



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

January 17, 2012

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2  
NRC Docket No. 50-391

**Subject: Watts Bar Nuclear Plant (WBN) Unit 2 - Submittal of Pre-op Test Instruction**

The following approved WBN Unit 2 Pre-op Test Instruction (PTI) is enclosed:

PTI NUMBER	Rev.	TITLE
2-PTI-030L-01	0	Containment Building Temperature Survey

If you have any questions, please contact Pete Olson at (423) 365-3294.

Respectfully,

Edwin E. Freeman  
Watts Bar Unit 2 Completions Manager

Enclosure  
cc (Enclosure):

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Watts Bar Nuclear Plant  
1260 Nuclear Plant Road  
Spring City, Tennessee 37381

DOB30  
NR2

**WATTS BAR NUCLEAR PLANT  
UNIT 2 PREOPERATIONAL TEST**

**TITLE:** Containment Building Temperature Survey

**Instruction No:** 2-PTI-030L-01

**Revision No:** 0000

**PREPARED BY:** Keith Jones *Keith Jones* **DATE:** 9-1-11

PRINT NAME / SIGNATURE

**REVIEWED BY:** Sam Linginfelter *Sam Linginfelter* **DATE:** 9-1-11

PRINT NAME / SIGNATURE

**INSTRUCTION APPROVAL**

**JTG MEETING No:** 2-12-001

**JTG CHAIRMAN:** *[Signature]* **DATE:** 11/2/12

**APPROVED BY:** *[Signature]* **DATE:** 11/2/12

PREOPERATIONAL STARTUP MANAGER

**TEST RESULTS APPROVAL**

**JTG MEETING No:** \_\_\_\_\_

**JTG CHAIRMAN:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

PREOPERATIONAL STARTUP MANAGER

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**Revision Log**

<b>Revision or Change Number</b>	<b>Effective Date</b>	<b>Affected Page Numbers</b>	<b>Description of Revision/Change</b>
0000	<i>01/12/12</i>	ALL	This procedure written using the Unit 1 PTI-030-01 Rev 0 as a guide.

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## 1.0 INTRODUCTION

### 1.1 Test Objectives

To demonstrate the capability of the Containment Air Cooling System to provide proper cooling of the following:

- Upper and Lower Containment general spaces
- Incore Instrument Room

### 1.2 Scope

#### **NOTE**

This test is performed during the portion of Hot Functional Testing (HFT) at which the Reactor Coolant System is at Normal Operating Temperature (NOT) and Normal Operating Pressure (NOP).

The test demonstrates that:

- A. The Upper Compartment Cooling (UCC) units will maintain design temperatures in the Upper Containment areas.
- B. The Lower Compartment Cooling (LCC) units, in conjunction with Control Rod Drive Mechanism (CRDM) Cooling units, will maintain design temperatures in the Lower Containment areas.
- C. The Incore Instrument Room Air Conditioning (IIRAC) units will maintain design temperatures in the Incore Instrument Room.

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## **2.0 REFERENCES**

### **2.1 Performance References**

- A. SMP-9.0, Conduct of Test
- B. 2-PTI-068-01, HFT - Heatup and Cooldown

### **2.2 Developmental References**

- A. Final Safety Analysis Report, Amendment 107
  - 1. Section 9.4.7, Containment Air Cooling System
  - 2. Table 14.2-1, Sheets 38 & 39, Containment Ventilation System Test Summary
- B. Drawings:
  - 1. Flow Diagrams
    - a. 2-47W866-1, Rev 2, HEATING AND VENTILATION AIR FLOW DRA52841-02, Rev 0
    - b. 2-47W865-5, Rev 0, AIR CONDITIONING CHILLED WATER
    - c. 2-47W845-2, Rev 3, ESSENTIAL RAW COOLING WATER SYSTEM
    - d. 2-47W845-3, Rev 5, ESSENTIAL RAW COOLING WATER SYSTEM
  - 2. Logic/Control
    - a. 2-47W610-30-2, Rev 1, CONTROL DIAGRAM VENTILATION SYSTEM
    - b. 2-47W610-31-5, Rev 3, CONTROL DIAGRAM AIR CONDITIONING SYSTEM



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## 2.2 Developmental References (continued)

### 3. Electrical

- a. 45N2616-10, Rev 3, THERMOCOUPLES & RTD'S CONNECTION DIAGRAMS  
DRA 52322-184, Rev 0
- b. 2-47A615-0, Rev 1, INTEGRATED COMPUTER SYSTEM TERMINATIONS AND I/O LIST (Pages 18, 19, 28)
- c. 2-45W2697-14-4, Rev 0, INTEGRATED COMPUTER SYSTEM DAQ. PANEL 2-R104 CONNECTION DIAGRAM
- d. 2-45W2697-14-8, Rev 0, INTEGRATED COMPUTER SYSTEM DAQ. PANEL 2-R104 CONNECTION DIAGRAM
- e. 2-45W2697-54-1, Rev 0, INTEGRATED COMPUTER SYSTEM DAQ. PANEL 2-R111 CONNECTION DIAGRAM

### C. Documents

1. WBN2-30RB-4002, Rev 1, Reactor Building Ventilation System
2. 2-T-30-210, Rev 0, Containment Mass Air Temperature Sensors
3. Unit 2 Technical Specifications (Draft)
  - a. Section 3.6.5, Containment Air Temperature
4. 2-TSD-30L-1, Rev 0, HFT Containment Building Temperature Survey
5. 2-PTI-067-02-A, Rev 0, ERCW System Flow Balance - Train A
6. 2-PTI-067-02-B, Rev 0, ERCW System Flow Balance - Train B
7. SSD-2-LPT-67-84, Rev 0, Lower Cntmt Cooler A Temp.
8. SSD-2-LPT-67-92, Rev 0, Lower Cntmt Cooler C Temp
9. SSD-2-LPT-67-100, Rev 0, Lower Cntmt Cooler B Temp
10. SSD-2-LPT-67-108, Rev 0, Lower Cntmt Cooler D Temp

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## **2.2 Developmental References (continued)**

11. SSD-2-LPT-67-85, Rev 0, Control Rod Drive Vent Cooler A Temp
12. SSD-2-LPT-67-93, Rev 0, Control Rod Drive Vent Cooler C Temp
13. SSD-2-LPT-67-101, Rev 0, Control Rod Drive Vent Cooler B Temp
14. SSD-2-LPT-67-109, Rev 0, Control Rod Drive Vent Cooler D Temp
15. SSD-2-LPT-67-129, Rev 0, Upper Cntmt Vent Cooler A Temp
16. SSD-2-LPT-67-132, Rev 0, Upper Cntmt Vent Cooler C Temp
17. SSD-2-LPT-67-137, Rev 0, Upper Cntmt Vent Cooler B Temp
18. SSD-2-LPT-67-140, Rev 0, Upper Cntmt Vent Cooler D Temp

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### **3.0 PRECAUTIONS AND LIMITATIONS**

- A. Standard precautions shall be followed for working around energized electrical equipment in accordance with TVA Safety Procedure 1021.
- B. Steps may be repeated if all components cannot be tested in a step. However, if the test has been exited, prerequisite steps must be re-verified and a Chronological Test Log (CTL) entry made.
- C. Discrepancies between component ID tags and the description in a procedure/instruction if the UNIDs match, exclusive of place keeping zeros and train designators (e.g. 2-HS-31-468 vs. 2-HS-031-0468) and the noun description is sufficient to identify the component. This condition does not require a Test Deficiency Notice (TDN) in accordance with SMP-14.0. If the component label needs to be changed, a Tag Request Form (TR Card) should be processed in accordance with TI-12.14. Make an entry in the CTL and continue testing.
- D. IF/THEN steps may be marked N/A if stated condition does not exist.
- E. All open problems are to be tracked by a corrective action document and entered on the appropriate system punch list.
- F. Problems identified during the test shall be annotated on the CTL, including a description of the problem, the procedure step when/where the problem was identified, corrective action steps taken to resolve the problem, and the number of the corrective action document, if one was required.
- G. Observe all Radiation Protection (RP) requirements with working in or near contaminated areas.
- H. Ensure there are no adverse effects to the operation of Unit 1 structures, systems, or components.
- I. Special precautions may be required to prevent heat stress due to high temperature and humidity in some test areas. Follow heat stress precautions in accordance with TVA Safety Procedure 806 and the Site Safety Department.
- J. Access to Containment will be controlled by applicable procedures independent of this test procedure.

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### 3.0 PRECAUTIONS AND LIMITATIONS (continued)

- K. The Containment and Divider Barrier Boundary as listed in Appendix F should be maintained. Temporary means of isolation to simulate closed containment conditions is permissible including the use of plastic/plywood sheeting utilizing appropriate site procedures. A CTL entry and/or Appendix F entry shall be made to clarify any significant change of condition.
- L. CRDM Cooler fans could create a local personnel hazard due to high noise levels and high air velocity. Double hearing protection (ear plugs and ear covers) is required when near the operating CRDM Cooler fans.
- M. At least one CRDM Cooler per paired set shall be in operation, and remain in service, when air temperatures at the coil intake exceed 160°F as indicated by computer point T1104A and/or T1105A. Test personnel shall notify the Control Room when this condition is observed and make a CTL entry of that notification and the personnel notified.
- N. A minimum of 24 hours is required to elapse (with the specified coolers in operation) between performing the first cooler alignment and collecting the first set of data in both Section 6.1 and Section 6.2. A minimum of 1 hour is required between subsequent sets of data within each Subsection. A minimum of 4 hours is required between subsequent Subsections. The Test Engineer may obtain and record additional data during the test.
- O. The Unit Supervisor may, at their discretion, provide fresh air and exhaust air using the Containment Purge System; this should be accomplished prior to the 4 hour stabilization period preceding data collection. A CTL entry shall be made if purging occurs within the 4 hours prior to data collection start, during a data collection period, or during the 1 hour period between data sets. Containment Purge valves should be closed during data collection.
- P. This test will be performed at conditions that mimic normal operating conditions. The ERCW Temperature Control Valve setpoints are controlled by Operations and may not exceed 110°F (UCCs) or 120°F (LCCs, CRDM Coolers) in accordance with their Plant Setpoint & Scaling Documents
- Q. Upper Compartment Cooler, Lower Compartment Cooler, and CRDM Cooler control switches in the Main Control Room may NOT be placed in PULL A-P AUTO.
- R. The test data from each Subsection will be reviewed by the designated Test Engineer for accuracy and completeness prior to making data available to Engineering. A review and evaluation of test data by Engineering shall be performed for each Subsection to ensure adequate data has been obtained and to request any additional test data.

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### 3.0 PRECAUTIONS AND LIMITATIONS (continued)

- S. During the test, the lower permissible temperature of 60°F is not expected to occur; however, temperatures inside Containment should be closely monitored by test personnel so that, if necessary, appropriate action may be initiated to raise the temperature to acceptable limits.
- T. If the required Integrated Computer System (ICS) points are unavailable at the time of the test, the Upper and Lower Compartment weighted-average air temperatures may be calculated using Appendix H.

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#### 4.0 PREREQUISITE ACTIONS

**NOTE**

Prerequisite steps may be performed in any order, unless otherwise stated, and should be completed as close in time as practicable to the start of the instruction subsection to which they apply.

#### 4.1 Preliminary Actions

[1] **VERIFY** the test/performance copy of this Preoperational Test Instruction (PTI) is the current revision and as needed, each test person assisting in this test has the current revision. \_\_\_\_\_

[2] **OBTAIN** copies of the applicable forms from the latest revision of SMP-9.0 **AND**  
**ATTACH** to this PTI for use during the performance of this PTI. \_\_\_\_\_

[3] **ENSURE** changes to the references listed on Appendix A have been reviewed and determined NOT to adversely affect the test performance. \_\_\_\_\_

[4] **VERIFY** current revisions and change paper for referenced drawings have been reviewed and determined NOT to adversely affect test performance, **AND**  
**ATTACH** documentation of the current drawing revision numbers and change papers that were reviewed to the data package. \_\_\_\_\_

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**4.1 Preliminary Actions (continued)**

[5] **EVALUATE** open items in Watts Bar Integrated Task Equipment List (WITEL) for the following systems, **AND**

**ENSURE** that they will NOT adversely affect the test performance.

- A. System 30G, Upper Compartment Coolers \_\_\_\_\_
- B. System 30H, Lower Compartment Coolers \_\_\_\_\_
- C. System 30I, CRDM Coolers \_\_\_\_\_
- D. System 30L, Pressure, Temperature, & Humidity Monitoring \_\_\_\_\_
- E. System 31B, Incore Instrument Room Air Conditioning \_\_\_\_\_

[6] **ENSURE** required Component Testing has been completed prior to start of test for the following systems.

- A. System 30G, Upper Compartment Coolers \_\_\_\_\_
- B. System 30H, Lower Compartment Coolers \_\_\_\_\_
- C. System 30I, CRDM Coolers \_\_\_\_\_
- D. System 30L, Pressure, Temperature, & Humidity Monitoring \_\_\_\_\_
- E. System 31B, Incore Instrument Room Air Conditioning \_\_\_\_\_

Date \_\_\_\_\_

**4.1 Preliminary Actions (continued)**

- [7] **ENSURE** outstanding Design Change Notices (DCNs), Engineering Document Construction Releases (EDCRs), or Temporary Alterations (TAs) do NOT adversely impact testing, **AND**

**ATTACH** documentation of DCNs, EDCRs, and TAs that were reviewed to the data package.

- A. System 30G, Upper Compartment Coolers \_\_\_\_\_
- B. System 30H, Lower Compartment Coolers \_\_\_\_\_
- C. System 30I, CRDM Coolers \_\_\_\_\_
- D. System 30L, Pressure, Temperature, & Humidity Monitoring \_\_\_\_\_
- E. System 31B, Incore Instrument Room Air Conditioning \_\_\_\_\_

- [8] **ENSURE** the GTM-05 HVAC Air Balance packages for the following systems have been completed.

- A. System 30G, Upper Compartment Coolers \_\_\_\_\_
- B. System 30H, Lower Compartment Coolers \_\_\_\_\_
- C. System 30I, CRDM Coolers \_\_\_\_\_
- D. System 31B, Incore Instrument Room Air Conditioning \_\_\_\_\_

- [9] **ENSURE** the ERCW Flow Balance is complete to the extent necessary to support test activities.

- A. Train A: 2-PTI-067-02-A \_\_\_\_\_
- B. Train B: 2-PTI-067-02-B \_\_\_\_\_

- [10] **ENSURE** a review of outstanding Clearances has been coordinated with Unit 2 Operations for impact to the test performance, **AND**

**RECORD** in Appendix B, Temporary Condition Log, if required. \_\_\_\_\_



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**4.1 Preliminary Actions (continued)**

[11] **VERIFY** plant instruments required for test performance listed in Appendix C, Permanent Plant Instrumentation Log, have been placed in service and are within their calibration interval, **AND**

**RECORD** on Appendix C. \_\_\_\_\_

[12] **ENSURE** components contained within the boundaries of this test are under the jurisdictional control of Preoperational Startup Engineering (PSE) and/or Plant Operations. \_\_\_\_\_

[13] **REVIEW** preventive maintenance records for equipment within the scope of this test, **AND**

**VERIFY** no conditions exist that will impact test performance.

A. System 30G, Upper Compartment Coolers \_\_\_\_\_

B. System 30H, Lower Compartment Coolers \_\_\_\_\_

C. System 30I, CRDM Coolers \_\_\_\_\_

D. System 30L, Pressure, Temperature, & Humidity Monitoring \_\_\_\_\_

E. System 31B, Incore Instrument Room Air Conditioning \_\_\_\_\_

[14] **PERFORM** a pretest walkdown on equipment to be tested to ensure no conditions exist that will impact test performance. \_\_\_\_\_

[15] **CONDUCT** a pretest briefing with Test and Operations personnel in accordance with SMP-9.0. \_\_\_\_\_

[16] **ENSURE** that communications are available for areas where testing is to be conducted. \_\_\_\_\_

Date \_\_\_\_\_

#### 4.2 Special Tools, Measuring and Test Equipment, Parts, and Supplies

[1] **OBTAIN** the following M&TE, or equivalent, **AND**

**COMPLETE** the following table:

DESCRIPTION	MINIMUM RANGE	REQUIRED ACCURACY	M&TE ID NUMBER	CALIBRATION DUE DATE
Flowmeter (Ultrasonic) <sup>1</sup>	0-1000 gpm 6" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>1</sup>	0-1000 gpm 6" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>1</sup>	0-1000 gpm 6" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>1</sup>	0-1000 gpm 6" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>2</sup>	0-500 gpm 3" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>2</sup>	0-500 gpm 3" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>2</sup>	0-500 gpm 3" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>2</sup>	0-500 gpm 3" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>3</sup>	0-100 gpm 1½" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>3</sup>	0-100 gpm 1½" Sch 40S Stainless Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>4</sup>	0-100 gpm 2" Sch 40 Carbon Steel Pipe	±2% of reading		
Flowmeter (Ultrasonic) <sup>4</sup>	0-100 gpm 2" Sch 40 Carbon Steel Pipe	±2% of reading		

<sup>1</sup> A minimum of 3 ultrasonic flowmeters calibrated to these specifications are required to perform this test.

<sup>2</sup> A minimum of 2 ultrasonic flowmeters calibrated to these specifications are required to perform this test.

<sup>3</sup> A minimum of 1 ultrasonic flowmeter calibrated to these specifications is required to perform this test.

<sup>4</sup> A minimum of 1 ultrasonic flowmeter calibrated to these specifications is required to perform this test.

<sup>1-4</sup> (N/A the unused spaces if no additional flowmeters are available)

Date \_\_\_\_\_

**4.2 Special Tools, Measuring and Test Equipment, Parts, and Supplies (continued)**

DESCRIPTION	MINIMUM RANGE	REQUIRED ACCURACY	M&TE ID NUMBER	CALIBRATION DUE DATE
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Thermocouple (Type T)	32-150°F	±2°F		
Temperature Indicating Device (Type T Thermocouple)	32-150°F	±2°F		

Date \_\_\_\_\_

**4.2 Special Tools, Measuring and Test Equipment, Parts, and Supplies (continued)**

[2] **VERIFY** M&TE calibration due dates will support the completion of this test performance

- A. Subsection 6.1.1 \_\_\_\_\_
- B. Subsection 6.1.2 \_\_\_\_\_
- C. Subsection 6.1.3 \_\_\_\_\_
- D. Subsection 6.1.4 \_\_\_\_\_
- E. Subsection 6.2.1 \_\_\_\_\_
- F. Subsection 6.2.2 \_\_\_\_\_
- G. Subsection 6.2.3 \_\_\_\_\_
- H. Subsection 6.2.4 \_\_\_\_\_

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Date \_\_\_\_\_

**4.3 Field Preparations**

[1] **ENSURE** the following systems are operational and have been placed in service to the extent necessary to perform this test:

- A. System 30F, Containment Vent Air Cleanup Units \_\_\_\_\_
- B. System 30G, Upper Compartment Coolers \_\_\_\_\_
- C. System 30H, Lower Compartment Coolers \_\_\_\_\_
- D. System 30I, Control Rod Drive Mechanism Coolers \_\_\_\_\_
- E. System 30L, Pressure, Temperature & Humidity Monitoring \_\_\_\_\_
- F. System 31B, Incore Instrument Room Air Conditioning \_\_\_\_\_
- G. System 55, Annunciator and Sequential Events Recording System \_\_\_\_\_
- H. System 67, Essential Raw Cooling Water \_\_\_\_\_
- I. System 261, Integrated Computer System (ICS) \_\_\_\_\_

Date \_\_\_\_\_

**4.3 Field Preparations (continued)**

[2] **RECORD** the status of the ICS points listed in Appendix D: \_\_\_\_\_

[3] **RECORD** whether the minimum number of ICS points are in scan (not out of service) as follows:

A. At least two (2) of the Group 1 Upper Containment Temperature points in scan.

A. Subsection 6.1.1  YES  NO \_\_\_\_\_

B. Subsection 6.1.2  YES  NO \_\_\_\_\_

C. Subsection 6.1.3  YES  NO \_\_\_\_\_

D. Subsection 6.1.4  YES  NO \_\_\_\_\_

B. At least one (1) of the Group 2 Upper Containment Temperature points in scan.

A. Subsection 6.1.1  YES  NO \_\_\_\_\_

B. Subsection 6.1.2  YES  NO \_\_\_\_\_

C. Subsection 6.1.3  YES  NO \_\_\_\_\_

D. Subsection 6.1.4  YES  NO \_\_\_\_\_

C. At least one (1) of the Group 1 Lower Containment Temperature points in scan.

A. Subsection 6.2.1  YES  NO \_\_\_\_\_

B. Subsection 6.2.2  YES  NO \_\_\_\_\_

C. Subsection 6.2.3  YES  NO \_\_\_\_\_

D. Subsection 6.2.4  YES  NO \_\_\_\_\_

Date \_\_\_\_\_

**4.3 Field Preparations (continued)**

D. At least one (1) of the Group 2 Lower Containment Temperature points in scan.

A. Subsection 6.2.1  YES  NO \_\_\_\_\_

B. Subsection 6.2.2  YES  NO \_\_\_\_\_

C. Subsection 6.2.3  YES  NO \_\_\_\_\_

D. Subsection 6.2.4  YES  NO \_\_\_\_\_

E. At least one (1) of the Group 3 Lower Containment Temperature points in scan.

A. Subsection 6.2.1  YES  NO \_\_\_\_\_

B. Subsection 6.2.2  YES  NO \_\_\_\_\_

C. Subsection 6.2.3  YES  NO \_\_\_\_\_

D. Subsection 6.2.4  YES  NO \_\_\_\_\_

**NOTE**

Installation of ultrasonic flowmeters may require insulation to be removed. Removal and subsequent reinstallation of insulation should be tracked in a separate work order.

[4] **ENSURE** ultrasonic flowmeters and thermocouples are installed at the locations listed in Appendix E.

A. Section 6.1 (thermocouples only) \_\_\_\_\_

B. Subsection 6.2.1 \_\_\_\_\_

C. Subsection 6.2.2 \_\_\_\_\_

D. Subsection 6.2.3 \_\_\_\_\_

E. Subsection 6.2.4 \_\_\_\_\_

[5]

[6] **PERFORM** a walkdown of the Containment Boundary **AND**

**COMPLETE** Appendix F. \_\_\_\_\_

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Date \_\_\_\_\_

**4.3 Field Preparations (continued)**

[7] **VERIFY** via the HFT Test Engineer for 2-PTI-068-01 that the plant is at the  $\geq 557^{\circ}\text{F}$  plateau.

A. Section 6.1 \_\_\_\_\_

B. Section 6.2 \_\_\_\_\_

[8] **PERFORM** a walkdown of the Containment Building **AND**

**RECORD** in the CTL the general status of the Containment Building describing those conditions which may attribute to a heat loss or gain (e.g. missing insulation, scaffolds, platforms, tenting, welding machines or acetylene torches in use, standing water, etc).

\_\_\_\_\_

[9] **RECORD** whether the Rod Control Mechanism Coils are energized or de-energized:

A. Subsection 6.1.1  
RCM Coils energized  YES  NO \_\_\_\_\_

B. Subsection 6.1.2  
RCM Coils energized  YES  NO \_\_\_\_\_

C. Subsection 6.1.3  
RCM Coils energized  YES  NO \_\_\_\_\_

D. Subsection 6.1.4  
RCM Coils energized  YES  NO \_\_\_\_\_

E. Subsection 6.2.1  
RCM Coils energized  YES  NO \_\_\_\_\_

F. Subsection 6.2.2  
RCM Coils energized  YES  NO \_\_\_\_\_

G. Subsection 6.2.3  
RCM Coils energized  YES  NO \_\_\_\_\_

H. Subsection 6.2.4  
RCM Coils energized  YES  NO \_\_\_\_\_



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Date \_\_\_\_\_

**4.3 Field Preparations (continued)**

[10] **ENSURE** one Containment Vent Air Cleanup Unit is in service by performing the following:

[10.1] **ENSURE** one of the following valves is open (check one)

- 2-ISV-30-23, CNTMT PRESS RELIEF FLTR INLET ISOL
- 2-ISV-30-24 CNTMT PRESS RELIEF FLTR INLET ISOL

[10.2] **ENSURE** the following valves are open:

- 2-FCV-30-37, CNTMT LOWER COMPARTMENT PURGE EXH PRESS RELIEF
- 2-FCV-30-40, CNTMT LOWER COMPARTMENT PURGE EXH PRESS RELIEF

[11] **IF** the Unit 2 Annulus is closed (Equipment Hatch X-1 CLOSED, Blast Doors CLOSED, and Door A78 CLOSED), **THEN**

**ENSURE** one train of Unit 2 Annulus Vacuum Fans are in service (check one).

- 2-FAN-65-77, EGTS CNTMT ANN VAC FAN 2A
- 2-FAN-65-74, EGTS CNTMT ANN VAC FAN 2B

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Date \_\_\_\_\_

**4.4 Approvals and Notifications**

[1] **OBTAIN** permission of the Preoperational Startup Manager to perform this test.

\_\_\_\_\_ Date \_\_\_\_\_  
Preoperational Startup Manager  
Signature

[2] **OBTAIN** the Unit 2 Supervisor's (US/SRO) or Shift Manager's (SM) authorization to perform this test.

\_\_\_\_\_ Date \_\_\_\_\_  
US/SRO/SM Signature

Date \_\_\_\_\_

**5.0 ACCEPTANCE CRITERIA**

- A. The Upper Containment Coolers will maintain design temperatures in the Upper Containment areas as follows:

<b>Operating Coolers</b>	<b>Upper Compartment Weighted Average Air Temperature is greater than 62.1°F and less than 107.9°F<sup>1</sup></b>
UCC 2A UCC 2B UCC 2C	6.1.1[6]
UCC 2A UCC 2B UCC 2D	6.1.2[6]
UCC 2A UCC 2C UCC 2D	6.1.3[6]
UCC 2B UCC 2C UCC 2D	6.1.4[6]

<sup>1</sup> Required value is 60°F to 110°F, reduced to 62.1°F to 107.9°F to account for instrument inaccuracies described in NESSD 2-T-30-210.

Date \_\_\_\_\_

**5.0 ACCEPTANCE CRITERIA (continued)**

B. The Lower Containment Coolers in conjunction with the CRDM Coolers (operating in Shroud Suction mode), will maintain design temperatures in the Lower Containment areas as follows:

Operating Coolers	Lower Compartment Weighted Average Air Temperature is between 62.5°F and 117.5°F <sup>2</sup>	Incore Instrument Room Temperature is between 63.6°F and 96.4°F <sup>3</sup>
LCC 2A-A LCC 2B-B LCC 2C-A CRDM Cooler 2A-A CRDM Cooler 2C-A IIRAC 2A	6.2.1[6]A	6.2.1[6]B
LCC 2A-A LCC 2B-B LCC 2D-B CRDM Cooler 2A-A CRDM Cooler 2B-B IIRAC 2A	6.2.2[6]A	6.2.2[6]B
LCC 2A-A LCC 2C-A LCC 2D-B CRDM Cooler 2C-A CRDM Cooler 2D-B IIRAC 2B	6.2.3[6]A	6.2.3[6]B
LCC 2B-B LCC 2C-A LCC 2D-B CRDM Cooler 2B-B CRDM Cooler 2D-B IIRAC 2B	6.2.4[6]A	6.2.4[6]B

<sup>2</sup> Required value is 60°F to 120°F, reduced to 62.5°F to 117.5°F to account for instrument inaccuracies described in NESSD 2-T-30-210.

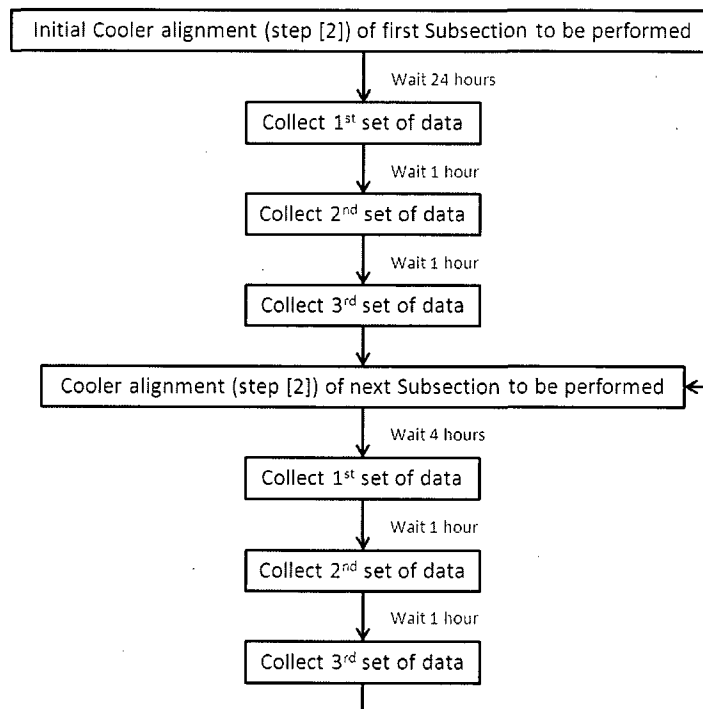
<sup>3</sup> Required value is 60°F to 100°F, reduced to 63.6°F to 96.4°F to account for instrument inaccuracies described in NESSD 2-T-30-210.

Date \_\_\_\_\_

## 6.0 PERFORMANCE

### NOTES

- 1) Section 6.1 of this instruction may be performed in parallel with Section 6.2. The Subsections within Section 6.1 and 6.2 may be performed in any order at the discretion of the Test Director.
- 2) A minimum of 24 hours is required to elapse (with the specified coolers in operation) between performing the first cooler alignment and collecting the first set of data in both Section 6.1 and Section 6.2. A minimum of 1 hour is required between subsequent sets of data within each Subsection. A minimum of 4 hours is required between subsequent Subsections. The Test Engineer may obtain and record additional data during the test. The flowchart below shows the general progression of steps and waiting periods in this test within both Section 6.1 and Section 6.2.



- 3) If the minimum required ICS points are Out of Service, temperature measurement may be performed using Appendix H.
- 4) Verification of equipment status may be made either locally at the device or remotely by indication in the Main Control Room, Auxiliary Control Room, or at the breaker compartment, as applicable. See Table 1 for equipment locations.

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Date \_\_\_\_\_

**6.1 Upper Compartment Air Mass Temperature**

**6.1.1 Upper Compartment Coolers 2A, 2B, 2C**

[1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.1 and Subsection 6.1.1 have been completed. \_\_\_\_\_

[2] **ENSURE** the Upper Compartment Coolers are aligned as follows:

A. 2-CCU-30-95, CNTMT UPPER COMPARTMENT COOLER 2A, is ON \_\_\_\_\_

B. 2-CCU-30-97, CNTMT UPPER COMPARTMENT COOLER 2B, is ON \_\_\_\_\_

C. 2-CCU-30-99, CNTMT UPPER COMPARTMENT COOLER 2C, is ON \_\_\_\_\_

D. 2-CCU-30-100, CNTMT UPPER COMPARTMENT COOLER 2D, is OFF \_\_\_\_\_

**NOTE**

Temperature controllers for in-service UCCs may be adjusted by Operations to maintain Upper Compartment weighted-average air temperature within Tech Spec limit (60 - 110°F). UCC temperature controller setpoints shall NOT be adjusted above 110°F.

[3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data. (See Note 2 at the beginning of Section 6.0 for clarification)

24 hrs  4 hrs \_\_\_\_\_

[4] **IF** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.1.1 in step 4.3[3]), **THEN**

**PERFORM** Section 2.0 of Appendix H. (Step 6.1.1[5] may be marked "N/A") \_\_\_\_\_

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Date \_\_\_\_\_

**6.1.1 Upper Compartment Coolers 2A, 2B, 2C (continued)**

[5] **COLLECT** Upper Compartment Temperature Survey data as delineated on Data Sheet 1, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 1  
(Enter "OOS" for out of service ICS points.)

A. Set 1 \_\_\_\_\_

B. Set 2 \_\_\_\_\_

C. Set 3 \_\_\_\_\_

[6] **RECORD** the Average Upper Compartment Air Mass Temperature for Subsection 6.1.1 , **AND**

**VERIFY** it meets Acceptance Criteria.

Data Source: (check one)

ICS Point U9019 from Data Sheet 1

T<sub>UP</sub> from Appendix H

\_\_\_\_\_ °F  
**Acc Crit:** 62.1°F to 107.9°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Upper Compartment Temperature Survey data collected in Subsection 6.1.1 to Engineering for their review and evaluation. \_\_\_\_\_

Date \_\_\_\_\_

**6.1.2 Upper Compartment Coolers 2A, 2B, 2D**

- [1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.1 and Subsection 6.1.2 have been completed. \_\_\_\_\_
  
- [2] **ENSURE** the Upper Compartment Coolers are aligned as follows:
  - A. 2-CCU-30-95, CNTMT UPPER COMPARTMENT COOLER 2A, is ON \_\_\_\_\_
  - B. 2-CCU-30-97, CNTMT UPPER COMPARTMENT COOLER 2B, is ON \_\_\_\_\_
  - C. 2-CCU-30-99, CNTMT UPPER COMPARTMENT COOLER 2C, is OFF \_\_\_\_\_
  - D. 2-CCU-30-100, CNTMT UPPER COMPARTMENT COOLER 2D, is ON \_\_\_\_\_

**NOTE**

Temperature controllers for in-service UCCs may be adjusted by Operations to maintain Upper Compartment weighted-average air temperature within Tech Spec limit (60 - 110°F). UCC temperature controller setpoints shall NOT be adjusted above 110°F.

- [3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data.  
(See Note 2 at the beginning of Section 6.0 for clarification)  
 24 hrs  4 hrs \_\_\_\_\_
  
- [4] **IF** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.1.2 in step 4.3[3]), **THEN**  
  
**PERFORM** Section 2.0 of Appendix H.  
(Step 6.1.2[5] may be marked "N/A") \_\_\_\_\_



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Date \_\_\_\_\_

**6.1.2 Upper Compartment Coolers 2A, 2B, 2D (continued)**

[5] **COLLECT** Upper Compartment Temperature Survey data as delineated on Data Sheet 2, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 2  
(Enter "OOS" for out of service ICS points.)

- A. Set 1 \_\_\_\_\_
- B. Set 2 \_\_\_\_\_
- C. Set 3 \_\_\_\_\_

[6] **RECORD** the Average Upper Compartment Air Mass Temperature for Subsection 6.1.2 , **AND**

**VERIFY** it meets Acceptance Criteria.

- Data Source: (check one)
- ICS Point U9019 from Data Sheet 2
  - T<sub>UP</sub> from Appendix H

\_\_\_\_\_ °F

**Acc Crit:** 62.1°F to 107.9°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Upper Compartment Temperature Survey data collected in Subsection 6.1.2 to Engineering for their review and evaluation. \_\_\_\_\_

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Date \_\_\_\_\_

**6.1.3 Upper Compartment Coolers 2A, 2C, 2D**

- [1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.1 and Subsection 6.1.3 have been completed. \_\_\_\_\_
- [2] **ENSURE** the Upper Compartment Coolers are aligned as follows:
  - A. 2-CCU-30-95, CNTMT UPPER COMPARTMENT COOLER 2A, is ON \_\_\_\_\_
  - B. 2-CCU-30-97, CNTMT UPPER COMPARTMENT COOLER 2B, is OFF \_\_\_\_\_
  - C. 2-CCU-30-99, CNTMT UPPER COMPARTMENT COOLER 2C, is ON \_\_\_\_\_
  - D. 2-CCU-30-100, CNTMT UPPER COMPARTMENT COOLER 2D, is ON \_\_\_\_\_

**NOTE**

Temperature controllers for in-service UCCs may be adjusted by Operations to maintain Upper Compartment weighted-average air temperature within Tech Spec limit (60 - 110°F). UCC temperature controller setpoints shall NOT be adjusted above 110°F.

- [3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data. (See Note 2 at the beginning of Section 6.0 for clarification)
  - 24 hrs  4 hrs \_\_\_\_\_
- [4] **IF** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.1.3 in step 4.3[3]), **THEN**
  - PERFORM** Section 2.0 of Appendix H. (Step 6.1.3[5] may be marked "N/A") \_\_\_\_\_

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Date \_\_\_\_\_

**6.1.3 Upper Compartment Coolers 2A, 2C, 2D (continued)**

[5] **COLLECT** Upper Compartment Temperature Survey data as delineated on Data Sheet 3, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 3  
(Enter "OOS" for out of service ICS points.)

A. Set 1 \_\_\_\_\_

B. Set 2 \_\_\_\_\_

C. Set 3 \_\_\_\_\_

[6] **RECORD** the Average Upper Compartment Air Mass Temperature for Subsection 6.1.3 , **AND**

**VERIFY** it meets Acceptance Criteria.

Data Source: (check one)

ICS Point U9019 from Data Sheet 3

T<sub>UP</sub> from Appendix H

\_\_\_\_\_ °F  
**Acc Crit:** 62.1°F to 107.9°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Upper Compartment Temperature Survey data collected in Subsection 6.1.3 to Engineering for their review and evaluation. \_\_\_\_\_

Date \_\_\_\_\_

**6.1.4 Upper Compartment Coolers 2B, 2C, 2D**

- [1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.1 and Subsection 6.1.4 have been completed. \_\_\_\_\_
  
- [2] **ENSURE** the Upper Compartment Coolers are aligned as follows:
  - A. 2-CCU-30-95, CNTMT UPPER COMPARTMENT COOLER 2A, is OFF \_\_\_\_\_
  - B. 2-CCU-30-97, CNTMT UPPER COMPARTMENT COOLER 2B, is ON \_\_\_\_\_
  - C. 2-CCU-30-99, CNTMT UPPER COMPARTMENT COOLER 2C, is ON \_\_\_\_\_
  - D. 2-CCU-30-100, CNTMT UPPER COMPARTMENT COOLER 2D, is ON \_\_\_\_\_

**NOTE**

Temperature controllers for in-service UCCs may be adjusted by Operations to maintain Upper Compartment weighted-average air temperature within Tech Spec limit (60 - 110°F). UCC temperature controller setpoints shall NOT be adjusted above 110°F.

- [3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data.  
(See Note 2 at the beginning of Section 6.0 for clarification)  
 24 hrs  4 hrs \_\_\_\_\_
  
- [4] **F** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.1.4 in step 4.3[3]), **THEN**  
  
**PERFORM** Section 2.0 of Appendix H.  
(Step 6.1.4[5] may be marked "N/A") \_\_\_\_\_

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Date \_\_\_\_\_

**6.1.4 Upper Compartment Coolers 2B, 2C, 2D (continued)**

[5] **COLLECT** Upper Compartment Temperature Survey data as delineated on Data Sheet 4, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 4.  
(Enter "OOS" for out of service ICS points.)

A. Set 1 \_\_\_\_\_

B. Set 2 \_\_\_\_\_

C. Set 3 \_\_\_\_\_

[6] **RECORD** the Average Upper Compartment Air Mass Temperature for Subsection 6.1.4 , **AND**

**VERIFY** it meets Acceptance Criteria.

Data Source: (check one)

ICS Point U9019 from Data Sheet 4

T<sub>UP</sub> from Appendix H

\_\_\_\_\_ °F  
**Acc Crit:** 62.1°F to 107.9°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Upper Compartment Temperature Survey data collected in Subsection 6.1.4 to Engineering for their review and evaluation. \_\_\_\_\_

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Date \_\_\_\_\_

**6.2 Lower Compartment Air Mass Temperature**

**6.2.1 Lower Compartment Coolers 2A-A, 2B-B, 2C-A  
CRDM Coolers 2A-A, 2C-A  
Incore Instrument Room Air Conditioning Train 2A**

- [1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.2 and Subsection 6.2.1 have been completed. \_\_\_\_\_
- [2] **ENSURE** the various coolers in Lower Containment are aligned in accordance with Appendix G for Subsection 6.2.1. \_\_\_\_\_

**NOTE**

Temperature controllers for in-service LCCs and CRDM Coolers may be adjusted by Operations to maintain Lower Compartment weighted-average air temperature within Tech Spec limit (60 - 120°F). LCC and CRDM Cooler temperature controller setpoints shall NOT be adjusted above 120°F.

- [3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data.  
(See Note 2 at the beginning of Section 6.0 for clarification)  
 24 hrs  4 hrs \_\_\_\_\_
- [4] **IF** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.2.1 in step 4.3[3]), **THEN**  
  
**PERFORM** Section 3.0 of Appendix H.  
(Step 6.2.1[5] may be marked "N/A") \_\_\_\_\_
- [5] **COLLECT** Lower Compartment Temperature Survey data as delineated on Data Sheet 5, waiting 1 hour between each set of data, **AND**  
  
**RECORD** data on Data Sheet 5.  
(Enter "OOS" for out of service ICS points.)
  - A. Set 1 \_\_\_\_\_
  - B. Set 2 \_\_\_\_\_
  - C. Set 3 \_\_\_\_\_

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Date \_\_\_\_\_

**6.2.1 Lower Compartment Coolers 2A-A, 2B-B, 2C-A  
CRDM Coolers 2A-A, 2C-A  
Incore Instrument Room Air Conditioning Train 2A (continued)**

[6] **RECORD** the following Lower Compartment Temperature Data for Subsection 6.2.1, **AND**

**VERIFY** they meet Acceptance Criteria.

A. Average Lower Compartment Air Mass Temperature

Data Source (check one)

ICS Point U9020 from Data Sheet 5

T<sub>LOW</sub> from Appendix H

\_\_\_\_\_ °F

**Acc Crit:** 62.5°F to 117.5°F

B. Incore Instrument Room Temperature:

Data Source (check one)

ICS Point T1029A from Data Sheet 5

2-TE-30-210AD from Appendix H

\_\_\_\_\_ °F

**Acc Crit:** 63.6°F to 96.4°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Lower Compartment Temperature Survey data collected in Subsection 6.2.1 to Engineering for their review and evaluation.

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Date \_\_\_\_\_

**6.2.2 Lower Compartment Coolers 2A-A, 2B-B, 2D-B  
CRDM Coolers 2A-A, 2B-B  
Incore Instrument Room Air Conditioning Train 2A**

- [1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.2 and Subsection 6.2.2 have been completed. \_\_\_\_\_
- [2] **ENSURE** the various coolers in Lower Containment are aligned in accordance with Appendix G for Subsection 6.2.2. \_\_\_\_\_

**NOTE**

Temperature controllers for in-service LCCs and CRDM Coolers may be adjusted by Operations to maintain Lower Compartment weighted-average air temperature within Tech Spec limit (60 - 120°F). LCC and CRDM Cooler temperature controller setpoints shall NOT be adjusted above 120°F.

- [3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data.  
(See Note 2 at the beginning of Section 6.0 for clarification)  
 24 hrs  4 hrs \_\_\_\_\_
- [4] **IF** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.2.2 in step 4.3[3]), **THEN**  
  
**PERFORM** Section 3.0 of Appendix H.  
(Step 6.2.2[5] may be marked "N/A") \_\_\_\_\_
- [5] **COLLECT** Lower Compartment Temperature Survey data as delineated on Data Sheet 6, waiting 1 hour between each set of data, **AND**  
  
**RECORD** data on Data Sheet 6.  
(Enter "OOS" for out of service ICS points.)
  - A. Set 1 \_\_\_\_\_
  - B. Set 2 \_\_\_\_\_
  - C. Set 3 \_\_\_\_\_



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Date \_\_\_\_\_

**6.2.2 Lower Compartment Coolers 2A-A, 2B-B, 2D-B  
CRDM Coolers 2A-A, 2B-B  
Incore Instrument Room Air Conditioning Train 2A (continued)**

[6] **RECORD** the following Lower Compartment Temperature Data for Subsection 6.2.2, **AND**

**VERIFY** they meet Acceptance Criteria.

A. Average Lower Compartment Air Mass Temperature

Data Source (check one)

ICS Point U9020 from Data Sheet 6

T<sub>LOW</sub> from Appendix H

\_\_\_\_\_ °F

**Acc Crit:** 62.5°F to 117.5°F

B. Incore Instrument Room Temperature:

Data Source (check one)

ICS Point T1029A from Data Sheet 6

2-TE-30-210AD from Appendix H

\_\_\_\_\_ °F

**Acc Crit:** 63.6°F to 96.4°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Lower Compartment Temperature Survey data collected in Subsection 6.2.2 to Engineering for their review and evaluation.

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 41 of 109</b>
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Date \_\_\_\_\_

**6.2.3 Lower Compartment Coolers 2A-A, 2C-A, 2D-B  
CRDM Coolers 2C-A, 2D-B  
Incore Instrument Room Air Conditioning Train 2B**

- [1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.2 and Subsection 6.2.3 have been completed. \_\_\_\_\_
- [2] **ENSURE** the various coolers in Lower Containment are aligned in accordance with Appendix G for Subsection 6.2.3. \_\_\_\_\_

**NOTE**

Temperature controllers for in-service LCCs and CRDM Coolers may be adjusted by Operations to maintain Lower Compartment weighted-average air temperature within Tech Spec limit (60 - 120°F). LCC and CRDM Cooler temperature controller setpoints shall NOT be adjusted above 120°F.

- [3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data.  
(See Note 2 at the beginning of Section 6.0 for clarification)  
 24 hrs  4 hrs \_\_\_\_\_
- [4] **IF** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.2.3 in step 4.3[3]), **THEN**  
  
**PERFORM** Section 3.0 of Appendix H.  
(Step 6.2.3[5] may be marked "N/A") \_\_\_\_\_
- [5] **COLLECT** Lower Compartment Temperature Survey data as delineated on Data Sheet 7, waiting 1 hour between each set of data, **AND**  
  
**RECORD** data on Data Sheet 7.  
(Enter "OOS" for out of service ICS points.)
  - A. Set 1 \_\_\_\_\_
  - B. Set 2 \_\_\_\_\_
  - C. Set 3 \_\_\_\_\_

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Date \_\_\_\_\_

**6.2.3 Lower Compartment Coolers 2A-A, 2C-A, 2D-B  
CRDM Coolers 2C-A, 2D-B  
Incore Instrument Room Air Conditioning Train 2B (continued)**

[6] **RECORD** the following Lower Compartment Temperature Data for Subsection 6.2.3, **AND**

**VERIFY** they meet Acceptance Criteria.

A. Average Lower Compartment Air Mass Temperature

Data Source (check one)

ICS Point U9020 from Data Sheet 7

T<sub>LOW</sub> from Appendix H

\_\_\_\_\_ °F  
**Acc Crit:** 62.5°F to 117.5°F

B. Incore Instrument Room Temperature:

Data Source (check one)

ICS Point T1029A from Data Sheet 7

2-TE-30-210AD from Appendix H

\_\_\_\_\_ °F  
**Acc Crit:** 63.6°F to 96.4°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Lower Compartment Temperature Survey data collected in Subsection 6.2.3 to Engineering for their review and evaluation.

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Date \_\_\_\_\_

**6.2.4 Lower Compartment Coolers 2B-B, 2C-A, 2D-B  
CRDM Coolers 2B-B, 2D-B  
Incore Instrument Room Air Conditioning Train 2B**

- [1] **ENSURE** all prerequisites listed in Section 4.0 for Section 6.2 and Subsection 6.2.4 have been completed. \_\_\_\_\_
- [2] **ENSURE** the various coolers in Lower Containment are aligned in accordance with Appendix G for Subsection 6.2.4. \_\_\_\_\_

**NOTE**

Temperature controllers for in-service LCCs and CRDM Coolers may be adjusted by Operations to maintain Lower Compartment weighted-average air temperature within Tech Spec limit (60 - 120°F). LCC and CRDM Cooler temperature controller setpoints shall NOT be adjusted above 120°F.

- [3] **VERIFY** the required minimum time has elapsed (with the specified coolers in operation) before collecting data.  
(See Note 2 at the beginning of Section 6.0 for clarification)  
 24 hrs  4 hrs \_\_\_\_\_
- [4] **IF** the minimum required ICS points are out of service ("NO" selected for any of the items pertaining to Subsection 6.2.4 in step 4.3[3]), **THEN**  
  
**PERFORM** Section 3.0 of Appendix H.  
(Step 6.2.4[5] may be marked "N/A") \_\_\_\_\_
- [5] **COLLECT** Lower Compartment Temperature Survey data as delineated on Data Sheet 8, waiting 1 hour between each set of data, **AND**  
  
**RECORD** data on Data Sheet 8.  
(Enter "OOS" for out of service ICS points.)  
  - A. Set 1 \_\_\_\_\_
  - B. Set 2 \_\_\_\_\_
  - C. Set 3 \_\_\_\_\_

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Date \_\_\_\_\_

**6.2.4 Lower Compartment Coolers 2B-B, 2C-A, 2D-B  
CRDM Coolers 2B-B, 2D-B  
Incore Instrument Room Air Conditioning Train 2B (continued)**

[6] **RECORD** the following Lower Compartment Temperature Data for Subsection 6.2.4, **AND**

**VERIFY** they meet Acceptance Criteria.

A. Average Lower Compartment Air Mass Temperature

- Data Source (check one)
- ICS Point U9020 from Data Sheet 8
  - T<sub>LOW</sub> from Appendix H

\_\_\_\_\_ °F

**Acc Crit:** 62.5°F to 117.5°F

B. Incore Instrument Room Temperature:

- Data Source (check one)
- ICS Point T1029A from Data Sheet 8
  - 2-TE-30-210AD from Appendix H

\_\_\_\_\_ °F

**Acc Crit:** 63.6°F to 96.4°F

**NOTE**

Include a copy of all applicable sections of the CTL, Data Sheets, and any other pertinent test documentation in the following step.

[7] **DELIVER** a copy of the Lower Compartment Temperature Survey data collected in Subsection 6.2.4 to Engineering for their review and evaluation.

Date \_\_\_\_\_

**7.0 POST PERFORMANCE ACTIVITY**

[1] **VERIFY** Engineering has reviewed and evaluated each Subsection's test data to the extent necessary and any request for additional data has been addressed, **AND**

**ATTACH** copies of Engineering concurrence for each Subsection to the data package.

- A. Subsection 6.1.1 \_\_\_\_\_
- B. Subsection 6.1.2 \_\_\_\_\_
- C. Subsection 6.1.3 \_\_\_\_\_
- D. Subsection 6.1.4 \_\_\_\_\_
- E. Subsection 6.2.1 \_\_\_\_\_
- F. Subsection 6.2.2 \_\_\_\_\_
- G. Subsection 6.2.3 \_\_\_\_\_
- H. Subsection 6.2.4 \_\_\_\_\_

[2] **ENSURE** ultrasonic flowmeters and thermocouples listed in Appendix E have been removed. \_\_\_\_\_

[3] **ENSURE** any insulation removed to support installation of the ultrasonic flowmeters has been reinstalled.

WO \_\_\_\_\_

**NOTE**

The plant equipment used to verify acceptance criteria are thermocouples and cannot be calibrated. Their computer points are software calibration only. Post-test calibration of these instruments is not necessary and will not be performed.

[4] **NOTIFY** the Unit 2 US/SRO of the test completion and system alignment and that the Containment Air Cooling System may be aligned as needed to support HFT. \_\_\_\_\_

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Date \_\_\_\_\_

**8.0 RECORDS**

A. QA Records

Completed Test Package

B. Non-QA Records

None

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**Appendix A  
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**TEST PROCEDURES/INSTRUCTIONS REFERENCE REVIEW**

Date \_\_\_\_\_

<b>NOTES</b>
1) Additional copies of this table may be made as necessary.
2) Initial and date indicates review has been completed for impact

PROCEDURE/ INSTRUCTION	REVISION/CHANGES	IMPACT Yes/No	INITIAL AND DATE. (N/A for no change)
2-TSD-30L-1			
FSAR Section 9.4.7 Table 14.2-1 Sh 38 & 39			
Unit 2 Tech Specs Section 3.6.5			
2-PTI-067-02-A			
2-PTI-067-02-B			
WBN2-30RB-4002			
2-T-30-210			
SSD-2-LPT-67-84			
SSD-2-LPT-67-92			
SSD-2-LPT-67-100			
SSD-2-LPT-67-108			
SSD-2-LPT-67-85			
SSD-2-LPT-67-93			
SSD-2-LPT-67-101			
SSD-2-LPT-67-109			



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**TEST PROCEDURES/INSTRUCTIONS REFERENCE REVIEW**

Date \_\_\_\_\_

<b>PROCEDURE/ INSTRUCTION</b>	<b>REVISION/CHANGES</b>	<b>IMPACT Yes/No</b>	<b>INITIAL AND DATE. (N/A for no change)</b>
SSD-2-LPT-67-129			
SSD-2-LPT-67-132			
SSD-2-LPT-67-137			
SSD-2-LPT-67-140			



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**PERMANENT PLANT INSTRUMENTATION LOG**

Date \_\_\_\_\_

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED <sup>1</sup>	PLACED IN SERVICE <sup>1</sup>	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE <sup>2</sup>	POST-TEST CALIBRATION ACCEPTABLE <sup>2</sup> INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
2-TE-30-210A		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210B		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210C		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210D		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210E		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210F		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210G		N/A			NO	N/A	N/A
2-TE-30-210H		N/A			NO	N/A	N/A
2-TE-30-210I		N/A			NO	N/A	N/A
2-TE-30-210J		N/A			NO	N/A	N/A
2-TE-30-210K		N/A			NO	N/A	N/A
2-TE-30-210L		N/A			NO	N/A	N/A
2-TE-30-210M		N/A			NO	N/A	N/A
2-TE-30-210N		N/A			NO	N/A	N/A
2-TE-30-210O		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210P		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210Q		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210R		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>

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PERMANENT PLANT INSTRUMENTATION LOG

Date \_\_\_\_\_

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED <sup>1</sup>	PLACED IN SERVICE <sup>1</sup>	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE <sup>2</sup>	POST-TEST CALIBRATION ACCEPTABLE <sup>2</sup> INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
2-TE-30-210S		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210T		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210U		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210V		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210W		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210X		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210Y		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210Z		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AA		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AB		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AC		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AD		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AE		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AF		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AG		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>
2-TE-30-210AH		N/A		YES		N/A <sup>3</sup>	N/A <sup>3</sup>

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**PERMANENT PLANT INSTRUMENTATION LOG**

Date \_\_\_\_\_

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED <sup>1</sup>	PLACED IN SERVICE <sup>1</sup>	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE <sup>2</sup>	POST-TEST CALIBRATION ACCEPTABLE <sup>2</sup> INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
2-TE-30-211A		N/A			NO	N/A	N/A
2-TE-30-211B		N/A			NO	N/A	N/A
2-TE-30-211C		N/A			NO	N/A	N/A
2-TE-30-211D		N/A			NO	N/A	N/A
2-TE-30-211E		N/A			NO	N/A	N/A
2-TE-30-211F		N/A			NO	N/A	N/A
2-TE-30-211G		N/A			NO	N/A	N/A
2-TE-30-211H		N/A			NO	N/A	N/A
2-TE-30-211I		N/A			NO	N/A	N/A
2-TE-30-211J		N/A			NO	N/A	N/A
2-TE-30-211K		N/A			NO	N/A	N/A
2-TE-30-211L		N/A			NO	N/A	N/A
2-TE-30-211M		N/A			NO	N/A	N/A
2-TE-30-211N		N/A			NO	N/A	N/A
2-TE-30-211O		N/A			NO	N/A	N/A
2-TE-30-211P		N/A			NO	N/A	N/A

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**PERMANENT PLANT INSTRUMENTATION LOG**

Date \_\_\_\_\_

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED <sup>1</sup>	PLACED IN SERVICE <sup>1</sup>	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE <sup>2</sup>	POST-TEST CALIBRATION ACCEPTABLE <sup>2</sup> INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
2-TE-30-211Q		N/A			NO	N/A	N/A
2-TE-30-211R		N/A			NO	N/A	N/A
2-TE-30-211S		N/A			NO	N/A	N/A
2-TE-30-211T		N/A			NO	N/A	N/A
2-TE-30-211U		N/A			NO	N/A	N/A
2-TE-30-211V		N/A			NO	N/A	N/A
2-ME-30-240		N/A			NO	N/A	N/A
2-ME-30-241		N/A			NO	N/A	N/A
2-LPT-31-307		N/A			NO	N/A	N/A
2-LPT-31-328		N/A			NO	N/A	N/A
2-TI-31-300		N/A			NO	N/A	N/A
2-TI-31-312		N/A			NO	N/A	N/A
2-TI-31-320		N/A			NO	N/A	N/A
2-TI-31-333		N/A			NO	N/A	N/A

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Date \_\_\_\_\_

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED <sup>1</sup>	PLACED IN SERVICE <sup>1</sup>	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE <sup>2</sup>	POST-TEST CALIBRATION ACCEPTABLE <sup>2</sup> INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
2-LPT-67-129		N/A			NO	N/A	N/A
2-LPT-67-137		N/A			NO	N/A	N/A
2-LPT-67-132		N/A			NO	N/A	N/A
2-LPT-67-140		N/A			NO	N/A	N/A
2-LPT-67-84		N/A			NO	N/A	N/A
2-LPT-67-92		N/A			NO	N/A	N/A
2-LPT-67-100		N/A			NO	N/A	N/A
2-LPT-67-108		N/A			NO	N/A	N/A
2-LPT-67-85		N/A			NO	N/A	N/A
2-LPT-67-93		N/A			NO	N/A	N/A
2-LPT-67-101		N/A			NO	N/A	N/A
2-LPT-67-109		N/A			NO	N/A	N/A
2-LPT-67-455 <sup>4</sup>		N/A			NO	N/A	N/A
2-LPT-67-456 <sup>4</sup>		N/A			NO	N/A	N/A

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**PERMANENT PLANT INSTRUMENTATION LOG**

Date \_\_\_\_\_

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED <sup>1</sup>	PLACED IN SERVICE <sup>1</sup>	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE <sup>2</sup>	POST-TEST CALIBRATION ACCEPTABLE <sup>2</sup> INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
2-FI-67-263					NO	N/A	N/A
2-FI-67-265					NO	N/A	N/A
2-FI-67-267					NO	N/A	N/A
2-FI-67-269					NO	N/A	N/A
2-FI-67-332					NO	N/A	N/A
2-FI-67-333					NO	N/A	N/A
2-FI-67-334					NO	N/A	N/A
2-FI-67-335					NO	N/A	N/A

<sup>1</sup> These items may be initialed and dated by personnel performing the task. Instrumentation not required to be filled and vented may be identified as Not Applicable. (N/A)

<sup>2</sup> May be identified as Not Applicable (N/A) if instrument was not used to verify/record quantitative acceptance criteria data.

<sup>3</sup> These Temperature Elements cannot be calibrated and their computer points are software calibration only. Post-test calibration of these instruments is not necessary and will not be performed

<sup>4</sup> These instrument loops are under Unit 1 control.



**Appendix D  
(Page 1 of 3)  
ICS Points**

Date \_\_\_\_\_

Group	ICS Point	Description	Point Status (circle one)	Initials
Upper 1	T1000A <sup>1</sup>	CNTMT AIR TEMP AZ/EL 270/868 DOME	In Scan / OOS	
N/A	T1001A <sup>2</sup>	CNTMT TEMP 104/796 PRZ CEILG	In Scan / OOS	
N/A	T1002A <sup>2</sup>	CNTMT TEMP 0/796 SG ENCL CEILG	In Scan / OOS	
N/A	T1003A <sup>2</sup>	CNTMT TEMP 180/796 SG ENCL CEILG	In Scan / OOS	
Lower 1	T1004A <sup>2</sup>	CNTMT TEMP 184/708 RX SHLD WALL	In Scan / OOS	
Lower 1	T1005A <sup>2</sup>	CNTMT TEMP 0/708 RX SHLD WALL	In Scan / OOS	
N/A	T1006A	CNTMT TEMP 67/708 UN RX VSL SUPP1	In Scan / OOS	
N/A	T1007A	CNTMT TEMP 158/708 UN RX VSL SUPP2	In Scan / OOS	
N/A	T1008A	CNTMT TEMP 247/708 UN RX VSL SUPP3	In Scan / OOS	
N/A	T1009A	CNTMT TEMP 338/708 UN RX VSL SUPP4	In Scan / OOS	
N/A	T1010A	CNTMT TEMP EL719 OPP RX VSL NOZL 1	In Scan / OOS	
N/A	T1011A	CNTMT TEMP EL719 OPP RX VSL NOZL 2	In Scan / OOS	
N/A	T1012A	CNTMT TEMP EL719 OPP RX VSL NOZL 3	In Scan / OOS	
N/A	T1013A	CNTMT TEMP EL719 OPP RX VSL NOZL 4	In Scan / OOS	
N/A	T1014A <sup>2</sup>	CNTMT TEMP 45/753 OPP REFUEL GATE	In Scan / OOS	
Lower 1	T1015A <sup>2</sup>	CNTMT TEMP 104/726 IN PZR SUPP PLTF	In Scan / OOS	
Upper 1	T1016A <sup>1</sup>	CNTMT TEMP 55/809 ICE COND WALL	In Scan / OOS	
Upper 1	T1017A <sup>1</sup>	CNTMT TEMP 235/809 ICE WALL OPP SID	In Scan / OOS	
Upper 2	T1018A <sup>1</sup>	CNTMT TEMP 92/799 PRZR ENCL WALL	In Scan / OOS	
Upper 2	T1019A <sup>1</sup>	CNTMT TEMP 285/766 ICE OPP PZR	In Scan / OOS	
Upper 2	T1020A <sup>1</sup>	CNTMT TEMP 180/766 SG ENCL WALL	In Scan / OOS	
Upper 2	T1021A <sup>1</sup>	CNTMT TEMP 0/766 SG ENCL OPP SIDE	In Scan / OOS	

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**Appendix D  
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ICS Points**

Date \_\_\_\_\_

Group	ICS Point	Description	Point Status (circle one)	Initials
Lower 2	T1022A <sup>2</sup>	CNTMT TEMP 126/745 ICE PLTFM RCP#2	In Scan / OOS	
Lower 2	T1023A <sup>2</sup>	CNTMT TEMP 309/745 ICE PLTFM RCP#4	In Scan / OOS	
Lower 2	T1024A <sup>2</sup>	CNTMT TEMP 201/745 ICE PLTFM SG#3	In Scan / OOS	
Lower 2	T1025A <sup>2</sup>	CNTMT TEMP 22/745 ICE PLTFM SG#1	In Scan / OOS	
N/A	T1026A <sup>2</sup>	CNTMT TEMP 90/687 SUMP	In Scan / OOS	
Lower 3	T1027A <sup>2</sup>	CNTMT TEMP 0/723 FAN COMPT WALL	In Scan / OOS	
Lower 3	T1028A <sup>2</sup>	CNTMT TEMP 180/723 FAN COMPT WALL	In Scan / OOS	
N/A	T1029A <sup>2</sup>	CNTMT TEMP 90/716 INSTR RM WALL	In Scan / OOS	
Lower 3	T1030A <sup>2</sup>	CNTMT TEMP 40/723 ACCUM RM WALL	In Scan / OOS	
Lower 3	T1031A <sup>2</sup>	CNTMT TEMP 140/723 ACCUM RM WALL	In Scan / OOS	
Lower 3	T1032A <sup>2</sup>	CNTMT TEMP 220/723 ACCUM RM WALL	In Scan / OOS	
Lower 3	T1033A <sup>2</sup>	CNTMT TEMP 320/723 ACCUM RM WALL	In Scan / OOS	
N/A	T1100A	CRDM COOL UNIT A-A EXHAUST	In Scan / OOS	
N/A	T1101A	CRDM COOL UNIT B-B EXHAUST	In Scan / OOS	
N/A	T1102A	CRDM COOL UNIT C-A EXHAUST	In Scan / OOS	
N/A	T1103A	CRDM COOL UNIT D-B EXHAUST	In Scan / OOS	
N/A	T1104A	CRDM COOL UNIT C-A B-B INTAKE	In Scan / OOS	
N/A	T1105A	CDRM COOL UNIT A-A D-B INTAKE	In Scan / OOS	
N/A	T1110A	LOWR COMPT COOL UNIT A-A EXHAUST	In Scan / OOS	
N/A	T1111A	LOWR COMPT COOL UNIT B-B EXHAUST	In Scan / OOS	
N/A	T1112A	LOWR COMPT COOL UNIT C-A EXHAUST	In Scan / OOS	
N/A	T1113A	LOWR COMPT COOL UNIT D-B EXHAUST	In Scan / OOS	
N/A	T1114A	LOWER COMPT COOL UNIT A-A INTAKE	In Scan / OOS	
N/A	T1115A	LOWER COMPT COOL UNIT B-B INTAKE	In Scan / OOS	
N/A	T1116A	LOWER COMPT COOL UNIT C-A INTAKE	In Scan / OOS	

**Appendix D  
(Page 3 of 3)**

**ICS Points**

Date \_\_\_\_\_

Group	ICS Point	Description	Point Status (circle one)	Initials
N/A	T1117A	LOWER COMPT COOL UNIT D-B INTAKE	In Scan / OOS	
N/A	T1118A	UPPER COMPT COOL UNIT A INTAKE	In Scan / OOS	
N/A	T1119A	UPPER COMPT COOL UNIT B INTAKE	In Scan / OOS	
N/A	T1120A	UPPER COMPT COOL UNIT C INTAKE	In Scan / OOS	
N/A	T1121A	UPPER COMPT COOL UNIT D INTAKE	In Scan / OOS	
N/A	T1122A	UPPER COMPT COOL UNIT A EXHAUST	In Scan / OOS	
N/A	T1123A	UPPER COMPT COOL UNIT B EXHAUST	In Scan / OOS	
N/A	T1124A	UPPER COMPT COOL UNIT C EXHAUST	In Scan / OOS	
N/A	T1125A	UPPER COMPT COOL UNIT D EXHAUST	In Scan / OOS	
N/A	T2614A <sup>3</sup>	ERCW SUP HDR 2A TEMP	In Scan / OOS	
N/A	T2615A <sup>3</sup>	ERCW SUP HDR 2B TEMP	In Scan / OOS	
N/A	U9019 <sup>1</sup>	CNTMT UPPER CMPT AVG MASS AIR TEMP	In Scan / OOS	
N/A	U9020 <sup>2</sup>	CNTMT LOWER CMPT AVG MASS AIR T	In Scan / OOS	
N/A	Y0701A	CNTMT UP-COMPARTMENT DEW PT TEMP	In Scan / OOS	
N/A	Y0702A	CNTMT LOW-COMPARTMENT DEW PT TEMP	In Scan / OOS	

<sup>1</sup> These ICS Points are required for performance of Section 6.1. If the minimum required points are OOS, then Appendix H may be used to determine the Upper Compartment Weighted Average Air Temperature.

<sup>2</sup> These ICS Points are required for performance of Section 6.2. If the minimum required points are OOS, then Appendix H may be used to determine the Lower Compartment Weighted Average Air Temperature.

<sup>3</sup> These ICS Points are under Unit 1 control

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**Appendix E  
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**ERCW Flow and Temperature M&TE**

Date \_\_\_\_\_

Upper Compartment Air Mass Temperature - Section 6.1							
UNID	Description	Location	Additional Information	M&TE ID	Installed	Removed	
						1st	CV
2-TW-67-262	UPPER CNTMT VENT CLR A DISCH TEMP	EL 802 AZ 37°	minimum range: 32-150°F				
2-TW-67-266	UPPER CNTMT VENT CLR B DISCH TEMP	EL 802 AZ 149°	minimum range: 32-150°F				
2-TW-67-264	UPPER CNTMT VENT CLR C DISCH TEMP	EL 802 AZ 215°	minimum range: 32-150°F				
2-TW-67-268	UPPER CNTMT VENT CLR D DISCH TEMP	EL 802 AZ 325°	minimum range: 32-150°F				











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**Appendix F  
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**Containment and Divider Barrier Boundary**

Date \_\_\_\_\_

<b>NOTES</b>
<p>1) Record significant changes to the Containment Boundary in Remarks below.</p> <p>2) Temporary use of plastic sheeting and plywood to establish the Containment Boundary is acceptable.</p> <p>3) Additional copies of this table may be made as necessary.</p>

Description	Location (AZ/EL)	Desired Position	Initials	Remarks
Equipment Hatch (X-1)	285° / 765'	CLOSED		
Lower Personnel Airlock (X-2A)	162° / 716'	CLOSED		
Upper Personnel Airlock (X-2B)	255° / 757'	CLOSED		
Fuel Transfer Tube (X-3)	262° / 711'	CLOSED		
Maintenance Port (X-37)	265° / 771'	CLOSED		
Thimble Tube (X-54)	90° / 740'	CLOSED		
Ice Blowing (X-79A)	289° / 808'	CLOSED		
Ice Blowing (X-79B)	290° / 808'	CLOSED		
Maintenance Port (X-108)	218° / 711'	CLOSED		
Maintenance Port (X-109)	222° / 711'	CLOSED		
Maintenance Port (X-117)	300° / 758'	CLOSED		
Layup Water Treatment (X-118)	209° / 708'	CLOSED		
Crane Wall Door (Raceway to Loop 3)	226° / 703'	CLOSED		
Crane Wall Door (Raceway to Loop 4)	314° / 703'	CLOSED		
Crane Wall Door (Incore Instr Rm to RCP 2)	134° / 716'	CLOSED		
Crane Wall Door (Acc Rm 4 to Lower Ice Catwalk)	305° / 744'	CLOSED		
Hatch (Incore Instr Rm to Raceway)	162° / 716'	CLOSED		

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**Containment and Divider Barrier Boundary**

Date \_\_\_\_\_

Description	Location (AZ/EL)	Desired Position	Initials	Remarks
Incore Instr Rm Blowout Panel	126° / 730'	CLOSED		
Incore Instr Rm Blowout Panel	54° / 730'	CLOSED		
Ice Condenser Lower Inlet Doors	746' 2-M-9	CLOSED		
Ice Condenser End Wall	245° / 806'	CLOSED		
Ice Condenser End Wall	305° / 806'	CLOSED		
Personnel Hatch #1 (top of Pressurizer Enclosure)	105° / 802'	CLOSED		
Personnel Hatch #2 ("Subhatch")	305° / 757'	CLOSED		
East Refuel Canal Drain Plug	272° / 714'	REMOVED		
West Refuel Canal Drain Plug	268° / 714'	REMOVED		
RCP Access Plug 1	46° / 757'	INSTALLED		
RCP Access Plug 2	134° / 757'	INSTALLED		
RCP Access Plug 3	226° / 757'	INSTALLED		
RCP Access Plug 4	314° / 757'	INSTALLED		
Lower Containment Access Plug	270° / 757'	INSTALLED		
Raceway Access Plug	105° / 757'	INSTALLED		
Reactor Cavity Pressure Relief Panels	750'	CLOSED		
CRDM Missile Shields	760'	INSTALLED		
Transfer Canal Gate Blocks	270° / 713'	INSTALLED		

**Appendix G  
(Page 1 of 2)**

**Lower Compartment Temperature Survey Cooler Alignments (Section 6.2)**

Date \_\_\_\_\_

UNID	NOMENCLATURE	Subsection 6.2.1		Subsection 6.2.2		Subsection 6.2.3		Subsection 6.2.4	
		STATUS	INITIALS	STATUS	INITIALS	STATUS	INITIALS	STATUS	INITIALS
<b>Lower Compartment Coolers</b>									
2-CCU-30-74	CNTMT LOWER COMPARTMENT COOLER 2A-A	ON		ON		ON		OFF	
2-CCU-30-75	CNTMT LOWER COMPARTMENT COOLER 2B-B	ON		ON		OFF		ON	
2-CCU-30-77	CNTMT LOWER COMPARTMENT COOLER 2C-A	ON		OFF		ON		ON	
2-CCU-30-78	CNTMT LOWER COMPARTMENT COOLER 2D-B	OFF		ON		ON		ON	
<b>CRDM Coolers &amp; Associated Dampers</b>									
2-CLR-30-83	CRDM COOLER 2A-A	ON		ON		OFF		OFF	
2-TCO-30-84 <sup>1</sup>	CRDM COOLER 2A-A SHROUD SUCTION	OPEN <sup>1</sup>		OPEN <sup>1</sup>		CLOSED		CLOSED	
2-TCO-30-85	CRDM COOLER 2A-A LOWER COMPARTMENT SUCT	CLOSED		CLOSED		CLOSED		CLOSED	
2-CLR-30-92	CRDM COOLER 2B-B	OFF		ON		OFF		ON	
2-TCO-30-93 <sup>1</sup>	CRDM COOLER 2B-B SHROUD SUCTION	CLOSED		OPEN <sup>1</sup>		CLOSED		OPEN <sup>1</sup>	
2-TCO-30-94	CRDM COOLER 2B-B LOWER COMPARTMENT SUCT	CLOSED		CLOSED		CLOSED		CLOSED	
2-CLR-30-88	CRDM COOLER 2C-A	ON		OFF		ON		OFF	
2-TCO-30-89 <sup>1</sup>	CRDM COOLER 2C-A SHROUD SUCTION	OPEN <sup>1</sup>		CLOSED		OPEN <sup>1</sup>		CLOSED	
2-TCO-30-90	CRDM COOLER 2C-A LOWER COMPARTMENT SUCT	CLOSED		CLOSED		CLOSED		CLOSED	
2-CLR-30-80	CRDM COOLER 2D-B	OFF		OFF		ON		ON	
2-TCO-30-81 <sup>1</sup>	CRDM COOLER 2D-B SHROUD SUCTION	CLOSED		CLOSED		OPEN <sup>1</sup>		OPEN <sup>1</sup>	
2-TCO-30-82	CRDM COOLER 2D-B LOWER COMPARTMENT SUCT	CLOSED		CLOSED		CLOSED		CLOSED	

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**Lower Compartment Temperature Survey Cooler Alignments (Section 6.2)**

Date \_\_\_\_\_

UNID	NOMENCLATURE	Subsection 6.2.1		Subsection 6.2.2		Subsection 6.2.3		Subsection 6.2.4	
		STATUS	INITIALS	STATUS	INITIALS	STATUS	INITIALS	STATUS	INITIALS
<b>Incore Instrument Room Air Conditioning</b>									
2-AHU-31-265	INCORE INSTRUMENT ROOM AIR HANDLING UNIT 2A	ON		ON		OFF		OFF	
2-FCO-31-263 <sup>2</sup>	INCORE INSTR RM AHU 2A DISCHARGE	OPEN <sup>2</sup>		OPEN <sup>2</sup>		CLOSED		CLOSED	
2-FCO-31-264 <sup>2</sup>	INCORE INSTR RM AHU 2A DISCHARGE	OPEN <sup>2</sup>		OPEN <sup>2</sup>		CLOSED		CLOSED	
2-CHR-31-303 <sup>2</sup>	INCORE INSTR ROOM CHILLER 2A	ON <sup>2</sup>		ON <sup>2</sup>		OFF		OFF	
2-PMP-31-303/1 <sup>2</sup>	INCORE INSTR ROOM CW PUMP 2A	ON <sup>2</sup>		ON <sup>2</sup>		OFF		OFF	
2-AHU-31-266	INCORE INSTRUMENT ROOM AIR HANDLING UNIT 2B	OFF		OFF		ON		ON	
2-FCO-31-268 <sup>2</sup>	INCORE INSTR RM AHU 2B DISCHARGE	CLOSED		CLOSED		OPEN <sup>2</sup>		OPEN <sup>2</sup>	
2-FCO-31-269 <sup>2</sup>	INCORE INSTR RM AHU 2B DISCHARGE	CLOSED		CLOSED		OPEN <sup>2</sup>		OPEN <sup>2</sup>	
2-CHR-31-324 <sup>2</sup>	INCORE INSTR ROOM CHILLER 2B	OFF		OFF		ON <sup>2</sup>		ON <sup>2</sup>	
2-PMP-31-324/1 <sup>2</sup>	INCORE INSTR ROOM CW PUMP 2B	OFF		OFF		ON <sup>2</sup>		ON <sup>2</sup>	

<sup>1</sup> CRDM Shroud Suction Dampers are designed to automatically open if their respective Handswitch is in P AUTO and their associated CRDM Cooler starts.

<sup>2</sup> Incore Instrument Room Air Conditioning Chiller, Pump, and Dampers are designed to automatically start/open when their associated AHU starts.

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**Weighted Average Containment Temperatures - ICS Out of Service**

Date \_\_\_\_\_

**1.0 NOTES AND GUIDELINES**

- A. Additional copies of sections of this Appendix, Data Sheet 9, and Data Sheet 10 may be made as necessary.
- B. This Appendix may be used to obtain Containment Temperature data and calculate the Upper or Lower Containment weighted average air temperature if the minimum required ICS Points are Out of Service (OOS) during the performance of this instruction
- C. Perform Section 2.0 for Upper Compartment Mass Air Temperature.
- D. Perform Section 3.0 for Lower Compartment Mass Air Temperature and Incore Instrument Room Temperature.

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**Weighted Average Containment Temperatures - ICS Out of Service**

Date \_\_\_\_\_

**2.0 UPPER COMPARTMENT WEIGHTED AVERAGE AIR TEMPERATURE**

[1] **RECORD** the Subsection number that this Appendix is being performed in:  
Subsection \_\_\_\_\_

[2] **OBTAIN** the following M&TE, or equivalent, **AND**

**COMPLETE** the following table:

DESCRIPTION	MINIMUM RANGE	REQUIRED ACCURACY	M&TE ID NUMBER	CALIBRATION DUE DATE
Temperature Indicating Device (Type T Thermocouple)	40 - 175°F	± 3.6°F		

[3] **ENSURE** M&TE calibration due dates will support the completion of this test performance.

**NOTE**

Step 2.0[4] and 2.0[5] shall be performed in parallel.

[4] **MEASURE** Upper Containment Temperature thermocouple temperature as delineated on Data Sheet 9, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 9.  
(**ENTER** "OOS" for any thermocouple that is NOT indicating)

A. Set 1 \_\_\_\_\_

B. Set 2 \_\_\_\_\_

C. Set 3 \_\_\_\_\_

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**Weighted Average Containment Temperatures - ICS Out of Service**

Date \_\_\_\_\_

**2.0 UPPER COMPARTMENT WEIGHTED AVERAGE AIR  
TEMPERATURE (continued)**

[5] **COLLECT** additional Upper Compartment Temperature Survey data as delineated on Data Sheet 1, 2, 3 or 4, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 1, 2, 3, or 4, as appropriate. (Enter "OOS" for out of service ICS points.)

A. Set 1 \_\_\_\_\_

B. Set 2 \_\_\_\_\_

C. Set 3 \_\_\_\_\_

[6] **VERIFY** the following from Data Sheet 9:

A. At least two (2) of the Group 1 Upper Containment thermocouples NOT OOS. \_\_\_\_\_

B. At least one (1) of the Group 2 Upper Containment thermocouples NOT OOS. \_\_\_\_\_

[7] **RECORD** the Upper Compartment Air Mass Temperature ( $T_{UP}$ ) from Data Sheet 9.

$T_{UP}$  = \_\_\_\_\_ °F \_\_\_\_\_

**Appendix H  
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**Weighted Average Containment Temperatures - ICS Out of Service**

Date \_\_\_\_\_

**3.0 LOWER COMPARTMENT WEIGHTED AVERAGE AIR TEMPERATURE**

[1] **RECORD** the Subsection number that this Appendix is being performed in:  
Subsection \_\_\_\_\_

[2] **OBTAIN** the following M&TE, or equivalent, **AND**

**COMPLETE** the following table:

DESCRIPTION	MINIMUM RANGE	REQUIRED ACCURACY	M&TE ID NUMBER	CALIBRATION DUE DATE
Temperature Indicating Device (Type T Thermocouple)	40 - 175°F	± 3.6°F		

[3] **ENSURE** M&TE calibration due dates will support the completion of this test performance.

**NOTE**

Step 3.0[4] and 3.0[5] shall be performed in parallel.

[4] **MEASURE** Lower Containment Temperature thermocouple temperature as delineated on Data Sheet 10, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 10.  
(**ENTER** "OOS" for any thermocouple that is NOT indicating)

A. Set 1 \_\_\_\_\_

B. Set 2 \_\_\_\_\_

C. Set 3 \_\_\_\_\_



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**Weighted Average Containment Temperatures - ICS Out of Service**

Date \_\_\_\_\_

**3.0 LOWER COMPARTMENT WEIGHTED AVERAGE AIR TEMPERATURE (continued)**

[5] **COLLECT** additional Lower Compartment Temperature Survey data as delineated on Data Sheet 5, 6, 7, or 8, waiting 1 hour between each set of data, **AND**

**RECORD** data on Data Sheet 5, 6, 7, or 8, as appropriate. (Enter "OOS" for out of service ICS points.)

- A. Set 1 \_\_\_\_\_
- B. Set 2 \_\_\_\_\_
- C. Set 3 \_\_\_\_\_

[6] **VERIFY** the following from Data Sheet 10:

- A. At least one (1) of the Group 1 Lower Containment thermocouples NOT OOS. \_\_\_\_\_
- B. At least one (1) of the Group 2 Lower Containment thermocouples NOT OOS. \_\_\_\_\_
- C. At least one (1) of the Group 3 Lower Containment thermocouples NOT OOS. \_\_\_\_\_

[7] **RECORD** the following from Data Sheet 10

- A. Lower Compartment Air Mass Temperature ( $T_{LOW}$ ).  
 $T_{LOW} =$  \_\_\_\_\_ °F \_\_\_\_\_
- B. Incore Instrument Room Temperature (2-TE-30-210AD)  
2-TE-30-210AD = \_\_\_\_\_ °F \_\_\_\_\_

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**Data Sheet 1  
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**Upper Compartment Temperature Survey - Subsection 6.1.1**

Date \_\_\_\_\_

Subsection 6.1.1: Upper Compartment Coolers 2A, 2B, 2C							
Upper Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210A	270° / 868'	DOME	T1000A				
2-TE-30-210Q	55° / 809'	ICE COND WALL	T1016A				
2-TE-30-210R	235° / 809'	ICE WALL OPP SID	T1017A				
2-TE-30-210S	92° / 766'	PRZR ENCL WALL	T1018A				
2-TE-30-210T	285° / 766'	ICE OPP PRZR	T1019A				
2-TE-30-210U	180° / 766'	SG ENCL WALL	T1020A				
2-TE-30-210V	0° / 766'	SG ENCL OPP SIDE	T1021A				
UPPER CMPT AVG MASS AIR TEMP			U9019				
Additional Upper Compartment Temperature Data							
UNID	Description		ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-211O	UPPER COMPT COOL UNIT A INTAKE		T1118A				
2-TE-30-211P	UPPER COMPT COOL UNIT B INTAKE		T1119A				
2-TE-30-211Q	UPPER COMPT COOL UNIT C INTAKE		T1120A				
2-TE-30-211R	UPPER COMPT COOL UNIT D INTAKE		T1121A				
2-TE-30-211S	UPPER COMPT COOL UNIT A EXHAUST		T1122A				
2-TE-30-211T	UPPER COMPT COOL UNIT B EXHAUST		T1123A				
2-TE-30-211U	UPPER COMPT COOL UNIT C EXHAUST		T1124A				
2-TE-30-211V	UPPER COMPT COOL UNIT D EXHAUST		T1125A				
2-ME-30-240	CNTMT UP-COMPARTMENT DEW PT TEMP		Y0701A				
2-TE-67-455	ERCW SUP HDR 2A TEMP		T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP		T2615A				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Data Sheet 1  
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**Upper Compartment Temperature Survey - Subsection 6.1.1**

Date \_\_\_\_\_

Subsection 6.1.1: Upper Compartment Coolers 2A, 2B, 2C							
Additional Upper Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
2-FI-67-263	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2A ERCW RET FLOW	N/A				
2-FI-67-332	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2A ERCW SUP FLOW	N/A				
2-FI-67-267	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2B ERCW RET FLOW	N/A				
2-FI-67-334	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2B ERCW SUP FLOW	N/A				
2-FI-67-265	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2C ERCW RET FLOW	N/A				
2-FI-67-333	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2C ERCW SUP FLOW	N/A				
2-TW-67-262	EL 802 AZ 37°	UPPER CNTMT VENT CLR A DISCH TEMP					
2-TW-67-266	EL 802 AZ 149°	UPPER CNTMT VENT CLR B DISCH TEMP					
2-TW-67-264	EL 802 AZ 215°	UPPER CNTMT VENT CLR C DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Data Sheet 2  
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**Upper Compartment Temperature Survey - Subsection 6.1.2**

Date \_\_\_\_\_

Subsection 6.1.2: Upper Compartment Coolers 2A, 2B, 2D							
Upper Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210A	270° / 868'	DOME	T1000A				
2-TE-30-210Q	55° / 809'	ICE COND WALL	T1016A				
2-TE-30-210R	235° / 809'	ICE WALL OPP SID	T1017A				
2-TE-30-210S	92° / 766'	PRZR ENCL WALL	T1018A				
2-TE-30-210T	285° / 766'	ICE OPP PRZR	T1019A				
2-TE-30-210U	180° / 766'	SG ENCL WALL	T1020A				
2-TE-30-210V	0° / 766'	SG ENCL OPP SIDE	T1021A				
UPPER CMPT AVG MASS AIR TEMP			U9019				
Additional Upper Compartment Temperature Data							
UNID	Description		ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-211O	UPPER COMPT COOL UNIT A INTAKE		T1118A				
2-TE-30-211P	UPPER COMPT COOL UNIT B INTAKE		T1119A				
2-TE-30-211Q	UPPER COMPT COOL UNIT C INTAKE		T1120A				
2-TE-30-211R	UPPER COMPT COOL UNIT D INTAKE		T1121A				
2-TE-30-211S	UPPER COMPT COOL UNIT A EXHAUST		T1122A				
2-TE-30-211T	UPPER COMPT COOL UNIT B EXHAUST		T1123A				
2-TE-30-211U	UPPER COMPT COOL UNIT C EXHAUST		T1124A				
2-TE-30-211V	UPPER COMPT COOL UNIT D EXHAUST		T1125A				
2-ME-30-240	CNTMT UP-COMPARTMENT DEW PT TEMP		Y0701A				
2-TE-67-455	ERCW SUP HDR 2A TEMP		T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP		T2615A				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Upper Compartment Temperature Survey - Subsection 6.1.2**

Date \_\_\_\_\_

Subsection 6.1.2: Upper Compartment Coolers 2A, 2B, 2D							
Additional Upper Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
2-FI-67-263	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2A ERCW RET FLOW	N/A				
2-FI-67-332	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2A ERCW SUP FLOW	N/A				
2-FI-67-267	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2B ERCW RET FLOW	N/A				
2-FI-67-334	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2B ERCW SUP FLOW	N/A				
2-FI-67-269	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2D ERCW RET FLOW	N/A				
2-FI-67-335	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2D ERCW SUP FLOW	N/A				
2-TW-67-262	EL 802 AZ 37°	UPPER CNTMT VENT CLR A DISCH TEMP					
2-TW-67-266	EL 802 AZ 149°	UPPER CNTMT VENT CLR B DISCH TEMP					
2-TW-67-268	EL 802 AZ 325°	UPPER CNTMT VENT CLR D DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Upper Compartment Temperature Survey - Subsection 6.1.3**

Date \_\_\_\_\_

Subsection 6.1.3: Upper Compartment Coolers 2A, 2C, 2D							
Upper Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210A	270° / 868'	DOME	T1000A				
2-TE-30-210Q	55° / 809'	ICE COND WALL	T1016A				
2-TE-30-210R	235° / 809'	ICE WALL OPP SID	T1017A				
2-TE-30-210S	92° / 766'	PRZR ENCL WALL	T1018A				
2-TE-30-210T	285° / 766'	ICE OPP PRZR	T1019A				
2-TE-30-210U	180° / 766'	SG ENCL WALL	T1020A				
2-TE-30-210V	0° / 766'	SG ENCL OPP SIDE	T1021A				
UPPER CMPT AVG MASS AIR TEMP			U9019				
Additional Upper Compartment Temperature Data							
UNID	Description		ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-211O	UPPER COMPT COOL UNIT A INTAKE		T1118A				
2-TE-30-211P	UPPER COMPT COOL UNIT B INTAKE		T1119A				
2-TE-30-211Q	UPPER COMPT COOL UNIT C INTAKE		T1120A				
2-TE-30-211R	UPPER COMPT COOL UNIT D INTAKE		T1121A				
2-TE-30-211S	UPPER COMPT COOL UNIT A EXHAUST		T1122A				
2-TE-30-211T	UPPER COMPT COOL UNIT B EXHAUST		T1123A				
2-TE-30-211U	UPPER COMPT COOL UNIT C EXHAUST		T1124A				
2-TE-30-211V	UPPER COMPT COOL UNIT D EXHAUST		T1125A				
2-ME-30-240	CNTMT UP-COMPARTMENT DEW PT TEMP		Y0701A				
2-TE-67-455	ERCW SUP HDR 2A TEMP		T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP		T2615A				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Data Sheet 3  
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**Upper Compartment Temperature Survey - Subsection 6.1.3**

Date \_\_\_\_\_

Subsection 6.1.3: Upper Compartment Coolers 2A, 2C, 2D							
Additional Upper Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
2-FI-67-263	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2A ERCW RET FLOW	N/A				
2-FI-67-332	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2A ERCW SUP FLOW	N/A				
2-FI-67-265	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2C ERCW RET FLOW	N/A				
2-FI-67-333	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2C ERCW SUP FLOW	N/A				
2-FI-67-269	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2D ERCW RET FLOW	N/A				
2-FI-67-335	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2D ERCW SUP FLOW	N/A				
2-TW-67-262	EL 802 AZ 37°	UPPER CNTMT VENT CLR A DISCH TEMP					
2-TW-67-264	EL 802 AZ 215°	UPPER CNTMT VENT CLR C DISCH TEMP					
2-TW-67-268	EL 802 AZ 325°	UPPER CNTMT VENT CLR D DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Upper Compartment Temperature Survey - Subsection 6.1.4**

Date \_\_\_\_\_

Subsection 6.1.4: Upper Compartment Coolers 2B, 2C, 2D							
Upper Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210A	270° / 868'	DOME	T1000A				
2-TE-30-210Q	55° / 809'	ICE COND WALL	T1016A				
2-TE-30-210R	235° / 809'	ICE WALL OPP SID	T1017A				
2-TE-30-210S	92° / 766'	PRZR ENCL WALL	T1018A				
2-TE-30-210T	285° / 766'	ICE OPP PRZR	T1019A				
2-TE-30-210U	180° / 766'	SG ENCL WALL	T1020A				
2-TE-30-210V	0° / 766'	SG ENCL OPP SIDE	T1021A				
UPPER CMPT AVG MASS AIR TEMP			U9019				
Additional Upper Compartment Temperature Data							
UNID	Description		ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-211O	UPPER COMPT COOL UNIT A INTAKE		T1118A				
2-TE-30-211P	UPPER COMPT COOL UNIT B INTAKE		T1119A				
2-TE-30-211Q	UPPER COMPT COOL UNIT C INTAKE		T1120A				
2-TE-30-211R	UPPER COMPT COOL UNIT D INTAKE		T1121A				
2-TE-30-211S	UPPER COMPT COOL UNIT A EXHAUST		T1122A				
2-TE-30-211T	UPPER COMPT COOL UNIT B EXHAUST		T1123A				
2-TE-30-211U	UPPER COMPT COOL UNIT C EXHAUST		T1124A				
2-TE-30-211V	UPPER COMPT COOL UNIT D EXHAUST		T1125A				
2-ME-30-240	CNTMT UP-COMPARTMENT DEW PT TEMP		Y0701A				
2-TE-67-455	ERCW SUP HDR 2A TEMP		T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP		T2615A				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	



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**Upper Compartment Temperature Survey - Subsection 6.1.4**

Date \_\_\_\_\_

Subsection 6.1.4: Upper Compartment Coolers 2B, 2C, 2D							
Additional Upper Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
2-FI-67-267	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2B ERCW RET FLOW	N/A				
2-FI-67-334	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2B ERCW SUP FLOW	N/A				
2-FI-67-265	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2C ERCW RET FLOW	N/A				
2-FI-67-333	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2C ERCW SUP FLOW	N/A				
2-FI-67-269	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2D ERCW RET FLOW	N/A				
2-FI-67-335	2-L-329 [A12V / 713] (713 Pent Rm)	UPPER CNTMT VENT CLR 2D ERCW SUP FLOW	N/A				
2-TW-67-266	EL 802 AZ 149°	UPPER CNTMT VENT CLR B DISCH TEMP					
2-TW-67-264	EL 802 AZ 215°	UPPER CNTMT VENT CLR C DISCH TEMP					
2-TW-67-268	EL 802 AZ 325°	UPPER CNTMT VENT CLR D DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Lower Compartment Temperature Survey - Subsection 6.2.1**

Date \_\_\_\_\_

Subsection 6.2.1: Lower Compartment Coolers 2A-A, 2B-B, 2C-A CRDM Coolers 2A-A, 2C-A Incore Instrument Room Air Conditioning Train 2A							
Lower Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210B	104° / 796'	PRZ ENCL CEILG	T1001A				
2-TE-30-210C	0° / 796'	SG ENCL CEILG	T1002A				
2-TE-30-210D	180° / 796'	SG ENCL CEILG	T1003A				
2-TE-30-210E	184° / 708'	RX SHLD WALL	T1004A				
2-TE-30-210F	0° / 708'	RX SHLD WALL	T1005A				
2-TE-30-210O	45° / 753'	OPP REFUEL GATE	T1014A				
2-TE-30-210P	104° / 726'	IN PZR SUPP PLTF	T1015A				
2-TE-30-210W	126° / 745'	ICE PLTFM RCP#2	T1022A				
2-TE-30-210X	309° / 745'	ICE PLTFM RCP#4	T1023A				
2-TE-30-210Y	201° / 745'	ICE PLTFM SG#3	T1024A				
2-TE-30-210Z	22° / 745'	ICE PLTFM SG#1	T1025A				
2-TE-30-210AA	90° / 687'	SUMP	T1026A				
2-TE-30-210AB	0° / 723'	FAN COMPT WALL	T1027A				
2-TE-30-210AC	180° / 723'	FAN COMPT WALL	T1028A				
2-TE-30-210AD	90° / 716'	INSTR RM WALL	T1029A				
2-TE-30-210AE	40° / 723'	ACCUM RM WALL	T1030A				
2-TE-30-210AF	140° / 723'	ACCUM RM WALL	T1031A				
2-TE-30-210AG	220° / 723'	ACCUM RM WALL	T1032A				
2-TE-30-210AH	320° / 723'	ACCUM RM WALL	T1033A				
LOWER CMPT AVG MASS AIR TEMP			U9020				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 82 of 109</b>
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**Data Sheet 5  
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**Lower Compartment Temperature Survey - Subsection 6.2.1**

Date \_\_\_\_\_

Subsection 6.2.1: Lower Compartment Coolers 2A-A, 2B-B, 2C-A CRDM Coolers 2A-A, 2C-A Incore Instrument Room Air Conditioning Train 2A						
Additional Lower Compartment Temperature Data						
2-TE-30-211A	CRDM COOL UNIT A-A EXHAUST	T1100A				
2-TE-30-211B	CRDM COOL UNIT B-B EXHAUST	T1101A				
2-TE-30-211C	CRDM COOL UNIT C-A EXHAUST	T1102A				
2-TE-30-211D	CRDM COOL UNIT D-B EXHAUST	T1103A				
2-TE-30-211E	CRDM COOL UNIT C-A B-B INTAKE	T1104A				
2-TE-30-211F	CRDM COOL UNIT A-A D-B INTAKE	T1105A				
2-TE-30-211G	LOWR COMPT COOL UNIT A-A EXHAUST	T1110A				
2-TE-30-211H	LOWR COMPT COOL UNIT B-B EXHAUST	T1111A				
2-TE-30-211I	LOWR COMPT COOL UNIT C-A EXHAUST	T1112A				
2-TE-30-211J	LOWR COMPT COOL UNIT D-B EXHAUST	T1113A				
2-TE-30-211K	LOWER COMPT COOL UNIT A-A INTAKE	T1114A				
2-TE-30-211L	LOWER COMPT COOL UNIT B-B INTAKE	T1115A				
2-TE-30-211M	LOWER COMPT COOL UNIT C-A INTAKE	T1116A				
2-TE-30-211N	LOWER COMPT COOL UNIT D-B INTAKE	T1117A				
2-TE-67-455	ERCW SUP HDR 2A TEMP	T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP	T2615A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	

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**Lower Compartment Temperature Survey - Subsection 6.2.1**

Date \_\_\_\_\_

Subsection 6.2.1: Lower Compartment Coolers 2A-A, 2B-B, 2C-A CRDM Coolers 2A-A, 2C-A Incore Instrument Room Air Conditioning Train 2A						
Additional Lower Compartment Temperature Data						
UNID	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210G	UN RX VSL SUPP1	T1006A				
2-TE-30-210H	UN RX VSL SUPP2	T1007A				
2-TE-30-210I	UN RX VSL SUPP3	T1008A				
2-TE-30-210J	UN RX VSL SUPP4	T1009A				
2-TE-30-210K	EL719 OPP RX VSL NOZL 1	T1010A				
2-TE-30-210L	EL719 OPP RX VSL NOZL 2	T1011A				
2-TE-30-210M	EL719 OPP RX VSL NOZL 3	T1012A				
2-TE-30-210N	EL719 OPP RX VSL NOZL 4	T1013A				
2-ME-30-241	CNTMT LOW-COMPARTMENT DEWPT TEMP	Y0702A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	

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**Lower Compartment Temperature Survey - Subsection 6.2.1**

Date \_\_\_\_\_

Subsection 6.2.1: Lower Compartment Coolers 2A-A, 2B-B, 2C-A CRDM Coolers 2A-A, 2C-A Incore Instrument Room Air Conditioning Train 2A							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-471	EL 726 AZ 21° (S Fan Rm)	LOW CNTMT VENT CLR A DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-474	EL 726 AZ 159° (N Fan Rm)	LOW CNTMT VENT CLR B DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-472	EL 726 AZ 201° (N Fan Rm)	LOW CNTMT VENT CLR C DISCH FLOW					
2-TW-67-230	EL 721 AZ 9° (S Fan Rm)	LOW CNTMT VENT CLR A DISCH TEMP					
2-TW-67-244	EL 721 AZ 171° (N Fan Rm)	LOW CNTMT VENT CLR B DISCH TEMP					
2-TW-67-236	EL 721 AZ 187° (N Fan Rm)	LOW CNTMT VENT CLR C DISCH TEMP					
Ultrasonic Flowmeter near 2-FE-67-470	EL 720 AZ 9°	CONT ROD DRIVE VENT CLR A DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-473	EL 720 AZ 187°	CONT ROD DRIVE VENT CLR C DISCH FLOW					
2-TW-67-232	EL 725 AZ 9° (S Fan Rm)	CONTROL ROD DR VENT CLR A DISCH TEMP					
2-TW-67-238	EL 725 AZ 187° (N Fan Rm)	CONTROL ROD DR VENT CLR C DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Lower Compartment Temperature Survey - Subsection 6.2.1**

Date \_\_\_\_\_

Subsection 6.2.1: Lower Compartment Coolers 2A-A, 2B-B, 2C-A CRDM Coolers 2A-A, 2C-A Incore Instrument Room Air Conditioning Train 2A							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-257	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR A DISCH FLOW					
2-TW-67-256	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR A DISCH TEMP					
2-TI-31-300	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2A CW IN TEMP	N/A				
2-TI-31-312	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2A CW OUT TEMP	N/A				
Ultrasonic Flowmeter near 2-FE-31-311	A12W / 692 (692 Pent Rm)	INCORE INST RM CHILL A CWS FLOW					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Lower Compartment Temperature Survey - Subsection 6.2.2**

Date \_\_\_\_\_

Subsection 6.2.2: Lower Compartment Coolers 2A-A, 2B-B, 2D-B CRDM Coolers 2A-A, 2B-B Incore Instrument Room Air Conditioning Train 2A							
Lower Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210B	104° / 796'	PRZ ENCL CEILG	T1001A				
2-TE-30-210C	0° / 796'	SG ENCL CEILG	T1002A				
2-TE-30-210D	180° / 796'	SG ENCL CEILG	T1003A				
2-TE-30-210E	184° / 708'	RX SHLD WALL	T1004A				
2-TE-30-210F	0° / 708'	RX SHLD WALL	T1005A				
2-TE-30-210O	45° / 753'	OPP REFUEL GATE	T1014A				
2-TE-30-210P	104° / 726'	IN PZR SUPP PLTF	T1015A				
2-TE-30-210W	126° / 745'	ICE PLTFM RCP#2	T1022A				
2-TE-30-210X	309° / 745'	ICE PLTFM RCP#4	T1023A				
2-TE-30-210Y	201° / 745'	ICE PLTFM SG#3	T1024A				
2-TE-30-210Z	22° / 745'	ICE PLTFM SG#1	T1025A				
2-TE-30-210AA	90° / 687'	SUMP	T1026A				
2-TE-30-210AB	0° / 723'	FAN COMPT WALL	T1027A				
2-TE-30-210AC	180° / 723'	FAN COMPT WALL	T1028A				
2-TE-30-210AD	90° / 716'	INSTR RM WALL	T1029A				
2-TE-30-210AE	40° / 723'	ACCUM RM WALL	T1030A				
2-TE-30-210AF	140° / 723'	ACCUM RM WALL	T1031A				
2-TE-30-210AG	220° / 723'	ACCUM RM WALL	T1032A				
2-TE-30-210AH	320° / 723'	ACCUM RM WALL	T1033A				
LOWER CMPT AVG MASS AIR TEMP			U9020				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

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**Data Sheet 6  
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**Lower Compartment Temperature Survey - Subsection 6.2.2**

Date \_\_\_\_\_

Subsection 6.2.2: Lower Compartment Coolers 2A-A, 2B-B, 2D-B CRDM Coolers 2A-A, 2B-B Incore Instrument Room Air Conditioning Train 2A						
Additional Lower Compartment Temperature Data						
2-TE-30-211A	CRDM COOL UNIT A-A EXHAUST	T1100A				
2-TE-30-211B	CRDM COOL UNIT B-B EXHAUST	T1101A				
2-TE-30-211C	CRDM COOL UNIT C-A EXHAUST	T1102A				
2-TE-30-211D	CRDM COOL UNIT D-B EXHAUST	T1103A				
2-TE-30-211E	CRDM COOL UNIT C-A B-B INTAKE	T1104A				
2-TE-30-211F	CRDM COOL UNIT A-A D-B INTAKE	T1105A				
2-TE-30-211G	LOWR COMPT COOL UNIT A-A EXHAUST	T1110A				
2-TE-30-211H	LOWR COMPT COOL UNIT B-B EXHAUST	T1111A				
2-TE-30-211I	LOWR COMPT COOL UNIT C-A EXHAUST	T1112A				
2-TE-30-211J	LOWR COMPT COOL UNIT D-B EXHAUST	T1113A				
2-TE-30-211K	LOWER COMPT COOL UNIT A-A INTAKE	T1114A				
2-TE-30-211L	LOWER COMPT COOL UNIT B-B INTAKE	T1115A				
2-TE-30-211M	LOWER COMPT COOL UNIT C-A INTAKE	T1116A				
2-TE-30-211N	LOWER COMPT COOL UNIT D-B INTAKE	T1117A				
2-TE-67-455	ERCW SUP HDR 2A TEMP	T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP	T2615A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	



<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 88 of 109</b>
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**Data Sheet 6  
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**Lower Compartment Temperature Survey - Subsection 6.2.2**

Date \_\_\_\_\_

Subsection 6.2.2: Lower Compartment Coolers 2A-A, 2B-B, 2D-B CRDM Coolers 2A-A, 2B-B Incore Instrument Room Air Conditioning Train 2A						
Additional Lower Compartment Temperature Data						
UNID	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210G	UN RX VSL SUPP1	T1006A				
2-TE-30-210H	UN RX VSL SUPP2	T1007A				
2-TE-30-210I	UN RX VSL SUPP3	T1008A				
2-TE-30-210J	UN RX VSL SUPP4	T1009A				
2-TE-30-210K	EL719 OPP RX VSL NOZL 1	T1010A				
2-TE-30-210L	EL719 OPP RX VSL NOZL 2	T1011A				
2-TE-30-210M	EL719 OPP RX VSL NOZL 3	T1012A				
2-TE-30-210N	EL719 OPP RX VSL NOZL 4	T1013A				
2-ME-30-241	CNTMT LOW-COMPARTMENT DEWPT TEMP	Y0702A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 89 of 109</b>
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**Data Sheet 6  
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**Lower Compartment Temperature Survey - Subsection 6.2.2**

Date \_\_\_\_\_

Subsection 6.2.2: Lower Compartment Coolers 2A-A, 2B-B, 2D-B CRDM Coolers 2A-A, 2B-B Incore Instrument Room Air Conditioning Train 2A							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-471	EL 726 AZ 21° (S Fan Rm)	LOW CNTMT VENT CLR A DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-474	EL 726 AZ 159° (N Fan Rm)	LOW CNTMT VENT CLR B DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-476	EL 726 AZ 339° (S Fan Rm)	LOW CNTMT VENT CLR D DISCH FLOW					
2-TW-67-230	EL 721 AZ 9° (S Fan Rm)	LOW CNTMT VENT CLR A DISCH TEMP					
2-TW-67-244	EL 721 AZ 171° (N Fan Rm)	LOW CNTMT VENT CLR B DISCH TEMP					
2-TW-67-250	EL 721 AZ 351° (S Fan Rm)	LOW CNTMT VENT CLR D DISCH TEMP					
Ultrasonic Flowmeter near 2-FE-67-470	EL 720 AZ 9°	CONT ROD DRIVE VENT CLR A DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-477	EL 720 AZ 171°	CONT ROD DRIVE VENT CLR B DISCH FLOW					
2-TW-67-232	EL 725 AZ 9° (S Fan Rm)	CONTROL ROD DR VENT CLR A DISCH TEMP					
2-TW-67-246	EL 725 AZ 171° (N Fan Rm)	CONTROL ROD DR VENT CLR B DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 90 of 109</b>
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**Data Sheet 6  
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**Lower Compartment Temperature Survey - Subsection 6.2.2**

Date \_\_\_\_\_

Subsection 6.2.2: Lower Compartment Coolers 2A-A, 2B-B, 2D-B CRDM Coolers 2A-A, 2B-B Incore Instrument Room Air Conditioning Train 2A							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-257	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR A DISCH FLOW					
2-TW-67-256	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR A DISCH TEMP					
2-TI-31-300	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2A CW IN TEMP	N/A				
2-TI-31-312	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2A CW OUT TEMP	N/A				
Ultrasonic Flowmeter near 2-FE-31-311	A12W / 692 (692 Pent Rm)	INCORE INST RM CHILL A CWS FLOW					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 91 of 109</b>
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**Data Sheet 7  
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**Lower Compartment Temperature Survey - Subsection 6.2.3**

Date \_\_\_\_\_

Subsection 6.2.3: Lower Compartment Coolers 2A-A, 2C-A, 2D-B CRDM Coolers 2C-A, 2D-B Incore Instrument Room Air Conditioning Train 2B							
Lower Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210B	104° / 796'	PRZ ENCL CEILG	T1001A				
2-TE-30-210C	0° / 796'	SG ENCL CEILG	T1002A				
2-TE-30-210D	180° / 796'	SG ENCL CEILG	T1003A				
2-TE-30-210E	184° / 708'	RX SHLD WALL	T1004A				
2-TE-30-210F	0° / 708'	RX SHLD WALL	T1005A				
2-TE-30-210O	45° / 753'	OPP REFUEL GATE	T1014A				
2-TE-30-210P	104° / 726'	IN PZR SUPP PLTF	T1015A				
2-TE-30-210W	126° / 745'	ICE PLTFM RCP#2	T1022A				
2-TE-30-210X	309° / 745'	ICE PLTFM RCP#4	T1023A				
2-TE-30-210Y	201° / 745'	ICE PLTFM SG#3	T1024A				
2-TE-30-210Z	22° / 745'	ICE PLTFM SG#1	T1025A				
2-TE-30-210AA	90° / 687'	SUMP	T1026A				
2-TE-30-210AB	0° / 723'	FAN COMPT WALL	T1027A				
2-TE-30-210AC	180° / 723'	FAN COMPT WALL	T1028A				
2-TE-30-210AD	90° / 716'	INSTR RM WALL	T1029A				
2-TE-30-210AE	40° / 723'	ACCUM RM WALL	T1030A				
2-TE-30-210AF	140° / 723'	ACCUM RM WALL	T1031A				
2-TE-30-210AG	220° / 723'	ACCUM RM WALL	T1032A				
2-TE-30-210AH	320° / 723'	ACCUM RM WALL	T1033A				
LOWER CMPT AVG MASS AIR TEMP			U9020				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 92 of 109</b>
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**Data Sheet 7  
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**Lower Compartment Temperature Survey - Subsection 6.2.3**

Date \_\_\_\_\_

Subsection 6.2.3: Lower Compartment Coolers 2A-A, 2C-A, 2D-B CRDM Coolers 2C-A, 2D-B Incore Instrument Room Air Conditioning Train 2B						
Additional Lower Compartment Temperature Data						
2-TE-30-211A	CRDM COOL UNIT A-A EXHAUST	T1100A				
2-TE-30-211B	CRDM COOL UNIT B-B EXHAUST	T1101A				
2-TE-30-211C	CRDM COOL UNIT C-A EXHAUST	T1102A				
2-TE-30-211D	CRDM COOL UNIT D-B EXHAUST	T1103A				
2-TE-30-211E	CRDM COOL UNIT C-A B-B INTAKE	T1104A				
2-TE-30-211F	CRDM COOL UNIT A-A D-B INTAKE	T1105A				
2-TE-30-211G	LOWR COMPT COOL UNIT A-A EXHAUST	T1110A				
2-TE-30-211H	LOWR COMPT COOL UNIT B-B EXHAUST	T1111A				
2-TE-30-211I	LOWR COMPT COOL UNIT C-A EXHAUST	T1112A				
2-TE-30-211J	LOWR COMPT COOL UNIT D-B EXHAUST	T1113A				
2-TE-30-211K	LOWER COMPT COOL UNIT A-A INTAKE	T1114A				
2-TE-30-211L	LOWER COMPT COOL UNIT B-B INTAKE	T1115A				
2-TE-30-211M	LOWER COMPT COOL UNIT C-A INTAKE	T1116A				
2-TE-30-211N	LOWER COMPT COOL UNIT D-B INTAKE	T1117A				
2-TE-67-455	ERCW SUP HDR 2A TEMP	T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP	T2615A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 93 of 109</b>
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**Data Sheet 7  
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**Lower Compartment Temperature Survey - Subsection 6.2.3**

Date \_\_\_\_\_

Subsection 6.2.3: Lower Compartment Coolers 2A-A, 2C-A, 2D-B CRDM Coolers 2C-A, 2D-B Incore Instrument Room Air Conditioning Train 2B						
Additional Lower Compartment Temperature Data						
UNID	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210G	UN RX VSL SUPP1	T1006A				
2-TE-30-210H	UN RX VSL SUPP2	T1007A				
2-TE-30-210I	UN RX VSL SUPP3	T1008A				
2-TE-30-210J	UN RX VSL SUPP4	T1009A				
2-TE-30-210K	EL719 OPP RX VSL NOZL 1	T1010A				
2-TE-30-210L	EL719 OPP RX VSL NOZL 2	T1011A				
2-TE-30-210M	EL719 OPP RX VSL NOZL 3	T1012A				
2-TE-30-210N	EL719 OPP RX VSL NOZL 4	T1013A				
2-ME-30-241	CNTMT LOW-COMPARTMENT DEWPT TEMP	Y0702A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 94 of 109</b>
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**Data Sheet 7  
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**Lower Compartment Temperature Survey - Subsection 6.2.3**

Date \_\_\_\_\_

Subsection 6.2.3: Lower Compartment Coolers 2A-A, 2C-A, 2D-B CRDM Coolers 2C-A, 2D-B Incore Instrument Room Air Conditioning Train 2B							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-471	EL 726 AZ 21° (S Fan Rm)	LOW CNTMT VENT CLR A DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-472	EL 726 AZ 201° (N Fan Rm)	LOW CNTMT VENT CLR C DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-476	EL 726 AZ 339° (S Fan Rm)	LOW CNTMT VENT CLR D DISCH FLOW					
2-TW-67-230	EL 721 AZ 9° (S Fan Rm)	LOW CNTMT VENT CLR A DISCH TEMP					
2-TW-67-236	EL 721 AZ 187° (N Fan Rm)	LOW CNTMT VENT CLR C DISCH TEMP					
2-TW-67-250	EL 721 AZ 351° (S Fan Rm)	LOW CNTMT VENT CLR D DISCH TEMP					
Ultrasonic Flowmeter near 2-FE-67-473	EL 720 AZ 187°	CONT ROD DRIVE VENT CLR C DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-475	EL 720 AZ 351°	CONT ROD DRIVE VENT CLR D DISCH FLOW					
2-TW-67-238	EL 725 AZ 187° (N Fan Rm)	CONTROL ROD DR VENT CLR C DISCH TEMP					
2-TW-67-252	EL 725 AZ 351° (S Fan Rm)	CONTROL ROD DR VENT CLR D DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 95 of 109</b>
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**Data Sheet 7  
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**Lower Compartment Temperature Survey - Subsection 6.2.3**

Date \_\_\_\_\_

Subsection 6.2.3: Lower Compartment Coolers 2A-A, 2C-A, 2D-B CRDM Coolers 2C-A, 2D-B Incore Instrument Room Air Conditioning Train 2B							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-259	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR B DISCH FLOW					
2-TW-67-258	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR B DISCH TEMP					
2-TI-31-320	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2B CW IN TEMP	N/A				
2-TI-31-333	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2B CW OUT TEMP	N/A				
Ultrasonic Flowmeter near 2-FE-31-332	A12W / 692 (692 Pent Rm)	INCORE INST RM CHILL B CWS FLOW					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	



<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 96 of 109</b>
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**Data Sheet 8  
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**Lower Compartment Temperature Survey - Subsection 6.2.4**

Date \_\_\_\_\_

Subsection 6.2.4: Lower Compartment Coolers 2B-B, 2C-A, 2D-B CRDM Coolers 2B-B, 2D-B Incore Instrument Room Air Conditioning Train 2B							
Lower Compartment Mass Air Temperatures							
UNID	Location (AZ/EL)	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210B	104° / 796'	PRZ ENCL CEILG	T1001A				
2-TE-30-210C	0° / 796'	SG ENCL CEILG	T1002A				
2-TE-30-210D	180° / 796'	SG ENCL CEILG	T1003A				
2-TE-30-210E	184° / 708'	RX SHLD WALL	T1004A				
2-TE-30-210F	0° / 708'	RX SHLD WALL	T1005A				
2-TE-30-210O	45° / 753'	OPP REFUEL GATE	T1014A				
2-TE-30-210P	104° / 726'	IN PZR SUPP PLTF	T1015A				
2-TE-30-210W	126° / 745'	ICE PLTFM RCP#2	T1022A				
2-TE-30-210X	309° / 745'	ICE PLTFM RCP#4	T1023A				
2-TE-30-210Y	201° / 745'	ICE PLTFM SG#3	T1024A				
2-TE-30-210Z	22° / 745'	ICE PLTFM SG#1	T1025A				
2-TE-30-210AA	90° / 687'	SUMP	T1026A				
2-TE-30-210AB	0° / 723'	FAN COMPT WALL	T1027A				
2-TE-30-210AC	180° / 723'	FAN COMPT WALL	T1028A				
2-TE-30-210AD	90° / 716'	INSTR RM WALL	T1029A				
2-TE-30-210AE	40° / 723'	ACCUM RM WALL	T1030A				
2-TE-30-210AF	140° / 723'	ACCUM RM WALL	T1031A				
2-TE-30-210AG	220° / 723'	ACCUM RM WALL	T1032A				
2-TE-30-210AH	320° / 723'	ACCUM RM WALL	T1033A				
LOWER CMPT AVG MASS AIR TEMP			U9020				
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 97 of 109</b>
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**Data Sheet 8  
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**Lower Compartment Temperature Survey - Subsection 6.2.4**

Date \_\_\_\_\_

Subsection 6.2.4: Lower Compartment Coolers 2B-B, 2C-A, 2D-B CRDM Coolers 2B-B, 2D-B Incore Instrument Room Air Conditioning Train 2B						
Additional Lower Compartment Temperature Data						
2-TE-30-211A	CRDM COOL UNIT A-A EXHAUST	T1100A				
2-TE-30-211B	CRDM COOL UNIT B-B EXHAUST	T1101A				
2-TE-30-211C	CRDM COOL UNIT C-A EXHAUST	T1102A				
2-TE-30-211D	CRDM COOL UNIT D-B EXHAUST	T1103A				
2-TE-30-211E	CRDM COOL UNIT C-A B-B INTAKE	T1104A				
2-TE-30-211F	CRDM COOL UNIT A-A D-B INTAKE	T1105A				
2-TE-30-211G	LOWR COMPT COOL UNIT A-A EXHAUST	T1110A				
2-TE-30-211H	LOWR COMPT COOL UNIT B-B EXHAUST	T1111A				
2-TE-30-211I	LOWR COMPT COOL UNIT C-A EXHAUST	T1112A				
2-TE-30-211J	LOWR COMPT COOL UNIT D-B EXHAUST	T1113A				
2-TE-30-211K	LOWER COMPT COOL UNIT A-A INTAKE	T1114A				
2-TE-30-211L	LOWER COMPT COOL UNIT B-B INTAKE	T1115A				
2-TE-30-211M	LOWER COMPT COOL UNIT C-A INTAKE	T1116A				
2-TE-30-211N	LOWER COMPT COOL UNIT D-B INTAKE	T1117A				
2-TE-67-455	ERCW SUP HDR 2A TEMP	T2614A				
2-TE-67-456	ERCW SUP HDR 2B TEMP	T2615A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 98 of 109</b>
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**Data Sheet 8  
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**Lower Compartment Temperature Survey - Subsection 6.2.4**

Date \_\_\_\_\_

Subsection 6.2.4: Lower Compartment Coolers 2B-B, 2C-A, 2D-B CRDM Coolers 2B-B, 2D-B Incore Instrument Room Air Conditioning Train 2B						
Additional Lower Compartment Temperature Data						
UNID	Description	ICS Point	Set 1	Set 2	Set 3	Average
2-TE-30-210G	UN RX VSL SUPP1	T1006A				
2-TE-30-210H	UN RX VSL SUPP2	T1007A				
2-TE-30-210I	UN RX VSL SUPP3	T1008A				
2-TE-30-210J	UN RX VSL SUPP4	T1009A				
2-TE-30-210K	EL719 OPP RX VSL NOZL 1	T1010A				
2-TE-30-210L	EL719 OPP RX VSL NOZL 2	T1011A				
2-TE-30-210M	EL719 OPP RX VSL NOZL 3	T1012A				
2-TE-30-210N	EL719 OPP RX VSL NOZL 4	T1013A				
2-ME-30-241	CNTMT LOW-COMPARTMENT DEWPT TEMP	Y0702A				
Start / Stop Time & Date Data Recorded:			/	/	/	N/A
Data Recorded/Calculated By:						
Calculations Verified By:			N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 99 of 109</b>
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**Data Sheet 8  
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**Lower Compartment Temperature Survey - Subsection 6.2.4**

Date \_\_\_\_\_

Subsection 6.2.4: Lower Compartment Coolers 2B-B, 2C-A, 2D-B CRDM Coolers 2B-B, 2D-B Incore Instrument Room Air Conditioning Train 2B							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-474	EL 726 AZ 159° (N Fan Rm)	LOW CNTMT VENT CLR B DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-472	EL 726 AZ 201° (N Fan Rm)	LOW CNTMT VENT CLR C DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-476	EL 726 AZ 339° (S Fan Rm)	LOW CNTMT VENT CLR D DISCH FLOW					
2-TW-67-244	EL 721 AZ 171° (N Fan Rm)	LOW CNTMT VENT CLR B DISCH TEMP					
2-TW-67-236	EL 721 AZ 187° (N Fan Rm)	LOW CNTMT VENT CLR C DISCH TEMP					
2-TW-67-250	EL 721 AZ 251° (S Fan Rm)	LOW CNTMT VENT CLR D DISCH TEMP					
Ultrasonic Flowmeter near 2-FE-67-477	EL 720 AZ 171°	CONT ROD DRIVE VENT CLR B DISCH FLOW					
Ultrasonic Flowmeter near 2-FE-67-475	EL 720 AZ 351°	CONT ROD DRIVE VENT CLR D DISCH FLOW					
2-TW-67-246	EL 725 AZ 171° (N Fan Rm)	CONTROL ROD DR VENT CLR B DISCH TEMP					
2-TW-67-252	EL 725 AZ 351° (S Fan Rm)	CONTROL ROD DR VENT CLR D DISCH TEMP					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 100 of 109</b>
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**Data Sheet 8  
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**Lower Compartment Temperature Survey - Subsection 6.2.4**

Date \_\_\_\_\_

Subsection 6.2.4: Lower Compartment Coolers 2B-B, 2C-A, 2D-B CRDM Coolers 2B-B, 2D-B Incore Instrument Room Air Conditioning Train 2B							
Additional Lower Compartment Temperature Data							
UNID	Location	Description	M&TE ID	Set 1	Set 2	Set 3	Average
Ultrasonic Flowmeter near 2-FE-67-259	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR B DISCH FLOW					
2-TW-67-258	A12W / 692 (692 Pent Rm)	INSTR RM VENT CLR B DISCH TEMP					
2-TI-31-320	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2B CW IN TEMP	N/A				
2-TI-31-333	A12W / 692 (692 Pent Rm)	INCORE INSTR ROOM CHILLER 2B CW OUT TEMP	N/A				
Ultrasonic Flowmeter near 2-FE-31-332	A12W / 692 (692 Pent Rm)	INCORE INST RM CHILL B CWS FLOW					
Start / Stop Time & Date Data Recorded:				/	/	/	N/A
Data Recorded/Calculated By:							
Calculations Verified By:				N/A	N/A	N/A	

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 101 of 109</b>
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**Data Sheet 9  
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**Upper Compartment Air Temperature Thermocouple Measurements**

Date \_\_\_\_\_

Subsection: \_\_\_\_\_

M&TE ID: \_\_\_\_\_

Cal Due Date: \_\_\_\_\_

UNID	Description	ICS Point	Thermocouple Terminations <sup>1</sup>				Temperatures			
			Rack	Terminal Block	Cable	Terminals (Shield / + / -)	Set 1	Set 2	Set 3	Average Temp (T)
2-TE-30-210A	DOME	T1000A	2-R-104	E/00	2CR397	S1 / +1 / -1				
2-TE-30-210Q	ICE COND WALL	T1016A	2-R-111	03	2R802	S0 / +0 / -0				
2-TE-30-210R	ICE WALL OPP SID	T1017A	2-R-111	03	2R803	S1 / +1 / -1				
2-TE-30-210S	PRZR ENCL WALL	T1018A	2-R-111	03	2R804	S2 / +2 / -2				
2-TE-30-210T	ICE OPP PRZR	T1019A	2-R-111	03	2R805	S3 / +3 / -3				
2-TE-30-210U	SG ENCL WALL	T1020A	2-R-111	03	2R806	S4 / +4 / -4				
2-TE-30-210V	SG ENCL OPP SIDE	T1021A	2-R-111	03	2R807	S5 / +5 / -5				
Time & Date Data Recorded:										N/A
Data Recorded/Calculated By:										
Calculations Verified By:							N/A	N/A	N/A	

<sup>1</sup> Reference Drawings 2-45W2697-14-4 for Rack 2-R-104 and 2-45W2697-14-8 for Rack 2-R-111.

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**Data Sheet 9  
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**Upper Compartment Air Temperature Thermocouple Measurements**

Date \_\_\_\_\_

Subsection: \_\_\_\_\_

Group	UNID	Description	ICS Point	Average Temp (T)	Volume Fraction (VF)	Temperature Fraction (TF = T x VF)
1	2-TE-30-210A	DOME	T1000A		0.25	
1	2-TE-30-210Q	ICE COND WALL	T1016A		0.11	
1	2-TE-30-210R	ICE WALL OPP SID	T1017A		0.11	
2	2-TE-30-210S	PRZR ENCL WALL	T1018A		0.11	
2	2-TE-30-210T	ICE OPP PRZR	T1019A		0.20	
2	2-TE-30-210U	SG ENCL WALL	T1020A		0.11	
2	2-TE-30-210V	SG ENCL OPP SIDE	T1021A		0.11	

SUM of OOS Volume Fractions ( $\Sigma VF_{OOS}$ ):

Sum of Temp Fractions ( $\Sigma TF$ ):

$$\text{Upper Compartment Weighted Average Air Temperature (T}_{UP}) = \frac{\Sigma TF}{1 - \Sigma VF_{OOS}} = \frac{\quad}{1 - \quad} = \quad \text{°F}$$

Calculations Performed By: \_\_\_\_\_

Calculations Verified By: \_\_\_\_\_

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 103 of 109</b>
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**Data Sheet 10  
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**Lower Compartment Air Temperature Thermocouple Measurements**

Date \_\_\_\_\_

Subsection: \_\_\_\_\_

M&TE ID: \_\_\_\_\_

Cal Due Date: \_\_\_\_\_

UNID	Description	ICS Point	Thermocouple Terminations <sup>2</sup>				Temperatures			
			Rack	Terminal Block	Cable	Terminals (Shield / + / -)	Set 1	Set 2	Set 3	Average Temp (T)
2-TE-30-210B	PRZ ENCL CEILG	T1001A	2-R-104	E/00	2CR399	S2 / +2 / -2				
2-TE-30-210C	SG ENCL CEILG	T1002A	2-R-104	E/00	2CR401	S3 / +3 / -3				
2-TE-30-210D	SG ENCL CEILG	T1003A	2-R-104	E/00	2CR403	S4 / +4 / -4				
2-TE-30-210E	RX SHLD WALL	T1004A	2-R-104	E/00	2CR405	S5 / +5 / -5				
2-TE-30-210F	RX SHLD WALL	T1005A	2-R-104	J/10	2CR407	S0 / +0 / -0				
2-TE-30-210O	OPP REFUEL GATE	T1014A	2-R-104	J/08	2CR425	S2 / +2 / -2				
2-TE-30-210P	IN PZR SUPP PLTF	T1015A	2-R-104	J/08	2CR427	S3 / +3 / -3				
2-TE-30-210W	ICE PLTFM RCP#2	T1022A	2-R-111	03	2R808	S6 / +6 / -6				
2-TE-30-210X	ICE PLTFM RCP#4	T1023A	2-R-111	03	2R809	S7 / +7 / -7				
2-TE-30-210Y	ICE PLTFM SG#3	T1024A	2-R-111	04	2R810	S1 / +1 / -1				
2-TE-30-210Z	ICE PLTFM SG#1	T1025A	2-R-111	04	2R811	S2 / +2 / -2				
2-TE-30-210AA	SUMP	T1026A	2-R-111	04	2R812	S3 / +3 / -3				
2-TE-30-210AB	FAN COMPT WALL	T1027A	2-R-111	04	2R813	S4 / +4 / -4				
2-TE-30-210AC	FAN COMPT WALL	T1028A	2-R-111	04	2R814	S5 / +5 / -5				



<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 104 of 109</b>
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**Data Sheet 10  
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**Lower Compartment Air Temperature Thermocouple Measurements**

Date \_\_\_\_\_

Subsection: \_\_\_\_\_

UNID	Description	ICS Point	Thermocouple Terminations <sup>2</sup>				Temperatures				
			Rack	Terminal Block	Cable	Terminals (Shield / + / -)	Set 1	Set 2	Set 3	Average Temp (T)	
2-TE-30-210AD	INSTR RM WALL	T1029A	2-R-111	04	2R815	S6 / +6 / -6					
2-TE-30-210AE	ACCUM RM WALL	T1030A	2-R-111	04	2R816	S7 / +7 / -7					
2-TE-30-210AF	ACCUM RM WALL	T1031A	2-R-111	05	2R817	S0 / +0 / -0					
2-TE-30-210AG	ACCUM RM WALL	T1032A	2-R-111	05	2R818	S1 / +1 / -1					
2-TE-30-210AH	ACCUM RM WALL	T1033A	2-R-111	05	2R819	S2 / +2 / -2					
2-TE-30-210G	UN RX VSL SUPP1	T1006A	2-R-104	J/10	2CR409	S1 / +1 / -1					
2-TE-30-210H	UN RX VSL SUPP2	T1007A	2-R-104	J/10	2CR411	S2 / +2 / -2					
2-TE-30-210I	UN RX VSL SUPP3	T1008A	2-R-104	J/10	2CR413	S3 / +3 / -3					
2-TE-30-210J	UN RX VSL SUPP4	T1009A	2-R-104	J/10	2CR415	S4 / +4 / -4					
Time & Date Data Recorded:										N/A	
Data Recorded/Calculated By:											
Calculations Verified By:							N/A	N/A	N/A		

<sup>2</sup> Reference Drawings 2-45W2697-14-4 for Rack 2-R-104 and 2-45W2697-14-8 & 2-45W2697-54-1 for Rack 2-R-111.

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 105 of 109</b>
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**Data Sheet 10  
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**Lower Compartment Air Temperature Thermocouple Measurements**

Date \_\_\_\_\_

Subsection: \_\_\_\_\_

<b>Group</b>	<b>UNID</b>	<b>Description</b>	<b>ICS Point</b>	<b>Average Temp (T)</b>	<b>Volume Fraction (VF)</b>	<b>Temperature Fraction (TF = T × VF)</b>
N/A	2-TE-30-210B	PRZ ENCL CEILG	T1001A		0.007	
N/A	2-TE-30-210C	SG ENCL CEILG	T1002A		0.072	
N/A	2-TE-30-210D	SG ENCL CEILG	T1003A		0.072	
1	2-TE-30-210E	RX SHLD WALL	T1004A		0.122	
1	2-TE-30-210F	RX SHLD WALL	T1005A		0.122	
N/A	2-TE-30-210O	OPP REFUEL GATE	T1014A		0.034	
1	2-TE-30-210P	IN PZR SUPP PLTF	T1015A		0.007	
2	2-TE-30-210W	ICE PLTFM RCP#2	T1022A		0.061	
2	2-TE-30-210X	ICE PLTFM RCP#4	T1023A		0.061	
2	2-TE-30-210Y	ICE PLTFM SG#3	T1024A		0.061	
2	2-TE-30-210Z	ICE PLTFM SG#1	T1025A		0.061	
N/A	2-TE-30-210AA	SUMP	T1026A		0.034	

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**Data Sheet 10**  
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**Lower Compartment Air Temperature Thermocouple Measurements**

Date \_\_\_\_\_

Subsection: \_\_\_\_\_

Group	UNID	Description	ICS Point	Average Temp (T)	Volume Fraction (VF)	Temperature Fraction (TF = T × VF)
3	2-TE-30-210AB	FAN COMPT WALL	T1027A		0.037	
3	2-TE-30-210AC	FAN COMPT WALL	T1028A		0.038	
N/A	2-TE-30-210AD	INSTR RM WALL	T1029A		0.043	
3	2-TE-30-210AE	ACCUM RM WALL	T1030A		0.053	
3	2-TE-30-210AF	ACCUM RM WALL	T1031A		0.047	
3	2-TE-30-210AG	ACCUM RM WALL	T1032A		0.034	
3	2-TE-30-210AH	ACCUM RM WALL	T1033A		0.034	
Sum of OOS Volume Fractions (ΣVF <sub>OOS</sub> ):						
Sum of Temp Fractions (ΣTF):						

$$\text{Lower Compartment Weighted Average Air Temperature (T}_{\text{LOW}}) = \frac{\Sigma \text{TF}}{1 - \Sigma \text{VF}_{\text{OOS}}} = \frac{\text{_____}}{1 - \text{_____}} = \text{_____} \text{ } ^\circ\text{F}$$

Calculations Performed By: \_\_\_\_\_

Calculations Verified By: \_\_\_\_\_

<b>WBN Unit 2</b>	<b>Containment Building Temperature Survey</b>	<b>2-PTI-030L-01 Rev. 0000 Page 107 of 109</b>
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**Table 1  
(Page 1 of 3)**

**Containment Air Cooling Equipment Locations**

Date \_\_\_\_\_

<b>Upper Compartment Coolers</b>				
	UNID	Main Control Room	Breaker	Location
UCC 2A	2-CCU-30-95	2-HS-30-95A [2-M-9]	2-BKR-30-95 [RX VENT BD 2A-A]	802' / 37°
UCC 2B	2-CCU-30-97	2-HS-30-97A [2-M-9]	2-BKR-30-97 [RX VENT BD 2B-B]	802' / 149°
UCC 2C	2-CCU-30-99	2-HS-30-99A [2-M-9]	2-BKR-30-99 [RX VENT BD 2A-A]	802' / 215°
UCC 2D	2-CCU-30-100	2-HS-30-100A [2-M-9]	2-BKR-30-100 [RX VENT BD 2B-B]	802' / 325°

<b>Lower Compartment Coolers</b>				
	UNID	Main Control Room	Breaker	Location
LCC 2A-A	2-CCU-30-74	2-HS-30-74A [2-M-9]	2-BKR-30-74 [480V SD BD 2A1-A]	716' / 21° (S Fan Rm)
LCC 2B-B	2-CCU-30-75	2-HS-30-75A [2-M-9]	2-BKR-30-75 [480V SD BD 2B1-B]	716' / 159° (N Fan Rm)
LCC 2C-A	2-CCU-30-77	2-HS-30-77A [2-M-9]	2-BKR-30-77 [480V SD BD 2A2-A]	716' / 201° (N Fan Rm)
LCC 2D-B	2-CCU-30-78	2-HS-30-78A [2-M-9]	2-BKR-30-78 [480V SD BD 2B2-B]	716' / 339° (S Fan Rm)

**Table 1  
(Page 2 of 3)**

**Containment Air Cooling Equipment Locations**

Date \_\_\_\_\_

<b>CRDM Coolers &amp; Associated Dampers</b>					
	UNID	Main Control Room	Aux Control Room	Breaker	Location
CRDM Cooler 2A-A	2-CLR-30-83	2-HS-30-83A [2-M-9]	N/A	2-BKR-30-83 [480V SD BD 2A1-A]	703' / 25°
	2-TCO-30-84 <sup>1</sup>	2-HS-30-84A [2-M-9]	2-HS-30-84C [2-L-10]	N/A	703' / 15°
	2-TCO-30-85	2-HS-30-85A [2-M-9]	2-HS-30-85C [2-L-10]	N/A	703' / 15°
CRDM Cooler 2B-B	2-CLR-30-92	2-HS-30-92A [2-M-9]	N/A	2-BKR-30-92 [480V SD BD 2B1-B]	703' / 165°
	2-TCO-30-93 <sup>1</sup>	2-HS-30-93A [2-M-9]	2-HS-30-93C [2-L-10]	N/A	703' / 165°
	2-TCO-30-94	2-HS-30-94A [2-M-9]	2-HS-30-94C [2-L-10]	N/A	703' / 165°
CRDM Cooler 2C-A	2-CLR-30-88	2-HS-30-88A [2-M-9]	N/A	2-BKR-30-88 [480V SD BD 2A2-A]	703' / 205°
	2-TCO-30-89 <sup>1</sup>	2-HS-30-89A [2-M-9]	2-HS-30-89C [2-L-10]	N/A	703' / 195°
	2-TCO-30-90	2-HS-30-90A [2-M-9]	2-HS-30-90C [2-L-10]	N/A	703' / 195°
CRDM Cooler 2D-B	2-CLR-30-80	2-HS-30-80A [2-M-9]	N/A	2-BKR-30-80 [480V SD BD 2B2-B]	703' / 335°
	2-TCO-30-81 <sup>1</sup>	2-HS-30-81A [2-M-9]	2-HS-30-81C [2-L-10]	N/A	703' / 345°
	2-TCO-30-82	2-HS-30-82A [2-M-9]	2-HS-30-82C [2-L-10]	N/A	703' / 345°

<sup>1</sup> CRDM Shroud Suction Dampers are designed to automatically open if their respective Handswitch is in P AUTO and their associated CRDM Cooler starts.

**Table 1  
(Page 3 of 3)  
Containment Air Cooling Equipment Locations**

Date \_\_\_\_\_

<b>Incore Instrument Room Air Conditioning</b>				
	UNID	Main Control Room	Breaker	Location
<b>Train A</b>	2-AHU-31-265	2-HS-31-265A [2-M-9]	2-BKR-31-265 [RX MOV BD 2A1-A]	730' / 57° (IIR)
	2-FCO-31-263 <sup>2</sup>	2-XI-31-263 [2-M-9]	N/A	730' / 57° (IIR)
	2-FCO-31-264 <sup>2</sup>	2-XI-31-264 [2-M-9]	N/A	730' / 57° (IIR)
	2-CHR-31-303 <sup>2</sup>	N/A	2-BKR-31-303B [RX MOV BD 2A1-A]	A12W / 692 (692 Pent Rm)
	2-PMP-31-303/1 <sup>2</sup>	N/A	2-BKR-31-303A [RX MOV BD 2A1-A]	A12W / 692 (692 Pent Rm)
<b>Train B</b>	2-AHU-31-266	2-HS-31-266A [2-M-9]	2-BKR-31-266 [RX MOV BD 2B1-B]	730' / 112° (IIR)
	2-FCO-31-268 <sup>2</sup>	2-XI-31-268 [2-M-9]	N/A	730' / 112° (IIR)
	2-FCO-31-269 <sup>2</sup>	2-XI-31-269 [2-M-9]	N/A	730' / 112° (IIR)
	2-CHR-31-324 <sup>2</sup>	N/A	2-BKR-31-324B [RX MOV BD 2B1-B]	A12W / 692 (692 Pent Rm)
	2-PMP-31-324/1 <sup>2</sup>	N/A	2-BKR-31-324A [RX MOV BD 2B1-B]	A12W / 692 (692 Pent Rm)

<sup>2</sup> Incore Instrument Room Air Conditioning Chiller, Pump, and Dampers are designed to automatically start/open when their associated AHU starts.