12E+11	1.22E+09	1.13E+11	1.46E+08	7.63
625	626	1.12E+11	1.22E+09	1.13E+11	1.46E+08	7.63
626	627	1.12E+11	1.22E+09	1.13E+11	1.46E+08	7.63

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
627	628	1.12E+11	1.22E+09	1.14E+11	1.46E+08	7.63
628	629	1.13E+11	1.22E+09	1.14E+11	1.46E+08	7.63
629	630	1.13E+11	1.22E+09	1.14E+11	1.46E+08	7.63
630	631	1.13E+11	1.22E+09	1.14E+11	1.46E+08	7.63
631	632	1.13E+11	1.22E+09	1.14E+11	1.46E+08	7.63
632	633	1.13E+11	1.22E+09	1.14E+11	1.46E+08	7.63
633	634	1.13E+11	1.22E+09	1.14E+11	1.46E+08	7.63
634	635	1.13E+11	1.22E+09	1.15E+11	1.46E+08	7.63
635	636	1.14E+11	1.22E+09	1.15E+11	1.46E+08	7.63
636	637	1.14E+11	1.22E+09	1.15E+11	1.46E+08	7.63
637	638	1.14E+11	1.22E+09	1.15E+11	1.46E+08	7.63
638	639	1.14E+11	1.22E+09	1.15E+11	1.46E+08	7.63
639	640	1.14E+11	1.22E+09	1.15E+11	1.46E+08	7.63
640	641	1.14E+11	1.22E+09	1.15E+11	1.46E+08	7.63
641	642	1.14E+11	1.22E+09	1.16E+11	1.46E+08	7.63
642	643	1.15E+11	1.22E+09	1.16E+11	1.46E+08	7.63
643	644	1.15E+11	1.22E+09	1.16E+11	1.46E+08	7.63
644	645	1.15E+11	1.22E+09	1.16E+11	1.46E+08	7.63
645	646	1.15E+11	1.22E+09	1.16E+11	1.46E+08	7.63
646	647	1.15E+11	1.22E+09	1.16E+11	1.46E+08	7.63
647	648	1.15E+11	1.22E+09	1.17E+11	1.46E+08	7.63
648	649	1.15E+11	1.22E+09	1.17E+11	1.46E+08	7.63
649	650	1.16E+11	1.22E+09	1.17E+11	1.46E+08	7.63
650	651	1.16E+11	1.22E+09	1.17E+11	1.46E+08	7.63
651	652	1.16E+11	1.22E+09	1.17E+11	1.46E+08	7.63
652	653	1.16E+11	1.22E+09	1.17E+11	1.46E+08	7.63
653	654	1.16E+11	1.22E+09	1.17E+11	1.46E+08	7.63
654	655	1.16E+11	1.22E+09	1.18E+11	1.46E+08	7.63
655	656	1.16E+11	1.22E+09	1.18E+11	1.46E+08	7.63
656	657	1.17E+11	1.22E+09	1.18E+11	1.46E+08	7.63
657	658	1.17E+11	1.22E+09	1.18E+11	1.46E+08	7.63
658	659	1.17E+11	1.22E+09	1.18E+11	1.46E+08	7.63
659	660	1.17E+11	1.22E+09	1.18E+11	1.46E+08	7.63
660	661	1.17E+11	1.22E+09	1.18E+11	1.46E+08	7.63
661	662	1.17E+11	1.22E+09	1.19E+11	1.46E+08	7.63
662	663	1.17E+11	1.22E+09	1.19E+11	1.46E+08	7.63
663	664	1.18E+11	1.22E+09	1.19E+11	1.46E+08	7.63
664	665	1.18E+11	1.22E+09	1.19E+11	1.46E+08	7.63
665	666	1.18E+11	1.22E+09	1.19E+11	1.46E+08	7.63
666	667	1.18E+11	1.22E+09	1.19E+11	1.46E+08	7.63
667	668	1.18E+11	1.22E+09	1.19E+11	1.46E+08	7.63
668	669	1.18E+11	1.22E+09	1.20E+11	1.46E+08	7.63
669	670	1.19E+11	1.22E+09	1.20E+11	1.46E+08	7.63
670	671	1.19E+11	1.22E+09	1.20E+11	1.46E+08	7.63
671	672	1.19E+11	1.22E+09	1.20E+11	1.46E+08	7.63

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
672	673	1.19E+11	1.22E+09	1.20E+11	1.46E+08	7.63
673	674	1.19E+11	1.22E+09	1.20E+11	1.46E+08	7.63
674	675	1.19E+11	1.22E+09	1.20E+11	1.46E+08	7.63
675	676	1.19E+11	1.22E+09	1.21E+11	1.46E+08	7.63
676	677	1.20E+11	1.22E+09	1.21E+11	1.46E+08	7.63
677	678	1.20E+11	1.22E+09	1.21E+11	1.46E+08	7.63
678	679	1.20E+11	1.22E+09	1.21E+11	1.46E+08	7.63
679	680	1.20E+11	1.22E+09	1.21E+11	1.46E+08	7.63
680	681	1.20E+11	1.22E+09	1.21E+11	1.46E+08	7.63
681	682	1.20E+11	1.22E+09	1.21E+11	1.46E+08	7.63
682	683	1.20E+11	1.22E+09	1.22E+11	1.46E+08	7.63
683	684	1.21E+11	1.22E+09	1.22E+11	1.46E+08	7.63
684	685	1.21E+11	1.22E+09	1.22E+11	1.46E+08	7.63
685	686	1.21E+11	1.22E+09	1.22E+11	1.46E+08	7.63
686	687	1.21E+11	1.22E+09	1.22E+11	1.46E+08	7.63
687	688	1.21E+11	1.22E+09	1.22E+11	1.46E+08	7.63
688	689	1.21E+11	1.22E+09	1.23E+11	1.46E+08	7.63
689	690	1.21E+11	1.22E+09	1.23E+11	1.46E+08	7.63
690	691	1.22E+11	1.22E+09	1.23E+11	1.46E+08	7.63
691	692	1.22E+11	1.22E+09	1.23E+11	1.46E+08	7.63
692	693	1.22E+11	1.22E+09	1.23E+11	1.46E+08	7.63
693	694	1.22E+11	1.22E+09	1.23E+11	1.46E+08	7.63
694	695	1.22E+11	1.22E+09	1.23E+11	1.46E+08	7.63
695	696	1.22E+11	1.22E+09	1.24E+11	1.46E+08	7.63
696	697	1.22E+11	1.22E+09	1.24E+11	1.46E+08	7.63
697	698	1.23E+11	1.22E+09	1.24E+11	1.46E+08	7.63
698	699	1.23E+11	1.22E+09	1.24E+11	1.46E+08	7.63
699	700	1.23E+11	1.22E+09	1.24E+11	1.46E+08	7.63
700	701	1.23E+11	1.22E+09	1.24E+11	1.46E+08	7.63
701	702	1.23E+11	1.22E+09	1.24E+11	1.46E+08	7.63
702	703	1.23E+11	1.22E+09	1.25E+11	1.46E+08	7.63
703	704	1.23E+11	1.22E+09	1.25E+11	1.46E+08	7.63
704	705	1.24E+11	1.22E+09	1.25E+11	1.46E+08	7.63
705	706	1.24E+11	1.22E+09	1.25E+11	1.46E+08	7.63
706	707	1.24E+11	1.22E+09	1.25E+11	1.46E+08	7.63
707	708	1.24E+11	1.22E+09	1.25E+11	1.46E+08	7.63
708	709	1.24E+11	1.22E+09	1.25E+11	1.46E+08	7.63
709	710	1.24E+11	1.22E+09	1.26E+11	1.46E+08	7.63
710	711	1.25E+11	1.22E+09	1.26E+11	1.46E+08	7.63
711	712	1.25E+11	1.22E+09	1.26E+11	1.46E+08	7.63
712	713	1.25E+11	1.22E+09	1.26E+11	1.46E+08	7.63
713	714	1.25E+11	1.22E+09	1.26E+11	1.46E+08	7.63
714	715	1.25E+11	1.22E+09	1.26E+11	1.46E+08	7.63
715	716	1.25E+11	1.22E+09	1.26E+11	1.46E+08	7.63
716	717	1.25E+11	1.22E+09	1.27E+11	1.46E+08	7.63

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
717	718	1.26E+11	1.22E+09	1.27E+11	1.46E+08	7.63
718	719	1.26E+11	1.22E+09	1.27E+11	1.46E+08	7.63
719	720	1.26E+11	1.22E+09	1.27E+11	1.46E+08	7.63
720	721	1.26E+11	1.22E+09	1.27E+11	1.40E+08	7.31
721	722	1.26E+11	1.22E+09	1.27E+11	1.40E+08	7.31
722	723	1.26E+11	1.22E+09	1.27E+11	1.40E+08	7.31
723	724	1.26E+11	1.22E+09	1.28E+11	1.40E+08	7.31
724	725	1.27E+11	1.22E+09	1.28E+11	1.40E+08	7.31
725	726	1.27E+11	1.22E+09	1.28E+11	1.40E+08	7.31
726	727	1.27E+11	1.22E+09	1.28E+11	1.40E+08	7.31
727	728	1.27E+11	1.22E+09	1.28E+11	1.40E+08	7.31
728	729	1.27E+11	1.22E+09	1.28E+11	1.40E+08	7.31
729	730	1.27E+11	1.22E+09	1.28E+11	1.40E+08	7.31
730	731	1.27E+11	1.22E+09	1.29E+11	1.40E+08	7.31
731	732	1.27E+11	1.22E+09	1.29E+11	1.40E+08	7.31
732	733	1.28E+11	1.22E+09	1.29E+11	1.40E+08	7.31
733	734	1.28E+11	1.22E+09	1.29E+11	1.40E+08	7.31
734	735	1.28E+11	1.22E+09	1.29E+11	1.40E+08	7.31
735	736	1.28E+11	1.22E+09	1.29E+11	1.40E+08	7.31
736	737	1.28E+11	1.22E+09	1.29E+11	1.40E+08	7.31
737	738	1.28E+11	1.22E+09	1.30E+11	1.40E+08	7.31
738	739	1.28E+11	1.22E+09	1.30E+11	1.40E+08	7.31
739	740	1.29E+11	1.22E+09	1.30E+11	1.40E+08	7.31
740	741	1.29E+11	1.22E+09	1.30E+11	1.40E+08	7.31
741	742	1.29E+11	1.22E+09	1.30E+11	1.40E+08	7.31
742	743	1.29E+11	1.22E+09	1.30E+11	1.40E+08	7.31
743	744	1.29E+11	1.22E+09	1.30E+11	1.40E+08	7.31
744	745	1.29E+11	1.22E+09	1.31E+11	1.40E+08	7.31
745	746	1.29E+11	1.22E+09	1.31E+11	1.40E+08	7.31
746	747	1.30E+11	1.22E+09	1.31E+11	1.40E+08	7.31
747	748	1.30E+11	1.22E+09	1.31E+11	1.40E+08	7.31
748	749	1.30E+11	1.22E+09	1.31E+11	1.40E+08	7.31
749	750	1.30E+11	1.22E+09	1.31E+11	1.40E+08	7.31
750	751	1.30E+11	1.22E+09	1.31E+11	1.40E+08	7.31
751	752	1.30E+11	1.22E+09	1.32E+11	1.40E+08	7.31
752	753	1.30E+11	1.22E+09	1.32E+11	1.40E+08	7.31
753	754	1.31E+11	1.22E+09	1.32E+11	1.40E+08	7.31
754	755	1.31E+11	1.22E+09	1.32E+11	1.40E+08	7.31
755	756	1.31E+11	1.22E+09	1.32E+11	1.40E+08	7.31
756	757	1.31E+11	1.22E+09	1.32E+11	1.40E+08	7.31
757	758	1.31E+11	1.22E+09	1.32E+11	1.40E+08	7.31
758	759	1.31E+11	1.22E+09	1.33E+11	1.40E+08	7.31
759	760	1.31E+11	1.22E+09	1.33E+11	1.40E+08	7.31
760	761	1.32E+11	1.22E+09	1.33E+11	1.40E+08	7.31
761	762	1.32E+11	1.22E+09	1.33E+11	1.40E+08	7.31



Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
762	763	1.32E+11	1.22E+09	1.33E+11	1.40E+08	7.31
763	764	1.32E+11	1.22E+09	1.33E+11	1.40E+08	7.31
764	765	1.32E+11	1.22E+09	1.33E+11	1.40E+08	7.31
765	766	1.32E+11	1.22E+09	1.33E+11	1.40E+08	7.31
766	767	1.32E+11	1.22E+09	1.34E+11	1.40E+08	7.31
767	768	1.33E+11	1.22E+09	1.34E+11	1.40E+08	7.31
768	769	1.33E+11	1.22E+09	1.34E+11	1.40E+08	7.31
769	770	1.33E+11	1.22E+09	1.34E+11	1.40E+08	7.31
770	771	1.33E+11	1.22E+09	1.34E+11	1.40E+08	7.31
771	772	1.33E+11	1.22E+09	1.34E+11	1.40E+08	7.31
772	773	1.33E+11	1.22E+09	1.34E+11	1.40E+08	7.31
773	774	1.33E+11	1.22E+09	1.35E+11	1.40E+08	7.31
774	775	1.34E+11	1.22E+09	1.35E+11	1.40E+08	7.31
775	776	1.34E+11	1.22E+09	1.35E+11	1.40E+08	7.31
776	777	1.34E+11	1.22E+09	1.35E+11	1.40E+08	7.31
777	778	1.34E+11	1.22E+09	1.35E+11	1.40E+08	7.31
778	779	1.34E+11	1.22E+09	1.35E+11	1.40E+08	7.31
779	780	1.34E+11	1.22E+09	1.35E+11	1.40E+08	7.31
780	781	1.34E+11	1.22E+09	1.36E+11	1.40E+08	7.31
781	782	1.35E+11	1.22E+09	1.36E+11	1.40E+08	7.31
782	783	1.35E+11	1.22E+09	1.36E+11	1.40E+08	7.31
783	784	1.35E+11	1.22E+09	1.36E+11	1.40E+08	7.31
784	785	1.35E+11	1.22E+09	1.36E+11	1.40E+08	7.31
785	786	1.35E+11	1.22E+09	1.36E+11	1.40E+08	7.31
786	787	1.35E+11	1.22E+09	1.36E+11	1.40E+08	7.31
787	788	1.35E+11	1.22E+09	1.37E+11	1.40E+08	7.31
788	789	1.35E+11	1.22E+09	1.37E+11	1.40E+08	7.31
789	790	1.36E+11	1.22E+09	1.37E+11	1.40E+08	7.31
790	791	1.36E+11	1.22E+09	1.37E+11	1.40E+08	7.31
791	792	1.36E+11	1.22E+09	1.37E+11	1.40E+08	7.31
792	793	1.36E+11	1.22E+09	1.37E+11	1.40E+08	7.31
793	794	1.36E+11	1.22E+09	1.37E+11	1.40E+08	7.31
794	795	1.36E+11	1.22E+09	1.38E+11	1.40E+08	7.31
795	796	1.36E+11	1.22E+09	1.38E+11	1.40E+08	7.31
796	797	1.37E+11	1.22E+09	1.38E+11	1.40E+08	7.31
797	798	1.37E+11	1.22E+09	1.38E+11	1.40E+08	7.31
798	799	1.37E+11	1.22E+09	1.38E+11	1.40E+08	7.31
799	800	1.37E+11	1.22E+09	1.38E+11	1.40E+08	7.31
800	801	1.37E+11	1.22E+09	1.38E+11	1.40E+08	7.31
801	802	1.37E+11	1.22E+09	1.39E+11	1.40E+08	7.31
802	803	1.37E+11	1.22E+09	1.39E+11	1.40E+08	7.31
803	804	1.38E+11	1.22E+09	1.39E+11	1.40E+08	7.31
804	805	1.38E+11	1.22E+09	1.39E+11	1.40E+08	7.31
805	806	1.38E+11	1.22E+09	1.39E+11	1.40E+08	7.31
806	807	1.38E+11	1.22E+09	1.39E+11	1.40E+08	7.31

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
807	808	1.38E+11	1.22E+09	1.39E+11	1.40E+08	7.31
808	809	1.38E+11	1.22E+09	1.40E+11	1.40E+08	7.31
809	810	1.38E+11	1.22E+09	1.40E+11	1.40E+08	7.31
810	811	1.39E+11	1.22E+09	1.40E+11	1.40E+08	7.31
811	812	1.39E+11	1.22E+09	1.40E+11	1.40E+08	7.31
812	813	1.39E+11	1.22E+09	1.40E+11	1.40E+08	7.31
813	814	1.39E+11	1.22E+09	1.40E+11	1.40E+08	7.31
814	815	1.39E+11	1.22E+09	1.40E+11	1.40E+08	7.31
815	816	1.39E+11	1.22E+09	1.40E+11	1.40E+08	7.31
816	817	1.39E+11	1.22E+09	1.41E+11	1.40E+08	7.31
817	818	1.40E+11	1.22E+09	1.41E+11	1.40E+08	7.31
818	819	1.40E+11	1.22E+09	1.41E+11	1.40E+08	7.31
819	820	1.40E+11	1.22E+09	1.41E+11	1.40E+08	7.31
820	821	1.40E+11	1.22E+09	1.41E+11	1.40E+08	7.31
821	822	1.40E+11	1.22E+09	1.41E+11	1.40E+08	7.31
822	823	1.40E+11	1.22E+09	1.41E+11	1.40E+08	7.31
823	824	1.40E+11	1.22E+09	1.42E+11	1.40E+08	7.31
824	825	1.41E+11	1.22E+09	1.42E+11	1.40E+08	7.31
825	826	1.41E+11	1.22E+09	1.42E+11	1.40E+08	7.31
826	827	1.41E+11	1.22E+09	1.42E+11	1.40E+08	7.31
827	828	1.41E+11	1.22E+09	1.42E+11	1.40E+08	7.31
828	829	1.41E+11	1.22E+09	1.42E+11	1.40E+08	7.31
829	830	1.41E+11	1.22E+09	1.42E+11	1.40E+08	7.31
830	831	1.41E+11	1.22E+09	1.43E+11	1.40E+08	7.31
831	832	1.42E+11	1.22E+09	1.43E+11	1.40E+08	7.31
832	833	1.42E+11	1.22E+09	1.43E+11	1.40E+08	7.31
833	834	1.42E+11	1.22E+09	1.43E+11	1.40E+08	7.31
834	835	1.42E+11	1.22E+09	1.43E+11	1.40E+08	7.31
835	836	1.42E+11	1.22E+09	1.43E+11	1.40E+08	7.31
836	837	1.42E+11	1.22E+09	1.43E+11	1.40E+08	7.31
837	838	1.42E+11	1.22E+09	1.44E+11	1.40E+08	7.31
838	839	1.42E+11	1.22E+09	1.44E+11	1.40E+08	7.31
839	840	1.43E+11	1.22E+09	1.44E+11	1.40E+08	7.31
840	841	1.43E+11	1.22E+09	1.44E+11	1.40E+08	7.31
841	842	1.43E+11	1.22E+09	1.44E+11	1.40E+08	7.31
842	843	1.43E+11	1.22E+09	1.44E+11	1.40E+08	7.31
843	844	1.43E+11	1.22E+09	1.44E+11	1.40E+08	7.31
844	845	1.43E+11	1.22E+09	1.45E+11	1.40E+08	7.31
845	846	1.43E+11	1.22E+09	1.45E+11	1.40E+08	7.31
846	847	1.44E+11	1.22E+09	1.45E+11	1.40E+08	7.31
847	848	1.44E+11	1.22E+09	1.45E+11	1.40E+08	7.31
848	849	1.44E+11	1.22E+09	1.45E+11	1.40E+08	7.31
849	850	1.44E+11	1.22E+09	1.45E+11	1.40E+08	7.31
850	851	1.44E+11	1.22E+09	1.45E+11	1.40E+08	7.31
851	852	1.44E+11	1.22E+09	1.46E+11	1.40E+08	7.31

Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)	Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (°F)
852	853	1.44E+11	1.22E+09	1.46E+11	1.40E+08	7.31
853	854	1.45E+11	1.22E+09	1.46E+11	1.40E+08	7.31
854	855	1.45E+11	1.22E+09	1.46E+11	1.40E+08	7.31
855	856	1.45E+11	1.22E+09	1.46E+11	1.40E+08	7.31
856	857	1.45E+11	1.22E+09	1.46E+11	1.40E+08	7.31
857	858	1.45E+11	1.22E+09	1.46E+11	1.40E+08	7.31
858	859	1.45E+11	1.22E+09	1.47E+11	1.40E+08	7.31
859	860	1.45E+11	1.22E+09	1.47E+11	1.40E+08	7.31
860	861	1.46E+11	1.22E+09	1.47E+11	1.40E+08	7.31
861	862	1.46E+11	1.22E+09	1.47E+11	1.40E+08	7.31
862	863	1.46E+11	1.22E+09	1.47E+11	1.40E+08	7.31
863	864	1.46E+11	1.22E+09	1.47E+11	1.40E+08	7.31

**APPENDIX L9.5: Plant Temperature Rise Equations**

		A	B	C		D	E	F	G	H
1		S Flowrate	86			cts		Mass Flow	=SCS1*SC2*3600	lbm/hr
2		Density	62			lbm/ft3		cp	=cpl(14.3,100)	BTU/lbm-F
3	Starting Time (hr)	Ending Time (hr)	Integrated Generated Heat Load (BTU)			Total Sensible Heat Added (BTU)	Total Heat Added (BTU)	Heat Rate per Timestep (BTU/hr)	Plant Temperature Rise (Deg F)	
4	=B4	=A5+1	=FORECAST(\$B4,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B4,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B4,Total\$B\$2:\$B\$80,1)-1,0,2))			=Total\$F\$2/6	=C4+D4	=E4/(\$B4-\$A4)	=F4/G\$1/G\$2	
5	=B5	=A6+1	=FORECAST(\$B5,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B5,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B5,Total\$B\$2:\$B\$80,1)-1,0,2))			=Total\$F\$2/6+D4	=C5+D5	=E5/(\$B5-\$A5)	=F5/G\$1/G\$2	
6	=B6	=A7+1	=FORECAST(\$B6,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B6,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B6,Total\$B\$2:\$B\$80,1)-1,0,2))			=Total\$F\$2/6+D5	=C6+D6	=E6/(\$B6-\$A6)	=F6/G\$1/G\$2	
7	=B7	=A8+1	=FORECAST(\$B7,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B7,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B7,Total\$B\$2:\$B\$80,1)-1,0,2))			=Total\$F\$2/6+D6	=C7+D7	=E7/(\$B7-\$A7)	=F7/G\$1/G\$2	
8	=B8	=A9+1	=FORECAST(\$B8,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B8,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B8,Total\$B\$2:\$B\$80,1)-1,0,2))			=Total\$F\$2/6+D7	=C8+D8	=E8/(\$B8-\$A8)	=F8/G\$1/G\$2	
9	=B9	=A10+1	=FORECAST(\$B9,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B9,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B9,Total\$B\$2:\$B\$80,1)-1,0,2))			=Total\$F\$2/6+D8	=C9+D9	=E9/(\$B9-\$A9)	=F9/G\$1/G\$2	
10	=B10	=A11+1	=FORECAST(\$B10,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B10,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B10,Total\$B\$2:\$B\$80,1)-1,0,2))			=D9	=C10+D10	=E10/(\$B10-\$A10)	=F10/G\$1/G\$2	
11	=B11	=A12+1	=FORECAST(\$B11,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B11,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B11,Total\$B\$2:\$B\$80,1)-1,0,2))			=D10	=C11+D11	=E11/(\$B11-\$A11)	=F11/G\$1/G\$2	
12	=B12	=A13+1	=FORECAST(\$B12,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B12,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B12,Total\$B\$2:\$B\$80,1)-1,0,2))			=D11	=C12+D12	=E12/(\$B12-\$A12)	=F12/G\$1/G\$2	
13	=B13	=A14+1	=FORECAST(\$B13,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B13,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B13,Total\$B\$2:\$B\$80,1)-1,0,2))			=D12	=C13+D13	=E13/(\$B13-\$A13)	=F13/G\$1/G\$2	
14	=B14	=A15+1	=FORECAST(\$B14,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B14,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B14,Total\$B\$2:\$B\$80,1)-1,0,2))			=D13	=C14+D14	=E14/(\$B14-\$A14)	=F14/G\$1/G\$2	
15	=B15	=A16+1	=FORECAST(\$B15,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B15,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B15,Total\$B\$2:\$B\$80,1)-1,0,2))			=D14	=C15+D15	=E15/(\$B15-\$A15)	=F15/G\$1/G\$2	
16	=B16	=A17+1	=FORECAST(\$B16,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B16,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B16,Total\$B\$2:\$B\$80,1)-1,0,2))			=D15	=C16+D16	=E16/(\$B16-\$A16)	=F16/G\$1/G\$2	
17	=B17	=A18+1	=FORECAST(\$B17,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B17,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B17,Total\$B\$2:\$B\$80,1)-1,0,2))			=D16	=C17+D17	=E17/(\$B17-\$A17)	=F17/G\$1/G\$2	
18	=B18	=A19+1	=FORECAST(\$B18,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B18,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B18,Total\$B\$2:\$B\$80,1)-1,0,2))			=D17	=C18+D18	=E18/(\$B18-\$A18)	=F18/G\$1/G\$2	
19	=B19	=A20+1	=FORECAST(\$B19,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B19,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B19,Total\$B\$2:\$B\$80,1)-1,0,2))			=D18	=C19+D19	=E19/(\$B19-\$A19)	=F19/G\$1/G\$2	
20	=B20	=A21+1	=FORECAST(\$B20,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B20,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B20,Total\$B\$2:\$B\$80,1)-1,0,2))			=D19	=C20+D20	=E20/(\$B20-\$A20)	=F20/G\$1/G\$2	
21	=B21	=A22+1	=FORECAST(\$B21,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B21,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B21,Total\$B\$2:\$B\$80,1)-1,0,2))			=D20	=C21+D21	=E21/(\$B21-\$A21)	=F21/G\$1/G\$2	
22	=B22	=A23+1	=FORECAST(\$B22,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B22,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B22,Total\$B\$2:\$B\$80,1)-1,0,2))			=D21	=C22+D22	=E22/(\$B22-\$A22)	=F22/G\$1/G\$2	
23	=B23	=A24+1	=FORECAST(\$B23,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B23,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B23,Total\$B\$2:\$B\$80,1)-1,0,2))			=D22	=C23+D23	=E23/(\$B23-\$A23)	=F23/G\$1/G\$2	
24	=B24	=A25+1	=FORECAST(\$B24,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B24,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B24,Total\$B\$2:\$B\$80,1)-1,0,2))			=D23	=C24+D24	=E24/(\$B24-\$A24)	=F24/G\$1/G\$2	
25	=B25	=A26+1	=FORECAST(\$B25,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B25,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B25,Total\$B\$2:\$B\$80,1)-1,0,2))			=D24	=C25+D25	=E25/(\$B25-\$A25)	=F25/G\$1/G\$2	
26	=B26	=A27+1	=FORECAST(\$B26,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B26,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B26,Total\$B\$2:\$B\$80,1)-1,0,2))			=D25	=C26+D26	=E26/(\$B26-\$A26)	=F26/G\$1/G\$2	
27	=B27	=A28+1	=FORECAST(\$B27,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B27,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B27,Total\$B\$2:\$B\$80,1)-1,0,2))			=D26	=C27+D27	=E27/(\$B27-\$A27)	=F27/G\$1/G\$2	
28	=B28	=A29+1	=FORECAST(\$B28,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B28,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B28,Total\$B\$2:\$B\$80,1)-1,0,2))			=D27	=C28+D28	=E28/(\$B28-\$A28)	=F28/G\$1/G\$2	
29	=B29	=A30+1	=FORECAST(\$B29,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B29,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B29,Total\$B\$2:\$B\$80,1)-1,0,2))			=D28	=C29+D29	=E29/(\$B29-\$A29)	=F29/G\$1/G\$2	
30	=B30	=A31+1	=FORECAST(\$B30,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B30,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B30,Total\$B\$2:\$B\$80,1)-1,0,2))			=D29	=C30+D30	=E30/(\$B30-\$A30)	=F30/G\$1/G\$2	
31	=B31	=A32+1	=FORECAST(\$B31,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B31,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B31,Total\$B\$2:\$B\$80,1)-1,0,2))			=D30	=C31+D31	=E31/(\$B31-\$A31)	=F31/G\$1/G\$2	
32	=B32	=A33+1	=FORECAST(\$B32,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B32,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B32,Total\$B\$2:\$B\$80,1)-1,0,2))			=D31	=C32+D32	=E32/(\$B32-\$A32)	=F32/G\$1/G\$2	
33	=B33	=A34+1	=FORECAST(\$B33,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B33,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B33,Total\$B\$2:\$B\$80,1)-1,0,2))			=D32	=C33+D33	=E33/(\$B33-\$A33)	=F33/G\$1/G\$2	
34	=B34	=A35+1	=FORECAST(\$B34,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B34,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B34,Total\$B\$2:\$B\$80,1)-1,0,2))			=D33	=C34+D34	=E34/(\$B34-\$A34)	=F34/G\$1/G\$2	
35	=B35	=A36+1	=FORECAST(\$B35,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B35,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B35,Total\$B\$2:\$B\$80,1)-1,0,2))			=D34	=C35+D35	=E35/(\$B35-\$A35)	=F35/G\$1/G\$2	
36	=B36	=A37+1	=FORECAST(\$B36,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B36,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B36,Total\$B\$2:\$B\$80,1)-1,0,2))			=D35	=C36+D36	=E36/(\$B36-\$A36)	=F36/G\$1/G\$2	
37	=B37	=A38+1	=FORECAST(\$B37,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B37,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B37,Total\$B\$2:\$B\$80,1)-1,0,2))			=D36	=C37+D37	=E37/(\$B37-\$A37)	=F37/G\$1/G\$2	
38	=B38	=A39+1	=FORECAST(\$B38,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B38,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B38,Total\$B\$2:\$B\$80,1)-1,0,2))			=D37	=C38+D38	=E38/(\$B38-\$A38)	=F38/G\$1/G\$2	
39	=B39	=A40+1	=FORECAST(\$B39,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B39,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B39,Total\$B\$2:\$B\$80,1)-1,0,2))			=D38	=C39+D39	=E39/(\$B39-\$A39)	=F39/G\$1/G\$2	
40	=B40	=A41+1	=FORECAST(\$B40,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B40,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B40,Total\$B\$2:\$B\$80,1)-1,0,2))			=D39	=C40+D40	=E40/(\$B40-\$A40)	=F40/G\$1/G\$2	
41	=B41	=A42+1	=FORECAST(\$B41,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B41,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B41,Total\$B\$2:\$B\$80,1)-1,0,2))			=D40	=C41+D41	=E41/(\$B41-\$A41)	=F41/G\$1/G\$2	
42	=B42	=A43+1	=FORECAST(\$B42,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B42,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B42,Total\$B\$2:\$B\$80,1)-1,0,2))			=D41	=C42+D42	=E42/(\$B42-\$A42)	=F42/G\$1/G\$2	
43	=B43	=A44+1	=FORECAST(\$B43,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B43,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B43,Total\$B\$2:\$B\$80,1)-1,0,2))			=D42	=C43+D43	=E43/(\$B43-\$A43)	=F43/G\$1/G\$2	
44	=B44	=A45+1	=FORECAST(\$B44,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B44,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B44,Total\$B\$2:\$B\$80,1)-1,0,2))			=D43	=C44+D44	=E44/(\$B44-\$A44)	=F44/G\$1/G\$2	
45	=B45	=A46+1	=FORECAST(\$B45,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B45,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B45,Total\$B\$2:\$B\$80,1)-1,0,2))			=D44	=C45+D45	=E45/(\$B45-\$A45)	=F45/G\$1/G\$2	
46	=B46	=A47+1	=FORECAST(\$B46,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B46,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B46,Total\$B\$2:\$B\$80,1)-1,0,2))			=D45	=C46+D46	=E46/(\$B46-\$A46)	=F46/G\$1/G\$2	
47	=B47	=A48+1	=FORECAST(\$B47,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B47,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B47,Total\$B\$2:\$B\$80,1)-1,0,2))			=D46	=C47+D47	=E47/(\$B47-\$A47)	=F47/G\$1/G\$2	
48	=B48	=A49+1	=FORECAST(\$B48,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B48,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B48,Total\$B\$2:\$B\$80,1)-1,0,2))			=D47	=C48+D48	=E48/(\$B48-\$A48)	=F48/G\$1/G\$2	
49	=B49	=A50+1	=FORECAST(\$B49,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B49,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B49,Total\$B\$2:\$B\$80,1)-1,0,2))			=D48	=C49+D49	=E49/(\$B49-\$A49)	=F49/G\$1/G\$2	
50	=B50	=A51+1	=FORECAST(\$B50,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B50,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B50,Total\$B\$2:\$B\$80,1)-1,0,2))			=D49	=C50+D50	=E50/(\$B50-\$A50)	=F50/G\$1/G\$2	
51	=B51	=A52+1	=FORECAST(\$B51,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B51,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B51,Total\$B\$2:\$B\$80,1)-1,0,2))			=D50	=C51+D51	=E51/(\$B51-\$A51)	=F51/G\$1/G\$2	
52	=B52	=A53+1	=FORECAST(\$B52,OFFSET(Total\$E\$2:\$E\$80,MATCH(\$B52,Total\$B\$2:\$B\$80,1)-1,0,2),OFFSET(Total\$B\$2:\$B\$80,MATCH(\$B52,Total\$B\$2:\$B\$80,1)-1,0,2))			=D51	=C52+D52	=E52/(\$B52-\$A52)	=F52/G\$1/G\$2	

### Attachment M - LAKET-PC Weather File Creation

Prepared: Daniel W. Nevill Date 6/27/2012  
Daniel W. Nevill - Sargent & Lundy<sup>LLC</sup>

Reviewed: Robert Young Date 27-Sep-2012  
Robert W. Young - Sargent & Lundy<sup>LLC</sup>

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**M1.0 PURPOSE / OBJECTIVE**

The purpose of this attachment is to determine the worst 24-hour and 30-day weather period and the worst 30-day period of net evaporation for LaSalle County Station. The new weather data is compared to the weather data used in the existing analysis to determine if the new weather data set is more limiting. If the existing weather data is no longer bounding, new LAKET weather files are compiled. This will be used as input in determining the maximum plant inlet temperature and evaporative drawdown of the LaSalle County Station Ultimate Heat Sink, which determines the design basis Ultimate Heat Sink (UHS) performance for 30 days following an accident. Weather data has been provided from January 1, 1995 through September 30, 2010.

## M2.0 METHODOLOGY

A LAKET-compatible meteorological data file, 'PIALSL9510.txt', was created consisting of meteorological data for LaSalle County Station and Peoria, IL from January 1, 1995 through September 30, 2010. See Design Input M4.1 for additional information on this file. Wind speed, wind direction, and dry-bulb temperature data were taken from an on-site meteorological tower at LaSalle County Station. Humidity, precipitation type, cloud height, and cloud cover data were not available from the on-site meteorological tower, and were taken from a National Weather Service observing station at the Peoria, IL airport (approximately 70 miles southwest of LaSalle County Station). This weather data file is input to LAKET [Ref. M5.2], and the worst weather and worst net evaporation time periods are found from the range of dates included in this file.

Based on options selected in the input file, the LAKET run returns a plot file that includes the total evaporation, precipitation, natural lake temperature, lake inlet temperature (same as the plant outlet temperature), and the UHS outlet temperature (same as the plant inlet temperature). Since LAKET returns results in three hour increments, a rolling average over 24 hours is created using Microsoft Excel [Ref. M5.1] by averaging the UHS outlet temperature of the selected time step along with the previous seven time steps. The worst weather day is chosen as the day with the highest UHS outlet temperature 24-hour rolling temperature average. The worst 30 days of weather is determined using a similar methodology, in which a 30-day rolling average of the UHS outlet temperature is calculated and the maximum is chosen as the representative worst weather month.

### M2.1 Worst 24-Hour and 30-Day Weather

A specific UHS model was created in LAKET (based on Case 3a from Attachment H) with a transit time that corresponds to the three hour time step period. Case 3a is used since it uses a worst 1-day plus worst 30-day weather file and represents the worst case scenario of 18-in sedimentation. The following changes were made to Case 3a for determining the worst weather conditions:

- The date range is changed to match the date range of weather file 'PIALSL9510.txt.'
- The lake initial temperature is set at 100°F. (Assumption M3.1)
- The model is set as open cycle, so the UHS is at the same temperature at the beginning of each 3 hour interval.
- Anemometer height is set at 33-ft in accordance with the instrument setup at LaSalle County Station (Design Input M4.2).
- Lake elevation is fixed at 690-ft (Assumption M3.2).
- The circulating plant flow is set at 873.0 ft<sup>3</sup>/s for a circulation time of 3 hours.
- The plant discharge water temperature (TPRISE variable in LAKET) is set at 100°F (Assumption M3.3). For an open cycle model, this value is the lake inlet temperature.



- Effective area and effective volume are set to 57.9% of total area and 63.4% of total volume, respectively, due to the results of Attachment J - UHS Flow Path Analysis.

The UHS outlet temperature for each 3 hour period corresponds to the environmental effects on the UHS during these three hours. From these results, it can be implied that higher UHS outlet temperatures represent worse (hotter) weather conditions.

## **M2.2 Worst 30-Days of Net Evaporation**

For determining the worst 30-days of net evaporation, a UHS model is created in LAKET (based on Case 3c in Attachment H). Case 3c is used since it uses a worst 30-day net evaporation weather file and represents the worst case scenario of 18-in sedimentation. The following changes were made to Case 3c for determining the worst net evaporation conditions:

- The date range is changed to match the date range of weather file 'PIALSL9510.txt.'
- Anemometer height is set at 33-ft in accordance with the instrument setup at LaSalle County Station (Design Input M4.2).
- Lake elevation is fixed at 690-ft (Assumption M3.2).
- Initial temperature is set at 40°F as a representative winter UHS temperature (Assumption M3.1).
- The temperature rise through the plant (TPRISE variable in LAKET) is set at the approximate average temperature rise at EPU of ~9°F (Assumption M3.3).
- Effective area and effective volume are set to 47.10 acres and 216.45 acre-ft, respectively, due to the results of Attachment J - UHS Flow Path Analysis and the Case 3c model area and volume.

The net evaporation is calculated by subtracting precipitation from the total evaporation. The worst 30 days of net evaporation is determined using rolling averages, similar to the methodology used in determining the worst weather.

## **M2.3 Weather File Creation for Comparison to Existing Analysis**

Following determination of the worst weather days and the worst net evaporation days, weather files for input to LAKET are created. For the worst weather input file, conditions from the worst weather day are used as the first day in the new weather file. Following the first day, the conditions from the worst 30-day period are added to create a 31-day worst weather "month." Precipitation is conservatively set to zero for all time steps comprising the worst weather month (Assumption M3.4). To determine if this new worst weather month is more limiting than the existing worst weather month used in Attachment H, the input file from Case 3a is ran using the new worst weather month. If the new weather month does not result in a higher maximum UHS outlet temperature, the existing worst weather month will be retained as it is more severe.

For the worst net evaporation weather file, the conditions from the worst 30-day period are compiled to create a 30-day worst net evaporation “month.” Similar to the worst weather month, precipitation is set to zero for all time steps (Assumption M3.4). To determine if this new worst net evaporation month is more limiting than the existing worst net evaporation month from Attachment H, the input file from Case 3c is ran using the new worst net evaporation month. If the new weather file does not result in more lake drawdown, the existing worst net evaporation month will be retained as it is more severe.

#### **M2.4 Weather File Creation for UHS Analysis**

If the existing weather file is not bounding, new weather files are created based on the new most limiting day and month determined by this analysis. These weather files use the weather information provided in ‘PIALSL9510.txt’ with the following changes:

- The station code is set to zero. This input has no impact on the results of this analysis.
- The start date and time is set at 7/1/1900 at 12AM. This input has no effect on the results of this analysis.
- Precipitation is set to zero for all time steps (Assumption M3.4).

In order to determine the effect of the time of day of the worst weather day on the UHS, eight different worst weather files will be created. The first file will start at 12 AM of the worst weather day followed by subsequent files at 3 hour intervals (e.g. the second weather file starts at 3 AM of the worst weather day). After 24 hours of the worst weather day, the worst 30 days subsequently added to the file. The start of the worst 30 days is selected to maintain a 1 hour interval between time steps. For example, if the worst 24 hour day ends at 11PM, the next time step will be at 12AM of the beginning of the worst 30 days.

For the worst net evaporation, only one weather file will be created, corresponding to the dates and times determined to be the most limiting.

#### **M2.5 Computer Programs and Software**

LAKET-PC Version 2.2 [Ref. M5.2] was used to perform the lake transient analysis contained in this evaluation. This was run on S&L PC No. ZD6661 on Windows XP operating system.

Postprocessing of the LAKET-PC results is done using Microsoft Excel® 2003 [Ref. M5.1], which is commercially available. The validation of Excel is implicit in the detailed review of all spreadsheets used in this analysis. All computer runs were performed using PC No. ZD6661 under the Windows XP operating system.

### **M3.0 ASSUMPTIONS**

M3.1 Initial Lake Temperature - For the worst weather evaluation, the initial lake temperature is set at 100°F. This is an arbitrary reference value for determining the relative weather severity and does not influence the results of this analysis.

For the worst net evaporation month, the initial lake temperature is assumed to be 40°F. This is used as a representative value for the lake temperature during the winter since the weather data file begins on January 1. This does not influence the results of this analysis as the worst net evaporation month occurs during the summer.

M3.2 Fixed Lake Elevation - The lake elevation when determining the worst weather month and worst net evaporation month is fixed at 690-ft. A constant lake elevation removes the effects of lake level in determining the weather effects on the UHS temperature and evaporation.

M3.3 Station Thermal Boundary Condition - The plant discharge water temperature when determining the worst weather day and month is assumed to be 100°F. Since the lake is modeled as open cycle, the lake starts at this temperature at the start of each 3 hour time interval. A constant initial temperature allows for isolation of the meteorological effects on the lake.

When determining the worst net evaporation month, the temperature rise through the plant is assumed to be constant at approximately 9°F, which is the average temperature rise for EPU over the calculated 30 day period (Calculated from Appendix L9.3 of Attachment L - Plant Temperature Rise). A constant temperature rise through the plant removes the effects of the plant heat load in determining the evaporation.

M3.4 Precipitation - When creating the worst weather “month” and worst net evaporation “month,” precipitation is set to zero for all time steps. This is conservative when determining the limiting initial UHS temperature.

**M4.0 DESIGN INPUTS**

M4.1 Weather Data File - The LAKET-compatible meteorological data file is developed from weather data from LaSalle County Station and Peoria from 1/1/1995 to 9/30/2010 in Attachment K - Preparation of Hourly Meteorological Data. This file has the following properties:

Name: PIALSL9510.txt

Type: ASC text

Size: 21,812 KB

Creation date/time: 3/9/2012 11:08 AM CST (12:08 PM CDT)

M4.2 Anemometer Height - The anemometer height at LaSalle County Station is 33 feet from Attachment K -Preparation of Hourly Meteorological Data.

M4.3 Plant Temperature Rise - The approximate average plant temperature rise at EPU is calculated to be ~9°F as taken from Attachment L - Plant Temperature Rise (Appendix L9.3: Calculated average of the first 30 days following an accident evaluated in Attachment L).

M4.4 Effective Area and Volume Percentages - The effective area percentage is 57.9% and the effective volume percentage is 63.4% from Attachment J - UHS Flow Path Analysis.

**M5.0 REFERENCES**

- M5.1 Microsoft® Office Excel 2003 (11.8120.8122) SP2, Copyright 1985-2003 Microsoft Corporation, Sargent & Lundy LLC Program No. 03.2.286-1.0, dated 2/2/2004.
- M5.2 LAKET-PC Computer Program, Version 2.2, S&L Program No. 03.7.292-2.2, 12/09/2004. Controlled File Path: \\SNLVSS\SYS3\OPSS\LAK29222\

**M6.0 CALCULATIONS AND RESULTS**

Analysis of rolling averages determine the worst day and 30 day period for UHS temperature and the worst 30 day period for net evaporation for the weather file created from LaSalle County Station meteorological data from 1/1/1995 to 9/30/2010. These results are then compared to the existing weather files used in the Attachment H of this calculation.

**M6.1 Worst Weather Conditions**

LAKET input file ‘Worst\_Weather.dat’ was compiled to determine the worst weather day and 30-day period from 1/1/1995 to 9/30/2010. The top ten worst 24-hour periods and 30-day periods are shown below in Table M6-1. Note that the temperature provided is for comparison purposes only and not representative of the expected actual temperature of the UHS (See Limitation M8.1).

**Table M6-1: Worst Weather Days**

End Date	24-Hour Average Temp. (°F)	End Date	30-Day Average Temp. (°F)
7/25/01 6:00 AM	99.609	8/20/95 3:00 PM	98.867
7/25/01 3:00 AM	99.586	8/20/95 6:00 PM	98.866
7/19/98 12:00 AM	99.576	8/21/95 12:00 PM	98.865
7/18/98 9:00 PM	99.576	8/21/95 3:00 AM	98.865
7/25/01 12:00 AM	99.526	8/21/95 6:00 PM	98.864
7/24/01 9:00 PM	99.516	8/20/95 9:00 PM	98.864
7/19/98 3:00 AM	99.515	8/21/95 6:00 AM	98.864
7/25/01 9:00 AM	99.488	8/21/95 12:00 AM	98.864
8/19/95 12:00 AM	99.474	8/21/95 9:00 PM	98.864
7/22/01 3:00 PM	99.464	8/20/95 12:00 PM	98.863

Based on this data, a weather file for LAKET was created for the worst (hottest) weather, ‘Worst\_Weather.txt’. The worst weather file is created by first inputting the worst 24-hr day (7/25/2001 ending at 6:00 AM) and then inputting the worst period of 30 days (7/21/1995 4:00PM to 8/20/1995 3:00PM) to create a 31-day weather file.

To compare the new weather file with the existing weather file, Case 3a from L-002457 was run using the new weather file. This was done by creating a LAKET input file, ‘WorstWeather\_Comparison.dat,’ with the same conditions as Case 3a, but an adjusted anemometer height to reflect the setup at LaSalle County Station. As seen in the output file, ‘WorstWeather\_Comparison.out,’ the maximum UHS outlet temperature using the new worst weather file is 105.96°F. From Attachment H, the results from Case 3a using the existing weather file is a maximum UHS outlet temperature of 104.00°F. The new weather file results in a greater UHS outlet temperature, so it will replace the existing worst weather file in the UHS analysis.

## M6.2 Worst Net Evaporation

LAKET input file 'NetEvap\_WorstMonth.dat' was compiled to determine the worst 30-day period of net evaporation from 1/1/1995 to 9/30/2010. Using the results from LAKET, the worst ten 30-day periods in terms of net evaporation are shown below in Table M6-2. Note that the net evaporation values provided are for comparison purposes only and not representative of the expected actual evaporation of the UHS (See Limitation M8.1).

**Table M6-2: Worst Net Evaporation Days**

End Date	30-Day Net Evaporation (cfs)
7/13/02 9:00 PM	1.569
7/13/02 6:00 PM	1.568
7/14/02 12:00 AM	1.566
7/13/02 3:00 PM	1.565
7/13/02 12:00 PM	1.563
7/14/02 3:00 AM	1.563
7/13/02 9:00 AM	1.563
7/13/02 6:00 AM	1.562
7/14/02 6:00 AM	1.560
7/13/02 3:00 AM	1.557

The worst net evaporation weather file, 'NetEvap\_weather.txt,' is created by inputting the weather conditions from the worst net evaporation period of 30 days (6/13/2002 10:00 PM to 7/13/2002 9:00 PM). In order to compare this with the worst 30 day net evaporation period from Attachment H, Case 3c from Attachment H was run using the new weather file. This was done by creating a LAKET input file, 'NetEvap\_Comparison.dat,' with the same conditions as Case 3c, but an adjusted anemometer height to reflect the setup at LaSalle County Station.

As seen in the output file, 'NetEvap\_Comparison.out,' the minimum lake elevation using the new worst net evaporation weather file is 688.63-ft. From Attachment H, the results from Case 3c using the existing weather file is a minimum lake elevation of 688.52-ft. Since the existing weather file results in greater lake drawdown, the existing weather conditions from 6/18/1954 to 7/18/1954 will continue to be used for this analysis.

## M6.3 Weather File Creation for UHS Analysis

After determination of the worst weather day and month and the worst net evaporation month, weather files are created for use in the UHS Analysis.

For the worst weather day and month, eight new weather files are created starting at different times to determine the limiting time of day. A summary of the eight created weather files, including the start times and end times used in taking weather data from 'PIALSL9510.txt' is presented in the table below:

**Table M6-3: Worst Weather 24-Hour/30-Day Files**

File Name	Worst 24-hr Start	Worst 24-hr End	Worst 30-Day Start	Worst 30-Day End
1-30day_12am.txt	7/24/2001 12AM	7/24/2001 11PM	7/21/1995 12AM	8/19/1995 11PM
1-30day_3am.txt	7/24/2001 3AM	7/25/2001 2AM	7/21/1995 3AM	8/20/1995 2AM
1-30day_6am.txt	7/24/2001 6AM	7/25/2001 5AM	7/21/1995 6AM	8/20/1995 5AM
1-30day_9am.txt	7/24/2001 9AM	7/25/2001 8AM	7/21/1995 9AM	8/20/1995 8AM
1-30day_12pm.txt	7/24/2001 12PM	7/25/2001 11AM	7/21/1995 12PM	8/20/1995 11AM
1-30day_3pm.txt	7/24/2001 3PM	7/25/2001 2PM	7/21/1995 3PM	8/20/1995 2PM
1-30day_6pm.txt	7/24/2001 6PM	7/25/2001 5PM	7/21/1995 6PM	8/20/1995 5PM
1-30day_9pm.txt	7/24/2001 9PM	7/25/2001 8PM	7/21/1995 9PM	8/20/1995 8PM

The worst net evaporation month was determined to be the existing weather file, '30dayevap.txt'. This will continued to be used in the UHS analysis, and no further weather file compilation is needed.



**M7.0 SUMMARY AND CONCLUSIONS**

The worst weather day and 30 days and worst net evaporation 30 days were determined by running LAKET over a range of days spanning from 1/1/1995 to 9/30/2010. The worst weather day was determined to be 7/25/2001 ending at 6:00 AM, while the worst 30 day period of weather spanned from 7/21/1995 4:00 PM to 8/20/1995 3:00 PM. A comparison of this weather file with the existing weather file shows that the new weather file based on the weather data from 'PIALSL9510.txt' results in a higher maximum UHS outlet temperature than the existing weather file. Therefore the new weather files summarized in Table M6-3 will be used in the UHS analysis.

For net evaporation, the worst 30 day period was determined to span from 6/13/2002 10:00 PM to 7/13/2002 9:00 PM. Comparison of this 30 day span with the previous limiting 30 days, 6/18/1954 to 7/18/1954, shows that the 1954 span remains bounding. Therefore, the existing worst 30-day net evaporation weather file will be used in the UHS analysis.

**M8.0 LIMITATIONS**

- M8.1 24-Hour and 30-Day Rolling Average Values - The values for UHS outlet temperature and net evaporation provided in Tables M6-1 and M6-2 are merely representative values for use in comparing weather effects over different time periods. These values are not actual expected values for the LaSalle UHS.

**M9.0 APPENDICES****List of Appendices**

<b>App.</b>	<b>Description</b>	<b>No. of Pages</b>
M9.1	Electronic File Listing	2

## Appendix M9.1: Electronic File Listing

**Appendix M9.1: Electronic File Listing**

A summary of the electronic files and their purposes is provided below:

**LaSalle County Station / Peoria Weather File**

File Name	Date
PIALSL9510.txt	3/09/2012 12:08 PM

**Files for Determining 24-Hour and 30-Day Worst Weather**

File Name	Date
Worst_Weather.dat	4/24/2012 11:26 AM
Worst_Weather.out	4/24/2012 11:26 AM
Worst_Weather.plt	4/24/2012 11:26 AM
Worst_Weather.pltX	4/24/2012 11:26 AM

**Files for Determining Worst Net Evaporation**

File Name	Date
NetEvap_WorstMonth.dat	5/17/2012 3:01 PM
NetEvap_WorstMonth.out	5/17/2012 3:03 PM
NetEvap_WorstMonth.plt	5/17/2012 3:03 PM
NetEvap_WorstMonth.pltX	5/17/2012 3:03 PM

**Compiled Weather Files (Section M6.1 and Section M6.2)**

File Name	Date
Worst_Weather.txt	4/26/2012 10:11 AM
NetEvap_weather.txt	5/17/2012 3:23 PM

**Files for Comparison to Previous Worst Weather**

File Name	Date
WorstWeather_Comparison.dat	4/26/2012 10:12 AM
WorstWeather_Comparison.out	4/26/2012 10:12 AM
WorstWeather_Comparison.plt	4/26/2012 10:12 AM
WorstWeather_Comparison.pltX	4/26/2012 10:12 AM

**Files for Comparison to Previous Worst Net Evaporation Weather**

File Name	Date
NetEvap_Comparison.dat	5/17/2012 3:20 PM
NetEvap_Comparison.out	5/17/2012 3:23 PM
NetEvap_Comparison.plt	5/17/2012 3:23 PM
NetEvap_Comparison.pltX	5/17/2012 3:23 PM

Appendix M9.1: Electronic File Listing

**Weather Files for UHS Analysis**

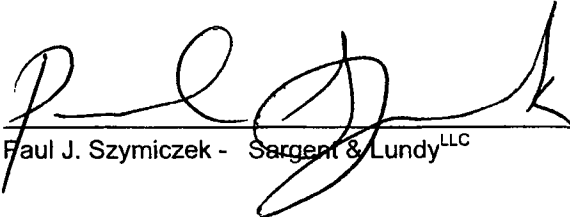
File Name	Date
1-30day_12am.txt	4/26/2012 3:23 PM
1-30day_3am.txt	4/26/2012 3:25 PM
1-30day_6am.txt	4/26/2012 3:26 PM
1-30day_9am.txt	4/26/2012 3:29 PM
1-30day_12pm.txt	4/26/2012 3:30 PM
1-30day_3pm.txt	4/26/2012 3:32 PM
1-30day_6pm.txt	4/26/2012 3:33 PM
1-30day_9pm.txt	4/26/2012 3:34 PM
30dayevap.txt	4/06/2006 4:18 PM

A more detailed look at the files listed in the tables above is provided below:

**Further Detail for Electronic Files**

Name	Type	Modified	Size	Ratio	Packed
1-30day_12am.txt	Text Document	4/26/2012 3:23 PM	118,296	53%	14,272
1-30day_12pm.txt	Text Document	4/26/2012 3:30 PM	118,296	53%	14,260
1-30day_3am.txt	Text Document	4/26/2012 3:25 PM	118,296	53%	14,298
1-30day_3pm.txt	Text Document	4/26/2012 3:32 PM	118,296	53%	14,224
1-30day_6am.txt	Text Document	4/26/2012 3:26 PM	118,296	53%	14,339
1-30day_6pm.txt	Text Document	4/26/2012 3:33 PM	118,296	53%	14,262
1-30day_9am.txt	Text Document	4/26/2012 3:29 PM	118,296	53%	14,321
1-30day_9pm.txt	Text Document	4/26/2012 3:34 PM	118,296	53%	14,245
30dayevap.txt	Text Document	4/6/2006 4:18 PM	116,808	35%	17,390
NetEvap_Comparison.dat	DAT File	5/17/2012 3:20 PM	2,623	61%	449
NetEvap_Comparison.out	OUT File	5/17/2012 3:23 PM	48,857	95%	2,679
NetEvap_Comparison.plt	PLT File	5/17/2012 3:23 PM	141,372	72%	39,051
NetEvap_Comparison.pltX	PLTX File	5/17/2012 3:23 PM	14,400	76%	3,495
NetEvap_weather.txt	Text Document	5/17/2012 3:23 PM	114,480	37%	14,343
NetEvap_WorstMonth.dat	DAT File	5/17/2012 3:01 PM	357	53%	222
NetEvap_WorstMonth.out	OUT File	5/17/2012 3:03 PM	278,691	91%	23,803
NetEvap_WorstMonth.plt	PLT File	5/17/2012 3:03 PM	26,374,556	60%	5,390,508
NetEvap_WorstMonth.pltX	PLTX File	5/17/2012 3:03 PM	3,957,376	73%	871,914
PIALS19510.txt	Text Document	3/9/2012 12:08 PM	21,811,582	67%	2,742,002
Worst_Weather.dat	DAT File	4/24/2012 11:26 AM	401	44%	223
Worst_Weather.out	OUT File	4/24/2012 11:26 AM	105,229	92%	25,441
Worst_Weather.plt	PLT File	4/24/2012 11:26 AM	26,574,556	51%	5,234,116
Worst_Weather.pltX	PLTX File	4/24/2012 11:26 AM	2,760,960	54%	435,206
Worst_Weather.txt	Text Document	4/26/2012 10:11 AM	118,296	53%	14,341
WorstWeather_Comparison.dat	DAT File	4/26/2012 10:12 AM	2,355	32%	425
WorstWeather_Comparison.out	OUT File	4/26/2012 10:12 AM	49,077	95%	2,664
WorstWeather_Comparison.plt	PLT File	4/26/2012 10:12 AM	146,044	72%	40,312
WorstWeather_Comparison.pltX	PLTX File	4/26/2012 10:12 AM	14,650	77%	3,461

**Attachment N – LAKET-PC Methodology Validation**

Prepared:  Date 6/27/12  
Paul J. Szymiczek - Sargent & Lundy<sup>LLC</sup>

Reviewed:  Date 6/27/2012  
Daniel W. Nevill - Sargent & Lundy<sup>LLC</sup>

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**N1.0 PURPOSE**

The purpose of this attachment is to evaluate the methodology in the LAKET-PC program and compare it to accepted methods for analyzing UHS cooling ponds. The LAKET-PC method is compared to NUREG-0693, "Analysis of Ultimate Heat Sink Cooling Ponds," [Ref. N5.1]. This evaluation reviews the individual equations for heat transfer, wind characterization, and evaporation used in both the NUREG document and the LAKET-PC program.



## **N2.0 METHODOLOGY**

NUREG-0693, "Analysis of Ultimate Heat Sink Cooling Ponds" [Ref. N5.1] presents a method for analyzing the performance of ultimate heat sink cooling ponds. It was published in November 1980 and contains the accepted methodology for characterizing the thermal performance of cooling ponds.

The methodology of LAKET-PC is compared to NUREG-0693 based on review of the LAKET-PC manual [Ref. N5.2]. The equations for heat transfer, wind characterization, evaporation, and the iterative method are compared between both documents. LAKET-PC is validated in the process of demonstrating that the method of calculation is equal to the approved method outlined in NUREG-0693.

### **N2.1 Acceptance Criteria**

N2.1.1 Acceptance Criterion N1 – The calculation method in LAKET-PC for analysis of the thermal performance of cooling ponds shall be consistent with the accepted methodology presented in NUREG-0693, "Analysis of Ultimate Heat Sink Cooling Ponds" [Ref. N5.1].

### **N3.0 ASSUMPTIONS**

None.

**N4.0 DESIGN INPUTS**

- N4.1 Accepted UHS Analysis Method – The accepted analysis method for UHS cooling ponds is taken from NUREG-0693, “Analysis of Ultimate Heat Sink Cooling Ponds” [Ref. N5.1].
- N4.2 LAKET-PC Methodology – The analysis method used in LAKET-PC is determined from the LAKET-PC user manual and the computer code [Ref. N5.2].
- N4.3 Wind Dependence Functions – Wind dependence functions are taken from MIT Report 161, “An Analytical and Experimental Study of Transient Cooling Pond Behavior,” [Ref. N5.3].

**N5.0 REFERENCES**

- N5.1 NUREG-0693, "Analysis of Ultimate Heat Sink Cooling Ponds," Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission, November 1980.
- N5.2 LAKET-PC Version 2.2, Sargent & Lundy<sup>LLC</sup>, Program No. 03.7.292-2.2, 12/09/2004. Controlled File Path: \\SNLVS5\SYS3\OPSS\LAK29222\
- N5.3 MIT Report 161, "An Analytical and Experimental Study of Transient Cooling Pond Behavior," Ryan and Harleman, Massachusetts Institute of Technology, Cambridge Massachusetts, 1973.

## **N6.0 EVALUATIONS**

### **N6.1 LAKET-PC Background**

LAKET-PC is a one-dimensional thermal prediction model first written in 1976 which has been well established in many areas of cooling lake sizing and analysis. The lake simulation model is used to yield water surface temperature as a function of position and time. The inherent assumptions used in the LAKET-PC model are as follows:

1. Thermal One Dimensionality – A one dimensional model assumes that the temperature is constant at any point along the plane perpendicular to the direction of flow. There are neither cross-stream variations nor thermal stratification with respect to depth.
2. Time Increment – The calculation scheme in LAKET-PC is an iterative process, where the calculation interval can be set to increments of minutes or hours. Weather data input to the model is generally hourly, and so weather data is held fixed for intervals smaller than one hour.
3. Fluid Interactions – The simulation model used in LAKET-PC involves adjacent fluid masses at different temperatures. The horizontal heat conduction due to this temperature difference is assumed to be negligible with respect to the heat rejection at the air / water interface, and is ignored. Similarly, conductive heat loss and frictional retardation at the water / channel interface are ignored.
4. Lake Rectangularization – The one-dimensional model assumptions coerce the water body into an idealized rectangular channel. The length of this channel is the flow path length of the actual water body, while the width and depth are computed theoretical values.
5. Global Flow Components – LAKET-PC assumes that all secondary water gains and losses, such as makeup, blowdown, and runoff are distributed globally over the entire lake surface. This is a reasonable assumption for the majority of applications; an actual configuration in which component flow is known to exert a disproportionate local influence will not be modeled accurately on that local scale. However, the net result of the component will be correctly modeled.

The movement of fluid through the one-dimensional channel is envisioned as a series of individual, distinct fluid segments. Each segment has an individual length and temperature, while the width and depth remain constant for all. The channel thus forms a queue of fluid segments, where additions are made at the inlet, and deletions are made at the outlet. This is referred to as a “first in, first out” queue. Any segment that enters the channel will cause an equal amount to be expelled at the outlet. The program assumes that all segments are uniform in temperature, and each segment is allowed to react independently with the environment.

## N6.2 Heat Transfer Model

This evaluation only considers the thermal model utilized in calculating the lake surface temperature, and does not delve into the effects of precipitation, makeup, blow down, or calculation of total dissolved solids.

### A) Edinger and Geyer Equilibrium Temperature Heat Transfer Model

Both NUREG-0693 and LAKET-PC present thermal models in which the surface temperature of the cooling pond is calculated, as the bulk heat transfer modeled in these equations occurs at the water / air surface boundary. Both thermal models utilize the Edinger and Geyer "Equilibrium Temperature Heat Transfer Model." The equilibrium temperature is defined as the water surface temperature at which the lake is in thermal equilibrium with the environment. At this temperature, the heat removal from the water balances the heat addition, and the net effective heat transfer at the air / water surface is zero. Thus, the equilibrium temperature at any given time is a function only of the current meteorological environment. This is not to be confused with the "natural" lake temperature used in LAKET-PC, which is the instantaneous water temperature in response to the meteorological parameters. The equilibrium temperature is the theoretical steady state solution, while the natural temperature is the actual transient thermal response to the weather conditions.

The equilibrium temperature is used to define the heat transfer ( $Q$ ) per the following equation:

$$\int_0^Q dQ = \int_E^{T_s} K \cdot dT$$

where

- $Q$  = net heat transfer into the water (BTU/ft<sup>2</sup>day)
- $E$  = equilibrium temperature (°F)
- $T_s$  = water surface temperature (°F)
- $K$  = equilibrium heat transfer coefficient (BTU/ft<sup>2</sup> day °F)

Note that for this equation,  $K$  is assumed to be constant. However, when evaluating ultimate heat sinks, which accept high heat loads, the external heat load rejected to the pond will increase the surface temperature significantly higher than the equilibrium temperature. Thus, this equation is an iterative process in which the lake surface temperature is co-dependent on the net heat transfer rate and the heat transfer coefficient. The surface temperature and heat transfer coefficient is held constant for each time step iteration when calculated in LAKET-PC.

B) Heat Sources Contributing to the Cooling Pond

The contributing components for the net heat transfer to the lake, listed below, are consistent between both LAKET-PC and NUREG-0693.

$$Q = Q_{SN} + Q_{AN} - Q_{BR} - Q_E - Q_C + Q_{RJ}$$

where:

- $Q_{SN}$  = net incident short wave solar radiation
- $Q_{AN}$  = net incident long wave atmospheric radiation
- $Q_{BR}$  = net rate of long wave back radiation from the lake surface
- $Q_E$  = net rate of heat loss due to evaporation
- $Q_C$  = net rate of heat loss due to conduction and convection
- $Q_{RJ}$  = net rate of heat rejected to the lake by the plant

Table N6-1 below presents the equations for each component of the net heat load. Note that for both methods, the solar radiation is generally a measured value, while the others are approximated based on meteorological conditions.

**Table N6-1: Heat Load Equations**

	NUREG-0693	LAKET-PC
$Q_{SN}$	Measured value	Calculated based on measured values: Incident: $Q_{SC}(1.0-0.65C^2)$ Reflected: $0.06Q_{SN(Incident)}$ <b>Net: <math>0.94Q_{SC}(1.0-0.65C^2)</math></b>
$Q_{AN}$	$1.2 \times 10^{-13}(T_A+460)^6(1+0.17C^2)$	Incident: $1.2 \times 10^{-13}(T_A+460)^6(1+0.17C^2)$ Reflected: $0.03Q_{AN(Incident)}$ <b>Net: <math>1.16 \times 10^{-13}(T_A+460)^6(1+0.17C^2)</math></b>
$Q_{BR}$	$4.026 \times 10^{-8}(460+T_S)^4$	$4 \times 10^{-8}(460+T_S)^4$
$Q_E$	$(e_s - e_a)F(w)$ approximated as: $\beta(T_S-T_D)F(w)$	$(e_s - e_a)F(w)$
$Q_C$	$0.26(T_S-T_A)F(w)$	$0.255(T_S-T_A)F(w)$
$Q_{RJ}$	Input based on plant heat load	Input based on plant heat load

where:

- $Q_{SC}$  = clear sky sunlight from an average insolation curve (measured)
- $C$  = fraction of sky covered by clouds (0.0 – 1.0) (measured)
- $T_A$  = dry bulb air temperature (°F)
- $T_S$  = water surface temperature (°F)
- $T_D$  = dew point temperature (°F)
- $e_s$  = saturated vapor pressure at  $T_S$  (mmHg)
- $e_a$  = partial vapor pressure at  $T_A$  and relative humidity (mmHg)
- $\beta$  =  $0.255 - 0.0085\left(\frac{T_S + T_D}{2}\right) + 0.000204\left(\frac{T_S + T_D}{2}\right)^2$  (mmHg/°F)
- $F(w)$  = wind speed function (see Section N6.2C) (BTU/ft<sup>2</sup> day/mmHg)

Table N6-1 shows that the equations for each contributing heat load to the cooling pond are the same for between NUREG-0693 and LAKET-PC, with the minor exception of  $Q_{AN}$ . The equation for incident atmospheric radiation in LAKET-PC is equal to the net atmospheric radiation to the water as defined in NUREG-0693. However, LAKET-PC reduces the net atmospheric radiation term by 3% to account for the reflected radiation (assuming the lake absorbs 97% of the incident atmospheric radiation). The formulas used in LAKET-PC are consistent with MIT Report No. 161 [Ref. N5.3], which is also referenced in NUREG-0693.

This discrepancy between the two formulae is not significant and the simplified equations used in the thermal model per NUREG-0693 assume that the atmospheric radiation and the back radiation from the pond nearly balance in the warmer months, and thus, can both be neglected.

### C) Wind Function

#### NUREG-0693

The wind function ( $F(w)$ ) is used to characterize the effect of wind on the evaporative heat loss from the water.

The simple thermal model presented in NUREG-0693 utilizes a form of the wind function developed by Brady, which is solely dependent on the wind speed.

$$F_B(w) = 70 + 0.7W^2$$

where

$F_B(w)$  = Brady wind function (BTU/ft<sup>2</sup> day/mmHg)

$W$  = wind speed measured 18-ft above the water surface (mph)

However, Section 2.3 of NUREG-0693 discusses possible over-conservatism in this wind function and also presents an alternative equation. The Brady wind function, presented above, seems to underestimate the evaporative heat flux. Another approach presented by Patrick Ryan in MIT Report No. 161 [Ref. N5.3] and summarized in NUREG-0693 includes the temperature dependence of the water surface when calculating evaporative heat loss. This Ryan function is less conservative than the Brady function, but based on firmer physical grounds. The Ryan function presented in NUREG-0693 is as follows:

$$F_R(w) = 22.4 \left[ \left( \frac{T_s + 460}{1 - \frac{0.378e_s}{P}} \right) - \left( \frac{T_a + 460}{1 - \frac{0.378e_a}{P}} \right) \right]^{1/3} + 14W_2$$

where

$F_R(w)$  = Ryan wind function (BTU/ft<sup>2</sup> day/mmHg)

$P$  = atmospheric pressure (mmHg)

$W_2$  = wind speed measured 2 meters above the water surface (mph)



A comparison of calculations utilizing each of these two wind functions is shown in Fig. N6-1 in Section N6.3.

### LAKET-PC

LAKET-PC uses two different wind speed functions, one for natural evaporation off a pond at its natural temperature, and another for the forced evaporation off a heated pond with elevated surface temperatures. This is done to capture the effect of different phenomena above forced and natural water surfaces. Both wind functions are taken from MIT Report No. 161 [Ref. N5.3].

The wind speed function for a natural lake is solely dependent on the wind speed:

$$F_{LH}(w) = 17W_2$$

where

$$F_{LH}(w) = \text{Lake Hefner wind function (BTU/ft}^2 \text{ day/mmHg) [Ref. N5.3]}$$

Additional heat rejected to the cooling pond will increase the temperature of the water surface, and introduce the effect of free convection due to the temperature differential between the water and the air. Consistent with NUREG-0693, LAKET-PC utilizes the Ryan wind function ( $F_r(w)$ ) to account for free and forced convection when the surface of the water is at an elevated temperature. Specifically, LAKET-PC utilizes the Ryan wind function when the surface temperature is 2.5°F higher than the natural temperature of the lake.

### N6.3 Comparison of Calculation Methods

There are several simplifying assumptions made when generating the set of equations used for the heat transfer model defined on page 9 of NUREG-0693 [Ref. N5.1]. This includes the approximation that the heat transfer from the back radiation and atmospheric radiation effectively cancel each other out. The model presented in NUREG-0693 also utilizes the Brady wind function ( $F_B(w)$ ), which is solely a function of wind speed.

However, Figure 2.4 in NUREG-0693 (reproduced below) presents the results from a hypothetical one square foot section of a pond surface subject to constant meteorological conditions utilizing varying levels of rigor in the calculations and wind functions.

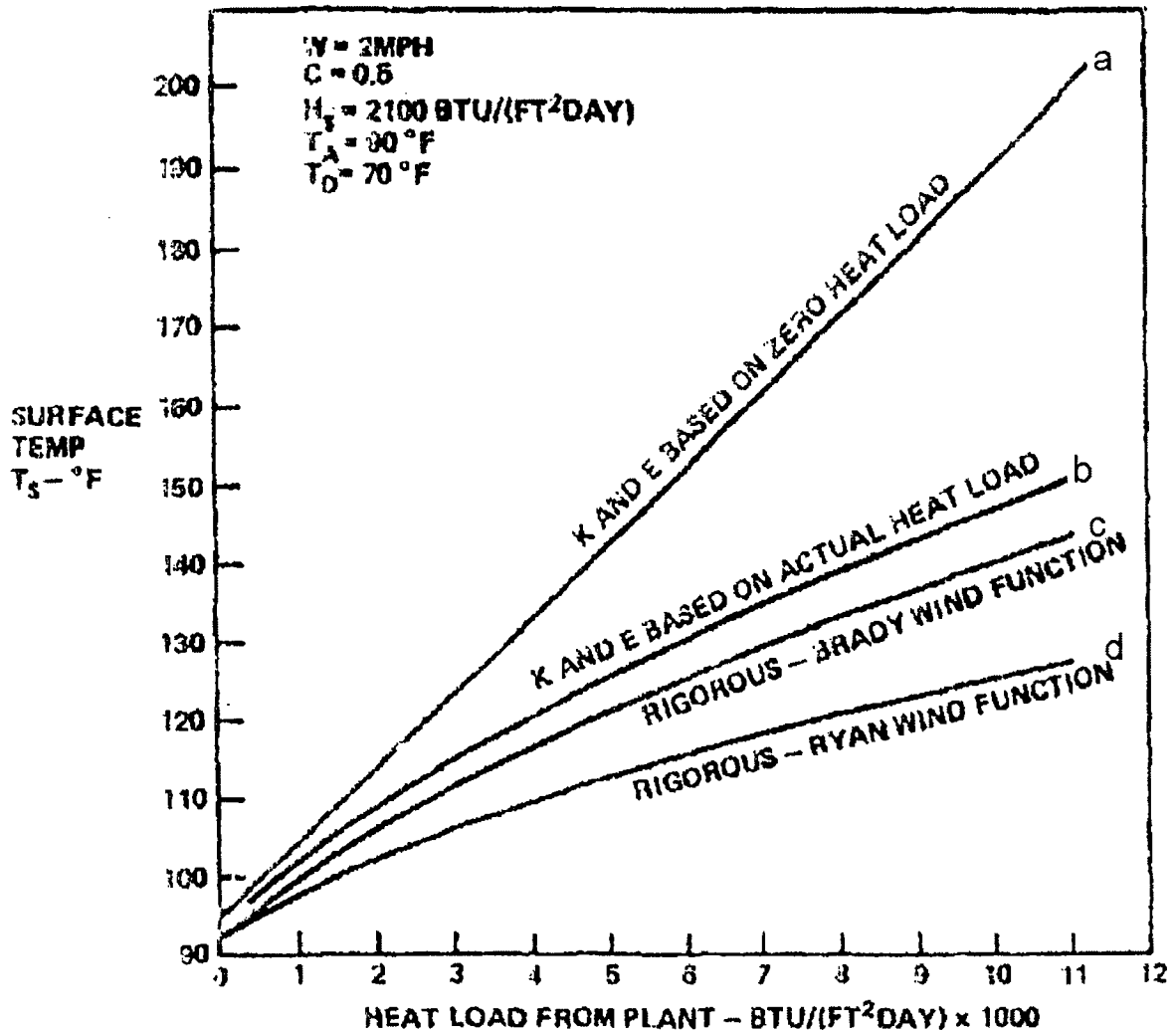


Fig. N6-1: Comparison of Calculation Methods

where

- a) Simplified method with equilibrium temperature and heat transfer coefficients based on unloaded pond conditions (not a function of pond temperature). Brady wind function.
- b) Simplified method where atmospheric and back radiation are ignored, but equilibrium temperature and heat transfer coefficients are based on pond temperatures. Brady wind function.
- c) Rigorous method where each contributing heat source is explicitly calculated. Brady wind function.
- d) Rigorous method where each contributing heat source is explicitly calculated. Ryan wind function (LAKET methodology)

Furthermore, the explicit impact of the wind function on evaporative heat flux is analyzed to demonstrate the significant influence of forced evaporation. This is done by

calculating the evaporative heat flux for several lake surface temperatures at the constant meteorological conditions used in Fig. N6-1 (per NUREG-0693). The evaporative heat flux is calculated using the equation given in Table N6-1:

$$Q_E = (e_s - e_A) \cdot F(W)$$

Note that the equation above shows that given a constant water temperature, a decrease in atmospheric pressure will result in a slightly increased heat flux. The constant meteorological conditions used in the calculation are presented below in Table N6-2.

**Table N6-2: Constant Weather Parameters**

Parameter	Symbol	Value
Dew Point Temp (°F)	T <sub>d</sub>	70
Ambient Air Temp (°F)	T <sub>a</sub>	90
Relative Humidity (%)	RH	52%
Wind Speed measured at 18-ft (mph)	W	2
Wind Speed corrected at 2-m (mph)	W <sub>2</sub>	1.7
Atm Pressure (mmHg)	P	760.137
Partial Vapor Pressure at T <sub>A</sub> and RH (mmHg)	e <sub>A</sub>	18.772

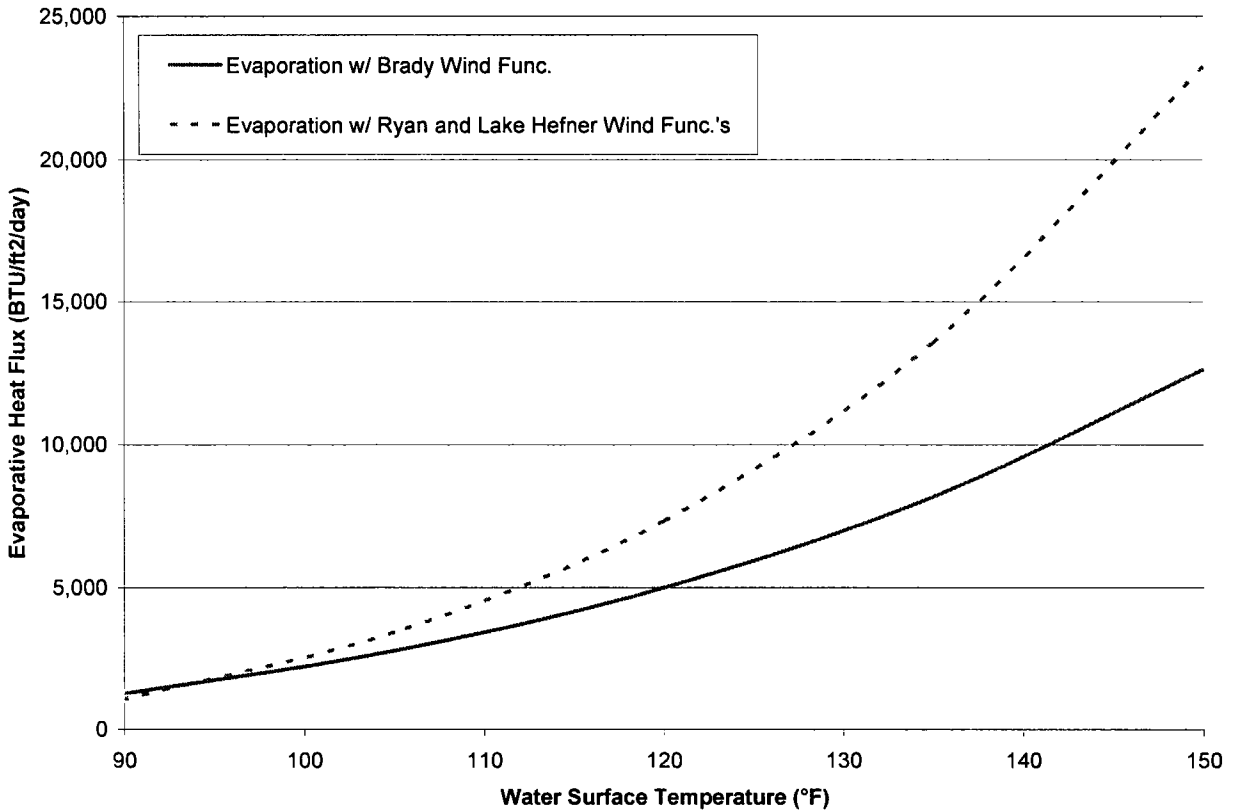
The calculation of the evaporative heat flux and each contributing term is conducted below in Table N6-3.

**Table N6-3: Calculation of Evaporative Heat Flux**

Water Surface Temperature (°F)	T <sub>s</sub>	150	135	120	105	90
Saturated Vapor at T <sub>s</sub> (mmHg)	e <sub>s</sub>	192.279	131.212	87.531	56.971	36.100
Brady Wind Function (BTU/ft <sup>2</sup> day/mmHg)	F <sub>B</sub> (W)	72.80	72.80	72.80	72.80	72.80
Ryan / Lake Hefner Wind Function <sup>1</sup> (BTU/ft <sup>2</sup> day/mmHg)	F <sub>R</sub> (W)	134.06	120.85	106.97	90.39	61.76
Evaporative Heat Flux (BTU/ft <sup>2</sup> day) (using Brady Wind Func.)	Q <sub>EB</sub>	12,631	8,186	5,006	2,781	1,261
Evaporative Heat Flux (BTU/ft <sup>2</sup> day) (Using Ryan / Lake Hefner Wind Func.)	Q <sub>ER</sub>	23,261	13,588	7,355	3,453	1,070

1) Per the methodology in LAKET-PC, the Lake Hefner wind function is used instead of the Ryan wind function when e<sub>s</sub> approaches e<sub>A</sub>.

Results from Table N6-3 are presented in Fig. N6-2.



**Fig. N6-2: Evaporative Heat Flux Calculation Results**

Fig. N6-2 shows that the Ryan wind function (which accounts for forced evaporation due to elevated pond temperatures) results in significantly higher evaporative heat flux values at elevated water temperatures. As UHS cooling ponds are expected to see significant heat rejection, the surface temperatures will be notably higher than the natural lake temperature and thus, accounting for this effect when calculating evaporation is necessary. The results in Fig. N6-2 are consistent with the results presented in NUREG-0693, shown in Fig. N6-1. The differences in evaporation calculated with either of the two wind functions are negligible for lightly loaded cooling ponds (where the lake temperature is relatively close to the natural lake temperature). However, when the heat rejection to the pond is increased and the resulting water temperature increases significantly beyond the natural lake temperature, the effect of the Brady vs. Ryan wind functions becomes apparent. The increased evaporative heat flux shown in Fig. N6-2 will result in lower water temperatures, as shown by Cases c) and d) in Fig. N6-1.

**N7.0 SUMMARY AND CONCLUSIONS**

The methodology used in LAKET-PC is entirely consistent with the thermal model presented in NUREG-0693 and the wind speed functions presented in MIT Report No 161, which is also referenced and cited in NUREG-0693. The use of the Ryan wind function (LAKET-PC) over the Brady wind function (NUREG thermal model) results in lower lake temperatures. This is due to the fact that the Ryan wind function accounts for the effect of forced evaporation at water temperatures significantly higher than ambient air temperatures. However, NUREG-0693 fully endorses the use of the Ryan wind function as a more accurate, although less conservative, method for calculating evaporative heat flux. Thus, Acceptance Criterion N1 is met.

**N8.0 LIMITATIONS AND OPEN ITEMS**

None.

**N9.0 APPENDICES**

None.