



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 8, 1988

Docket No. 50-440

Mr. Alvin Kaplan, Vice President
Nuclear Group
The Cleveland Electric Illuminating
Company
10 Center Road
Perry, Ohio 44081

Dear Mr. Kaplan:

SUBJECT: TRANSMITTAL OF PERFORMANCE INDICATOR DATA

The NRC Office for Analysis and Evaluation of Operational Data (AEOD) issues on a quarterly basis, a report entitled "Performance Indicators for Operating Commercial Nuclear Power Reactors." The latest report dated February 1988, was issued in two parts; the first part contains plots of the more important performance indicators for each operating plant for the eight quarters ending on December 31, 1987. The second part provides tables containing detailed data as well as a description of the report contents. In accordance with the policy guidance provided in SECY-87-207, a copy of this report has recently been placed in the Public Document Room (PDR).

We are providing for your information, a two-page set of graphs pertaining to Perry which was extracted from this report (Attachment 1). The first page is a plot of the six performance indicators initially approved for implementation in the NRC's performance indicator program. These are: automatic scrams while critical; safety system actuations; significant events; safety system failures; forced outage rates; and equipment forced outages per 1000 critical hours.

The second page is a statistical plot of the trends of these six performance indicators for each unit against itself (i.e., deviations of the last two quarters from the means of the previous four quarters). Deviations of the six plant specific performance indicators from the industry average for older plants are also presented on this page.

In reviewing this data, it is important that you recognize that the performance indicators are intended only for use as one of several tools which the NRC utilizes to monitor trends in performance for each plant. The SALP program, for example, is another independent approach for determining licensee and plant performance. Our approach to these performance indicators is that they can be used as assessment tools to identify poor performance, but only when the underlying causes of this poor performance are carefully assessed, evaluated and understood. Without this understanding, use of performance indicators can lead to a misinterpretation of the data.

To assist you in understanding our use of these indicators, Attachment 2 contains a set of definitions for the six indicators cited above, plus the definition of a seventh indicator, the collective radiation exposure. This attachment also provides some additional guidance in the form of precautions and explanations.

Attachment 3 contains a seven-year history of the collective radiation exposure for your plant (Table 11.1) and a three-year moving average of this same data (Table 11.2). In Attachment 4, the latest SALP data for your plant is contained in Table 11.3 as well as two four-quarter averages of the basic six performance indicators. Finally, Attachment 5 contains the numerical values by quarter for the six performance indicators plotted in Attachment 1 (Tables 11.4, 11.7, 11.8, 11.9, 11.10 and 11.11). Table 11.12 contains the unit critical hours for each of the eight quarters considered in this report.

You should note that the notation "PREDECISIONAL" has been crossed out on each page of the report. With placement of this report in the PUR and issuance of the pertinent pages to the holders of operating licenses, this designation is no longer applicable.

If you have any questions on this matter, please contact me promptly at (301)492-1369.

Sincerely,

/S/

Timothy G. Colburn, Project Manager
Project Directorate III-3
Division of Reactor Projects - III,
IV, V and Special Projects

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FIGURE 4.69

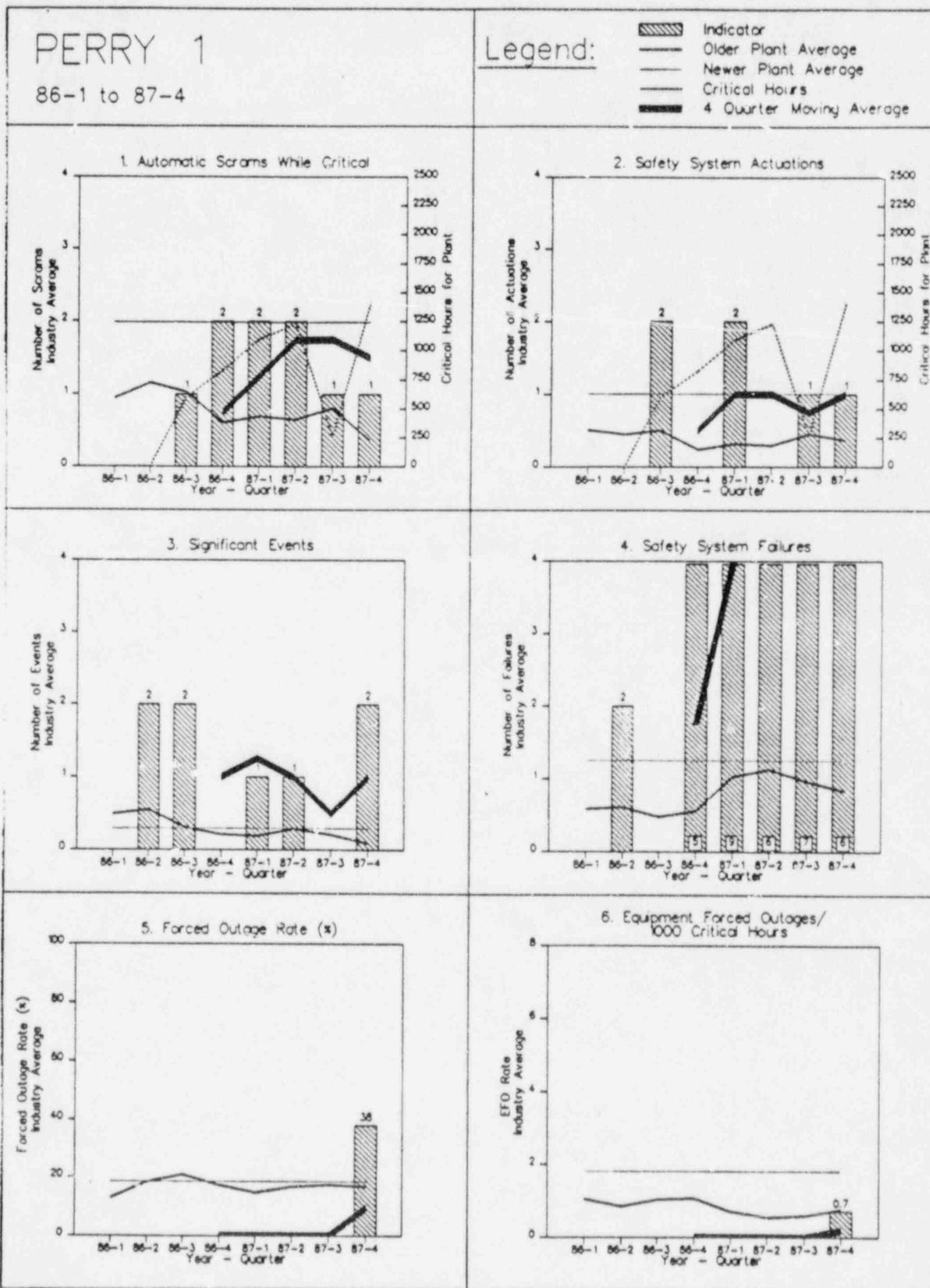
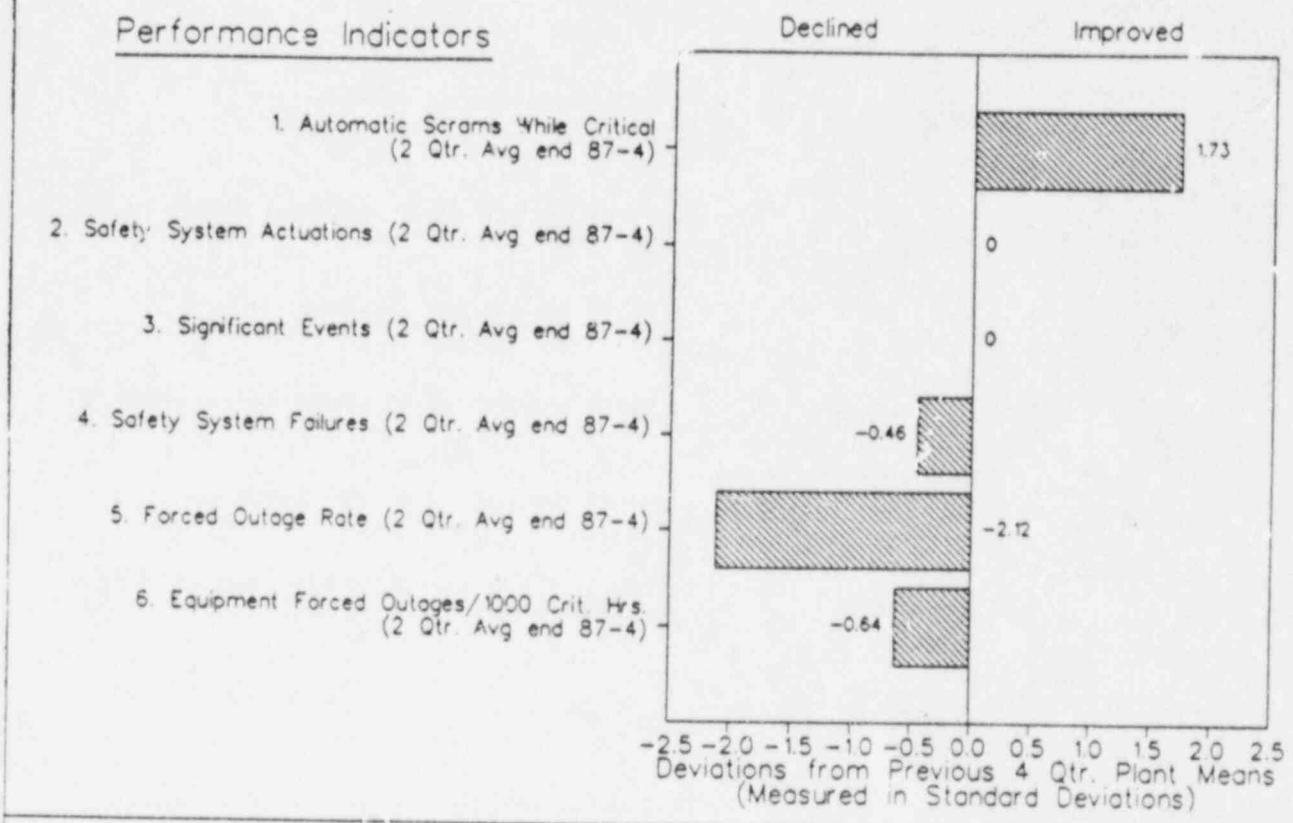
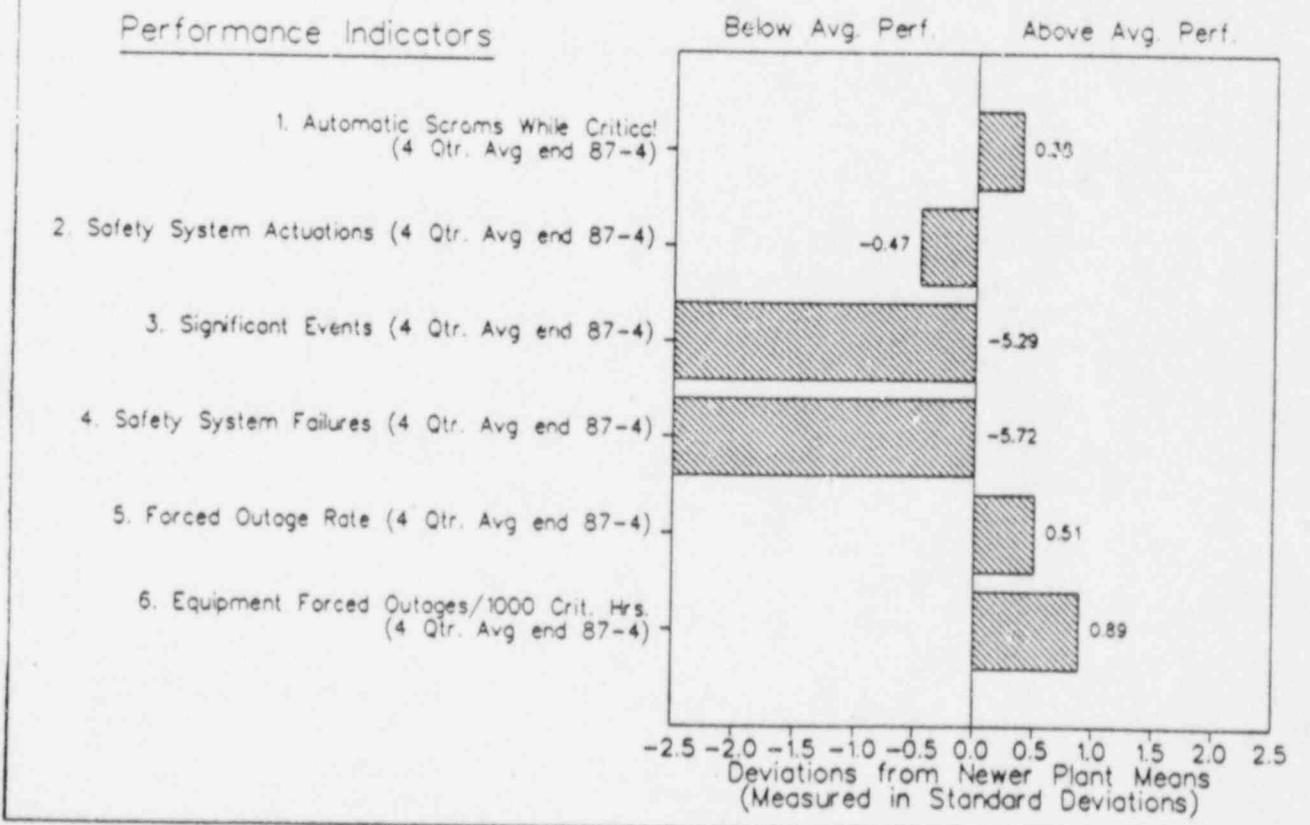


FIGURE 4.69

PERRY 1: Trends



PERRY 1: Deviations from Newer Plant Means



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5. DETAILED DEFINITIONS OF INDICATORS

The definitions of the seven indicators currently in the program are provided below.

5.1 Automatic Scrams while Critical (SCRAMS)

(1A) Total Scrams

Total scrams are the number of unplanned automatic scrams while critical. This indicator is the same as the corresponding INPO indicator. Examples of the types of scrams counted are those that result from unplanned transients, equipment failures, spurious signals, or human error. Also included in the total scrams are those that occur during the execution of procedures in which there is a high chance of a scram occurring, but the occurrence of the scram is not planned. Scram data are primarily derived from LER information and supplemented as necessary from 50.72 reports. The reactor is critical if so stated in the reports. Otherwise it is determined from the review of the information.

(1B) Scams Above 15 Percent Power per 1000 Critical Hours¹

This subset of total scrams includes the automatic scrams occurring above 15 percent reactor power per 1000 hours of critical operation.

(1C) Scams at or Below 15 Percent Power¹

This subset of total scrams includes the automatic scrams occurring while the reactor is at or below 15 percent power.

5.2 Safety System Actuations (SSA)

Safety system actuations are actuations of the emergency core cooling system (ECCS) (actual or spurious) and the emergency ac power systems (actual, in response to low voltage on a safety bus). This indicator is the same as the corresponding INPO indicator. Input for this indicator is derived from LERs and supplemented by 50.72 reports.

In determining what items should be included in the data for this indicator, the following conventions are used:

- ° Only actuations of the high pressure injection system, low pressure injection system or safety injection tanks are counted for PWRs. For BWRs, only actuations of the high pressure coolant injection system, the low pressure coolant injection system, the high pressure core spray system, or the low pressure core spray system are counted. No actuations of the reactor core isolation cooling system are counted.
- ° Actuations of emergency ac power system due to loss of power to a safe-guards bus are captured primarily based on indications of low voltage signals in the emergency power system.
- ° Actuations of any of the equipment associated with the specific ECCS or emergency ac power system are considered necessary and sufficient to

¹These data are available as supplemental indicator data in Tables 11.3 and 11.4.

constitute a data count. For example, if only a valve in a system is commanded to move to its emergency operational position, this is counted as an actuation. A pump does not have to be commanded to go to its emergency mode of operation, or fluid does not need to be injected for an occurrence to be counted.

- ° Only one ECCS actuation is counted in any one occurrence, even if multiple ECCSs actuate during the occurrence. For example, actuation of both the high pressure injection and the low pressure injection systems at a PWR during the same occurrence counts as only a single ECCS actuation for that occurrence.
- ° Only one EDG actuation is counted in any one occurrence, even if multiple EDGs actuate during the occurrence. For example, actuation of all four EDGs at a unit counts as only a single EDG actuation for that occurrence.
- ° Occurrences involving actuations of both an EDG on a dead bus and an ECCS are given a count of two, one for the EDG actuation and one for the ECCS actuation.
- ° At multi-unit sites that share equipment (e.g., swing EDG or shared buses), actuations are counted and assigned to only one unit, even if multiple units are involved. This count is assigned to the unit where the actuation signal or loss of power originated. If the signal source cannot be determined to be associated with one unit, the actuation is assigned to the unit with the lowest unit number unless the licensee has specifically assigned the reported occurrence to a higher number unit.

5.3 Significant Events (SE)

Significant events are those events identified by the detailed screening and evaluation of operating experience by the NRC staff. The screening process includes the daily review and discussion of all reported operating reactor events and operational data such as special tests being conducted or construction activity.

An event identified from the screening as a candidate significant event is further evaluated to determine if there is an actual or potential threat to the health and safety of the public involved. Specific examples of the types of criteria are summarized as follows.

- (1) Degradation of important safety equipment. Events that will be considered under this classification include situations where either there existed the potential for or there was an actual reduction in the operational capability of equipment. For example, identification of a common cause failure mechanism which could cause failure of redundant components or multiple independent component failures in response to a test or actual demand signal. This category would not include such items as a missed surveillance test where the equipment was subsequently tested and determined to be operable.

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- (2) Unexpected plant response to a transient or a major transient. Events that will be considered under this classification include situations where changes in reactor parameters represent unanticipated reductions in margins of safety. For example, a rapid plant cooldown following a reactor trip exacerbated by a balance of plant malfunction or an undesirable systems interaction. This category would not include minor differences in predicted and observed conditions that can be reasonably explained by instrument errors or modeling techniques and simplifying assumptions.
- (3) Degradation of fuel integrity, primary coolant pressure boundary, or important associated structures. Events considered under this category would include those of similar character to those identified in item 1, above, related to the fuel, RCS, containment, or important plant structures.
- (4) Scram with complication. A "scram with complication" is an RPS actuation, when critical, followed by an equipment failure or malfunction or personnel error. The failure, malfunction, or error is generally not to include those that cause the transient which leads to the RPS actuation, or those that directly cause the scram. Failures that both cause the scram and reduce the capability of the mitigating system (e.g., electric power, instrument air, other auxiliary support functions, or deficient procedures) will be counted.

Examples of equipment failure/malfunctions include:

- a. Mitigating system failures - loss of redundancy due to single failure, reduced capacity or margin. This includes components or trains out of service for maintenance.
- b. Failure adding to complexity of event - erroneous control system responses, electrical switching difficulties, mitigating system and key plant parameter instrumentation malfunctions/failures.
- c. Additional event initiators - stuck open primary or secondary relief/safety valves, pipe breaks, and operating wrong equipment/trains.

Examples of personal errors include personnel:

- a. Improper control or termination of mitigating system.
- b. Misdiagnosis of the event or failure to follow procedures.

In addition to the situations described in items 1-4, above, other broad categories considered for significant events are as follows:

- (5) Unplanned release of radioactivity. Events considered under this category include an unplanned release of radioactivity that had the potential for or actually exceeded the limits of the Technical Specifications or the Regulations.

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- (6) Operation outside the limits of the Technical Specifications. Events that will be considered under this classification include situations where plant operation was conducted inconsistent with the license requirements.

This category would apply to risk significant deviations and most likely not include an incident involving a missed surveillance, small errors in setpoints, or other administratively inoperable conditions.

- (7) Other. For example, a series of events or recurring incidents that when considered collectively represent ineffective corrective actions, or a deficiency in the plant hardware or administrative programs.

5.4 Safety System Failures (SSF)

Safety system failures are any events or conditions that, by themselves, could prevent fulfillment of the safety function for structures or systems. Where a system consists of multiple redundant subsystem or trains, failure of all trains constitutes a safety system failure. Failure of one of two or more trains is not counted as a safety system failure. The definition for the indicator parallels NRC reporting requirements in 10 CFR 50.72 and 10 CFR 50.73. The following list gives the major systems and subsystems which are monitored for this indicator:

Reactor Trip System and Instrumentation
Engineered Safety Features Instrumentation
Recirculation Pump Trip Actuation Instrumentation (BWR)
Accident Monitoring Instrumentation
Radiation Monitoring Instrumentation
Reactor Coolant System
Safety Valves
Emergency Core Cooling Systems
Auxiliary (and Emergency) Feedwater System (PWR)
Reactor Core Isolation Cooling System (BWR)
Isolation Condenser (BWR)
Standby Liquid Control System (BWR)
Main Steam Line Isolation Valves
Component Cooling Water System
Essential or Emergency Service Water
Ultimate Heat Sink
Control Room Emergency Ventilation System
Onsite Emergency AC and DC Power and Associated Distribution
Containment and Containment Isolation
Containment Coolant Systems
Residual Heat Removal Systems
Combustible Gas Control
Fire Detection and Suppression Systems
Low Temperature Overpressure Protection (PWR)
Spent Fuel Systems
Essential Compressed Air Systems

5.5 Forced Outage Rate (FOR)

Forced outages are those required by the end of the weekend following the discovery of an off-normal condition. The forced outage rate is the number of forced outage hours divided by the sum of unit service hours (i.e., generator online hours) and forced outage hours. This indicator is the same as that of INPO and the NRC monthly operating report. The data are generally obtained from the monthly operating reports. In some cases when the reports are not available, the data are obtained directly from the licensees.

5.6 Equipment Forced Outages per 1000 Critical Hours (EFO)

This is the number of forced outages caused by equipment failures per 1000 critical hours. It is the inverse of the mean time between forced outages caused by equipment failures. The inverse number was adopted to facilitate calculation and display. The source of this data is the same as that for the forced outage rate.

5.7 Collective Radiation Exposure

This is the total radiation dose at the site for a given period. The site total is divided by the number of units at the site contributing to the radiation exposure to obtain unit values. This indicator is the same as that of INPO.

6. PRECAUTIONS

The data for this report were obtained from reliable NRC sources as discussed earlier and were reviewed by NRC personnel in headquarters and the regions for completeness and accuracy. The data for the fourth quarter of 1987 will be reviewed again in preparation for the next quarterly report in order to ensure that late information, if any, is accounted for.

Although certain NRC performance indicators are the same as those of INPO overall performance indicators, the criteria for including the data in the calculations for industry average are not the same in all cases. For example, INPO does not include scram values for a plant with cumulative capacity factor of less than 25 percent during the time period being considered in calculating the industry average. The NRC does not exclude such plants. Therefore, the industry average values of the common indicators are likely to be different.

Tables 10.1 to 10.109 provide listings of each plant's Automatic Scrams While Critical, Safety System Actuations, Significant Events and Safety System Failures for the third and fourth quarters of 1987. Beginning with this report, event descriptions in the listings are being provided for both the current and previous quarters.

For scrams above 15 percent power per 1000 critical hours, the results for plants with less than 1000 critical hours in a quarter can be distorted. For this report the degree of distortion has been reduced by using at least a minimum value of 200 critical hours in the calculations for any given quarter.

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The results for equipment forced outages per 1000 critical hours can be distorted in a similar manner. This distortion has also been reduced by using at least 200 critical hours in the calculations.

Forced outage rates that are based on licensee monthly operating reports do not always appear consistent for plants undergoing long shutdown periods.

There are two additional categories of information that are included in the program for collection, monitoring, and future development, but are not included in this report. They are causes associated with scrams, safety system actuation, significant events, and safety system failures such as personnel error, maintenance problems, equipment failures and design/fabrication/construction error; and the number of forced outages.

In addition, the staff is developing indicators in several areas. The highest priority areas for development are maintenance and training. Other important areas include limiting conditions for operations (LCO) action statements, number of items out of service and causes of events as well as risk-based and programmatic indicators.

7. ANNUAL COLLECTIVE RADIATION EXPOSURE DATA

Because the collective radiation exposure data are currently available only on an annual basis, the information displayed is for the annual data through 1986. Table 11.1 provides the annual cumulative doses in person-rem for 1980 through 1986. Table 11.2 provides the 3-year moving averages of the data in Table 11.1 for the 3-year periods ending with 1982, 1983, 1984, 1985, and 1986. Data on a quarterly basis are in the process of being obtained.

8. COMPUTATIONAL NOTES

The following computational notes describe some of the detailed methods used in calculations and displays for this report. In future reports, the details may change as improved techniques are obtained.

8.1 The report addresses plants licensed for operation in the fourth quarter of 1987 or earlier. The data extend through the fourth quarter of 1987.

8.2 Blanks are used under the following conditions for newer plants:

- (1) For all indicators until an operating license is first received,
- (2) For scrams until critical hours are first reported, or
- (3) For forced outages until power generation is first reported;

thereafter, numerical values are used. For example, plants shut down for an entire quarter after initial criticality have zeroes for scrams rather than blanks.

8.3 Blanks are not used in calculating averages and standard deviations. Zeroes do count in such calculations.

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8.4 For the plant summaries (Figures 4.1 - 4.109 of Part I),

- (1) The top chart, "Trends," is based on the following numbers:
 - (a) The plant's moving average for the latest two quarters,
 - (b) The plant's moving average for the four quarters previous to the latest two quarters (if there are not at least two quarters of data for this moving average, no value is displayed on the chart), and
 - (c) A standard deviation based on the plant's previous four quarters of data (if the standard deviation is zero, an average of values for older or newer plants, as appropriate, is used);
- (2) The bottom chart, "Deviations from Older Plant Means" or "Deviations from Newer Plant Means," uses the following numbers:
 - (a) Moving average of the plant's latest four quarters (if there are not at least two quarters for this, no value is displayed on the chart),
 - (b) Average of the latest four-quarter moving averages for older plants or newer plants (outliers more than 2.5 standard deviations from the mean on the first calculation were discarded and the mean and standard deviation were recomputed), and
 - (c) Standard deviation based on the latest four-quarter moving averages for older or newer plants (outliers were discarded as discussed above); and
- (3) Moving averages (average of four quarterly values) are used throughout rather than calculating true means (e.g., annual averages) for ratios such as equipment forced outages per 1000 critical hours.

8.5 The following parameters were used for detailed plant analysis charts of each plant's quarterly data (Figures 4.1 through 4.109 of Part I).

- (1) Older plant averages are the averages of older plant values calculated quarter by quarter.
- (2) Newer plant averages are single numbers that span all quarters, the average of all new plant values in the data set.

8.6 For certain plants in long-term shutdown, such as Browns Ferry, Sequoyah, Pilgrim and Rancho Seco, Scram, Forced Outage Rate, and Equipment Forced Outages bars were suppressed in the plant summary charts.

9. REVISION OF DATA CONTAINED IN THE NOVEMBER 1987 REPORT

An intensive review of data sources and application of detailed screening criteria have resulted in some changes to the data previously reported in

Attachment 2
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November 1987. These changes are summarized in Tables 9.1 through 9.5. In aggregate, they do not significantly alter the overall picture presented in the November 1987 report.

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TABLE 11.1

COLLECTIVE RADIATION EXPOSURE

--- YEARLY DATA

UNIT	1980	1981	1982	1983	1984	1985	1986
ARKANSAS 1	171	551	402	699	403	155	571
ARKANSAS 2	171	551	402	699	403	155	571
BEAVER VALLEY 1	553	229	599	772	504	60	627
BIG ROCK POINT	354	160	328	263	155	291	84
BRAIDWOOD 1							
BROWNS FERRY 1	608	793	740	1121	647	386	525
BROWNS FERRY 2	608	793	740	1121	647	386	525
BROWNS FERRY 3	608	793	740	1121	647	386	525
BRUNSWICK 1	1935	1319	1896	1738	1630	1402	955
BRUNSWICK 2	1935	1319	1896	1738	1630	1402	955
BYRON 1							
BYRON 2							104
CALLAWAY							
CALVERT CLIFFS 1	339	304	529	334	240	70	225
CALVERT CLIFFS 2	339	304	529	334	240	347	174
CATAWBA 1							
CATAWBA 2							143
CLINTON 1							143
COOK 1	247	328	350	329	381	473	373
COOK 2	247	328	350	329	381	473	373
COOPER STATION	859	579	542	1293	799	1333	320
CRYSTAL RIVER 3	625	408	177	552	49	689	472
DAVIS-BESSE	154	58	164	80	177	71	124
DIABLO CANYON 1							
DIABLO CANYON 2							304
DRESDEN 2	702	934	974	1194	591	843	1398
DRESDEN 3	702	934	974	1194	591	843	1398
DUANE ARNOLD	671	790	229	1135	189	1112	187
FARLEY 1	435	256	242	511	451	1276	429
FARLEY 2		256	242	511	451	1276	429
FERMI 2							
FITZPATRICK							
PORT CALHOUN	2040	1425	1190	1090	971	1845	411
PORT ST. VRAIN	668	458	217	433	563	632	74
GINNA							
GRAND GULF	708	655	1140	855	394	426	357
HADDAM NECK							
HATCH 1	1353	1036	126	1384	1216	101	436
HATCH 2	225	669	730	650	1109	445	1567
HOPE CREEK							749
INDIAN POINT 2	971	2731	1635	486	2644	192	1250
INDIAN POINT 3	308	364	1226	607	230	570	202
KEWAUNEE							
LASALLE 1	165	141	101	165	139	176	169
LASALLE 2					252	343	475
					252	343	475

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TABLE 11.1 (CONT'D)

UNIT	1980	1981	1982	1983	1984	1985	1986
LIMERICK							
MAINE YANKEE	462	424	619	164	884	700	100
MCGUIRE 1			169	521	507	386	508
MCGUIRE 2						386	508
MILLSTONE 1	2158	1496	929	244	836	608	150
MILLSTONE 2	636	531	1413	1881	120	1581	918
MILLSTONE 3							
MONTICELLO	531	1004	993	121	2462	327	596
NINE MILE PT. 1	591	1592	1264	860	890	265	1275
NINE MILE PT. 2							
NORTH ANNA 1	109	340	958	333	973	420	361
NORTH ANNA 2	109	340	958	333	973	420	361
OCONEE 1	352	404	597	402	369	435	475
OCONEE 2	352	404	597	402	369	435	475
OCONEE 3	352	404	597	402	369	435	475
OYSTER CREEK	1733	917	865	2257	2054	748	2436
PALISADES	424	902	330	977	573	507	672
PALO VERDE 1							
PALO VERDE 2							
PALO VERDE 3							
PEACH BOTTOM 2	1151	1253	989	1482	1225	1739	540
PEACH BOTTOM 3	1151	1253	989	1482	1225	1739	540
PERRY							
PILGRIM	3626	1836	1539	1162	4082	893	874
POINT BEACH 1	299	298	305	702	395	241	201
POINT BEACH 2	299	298	305	702	395	241	201
RAIRIE ISLAND 1	177	165	115	117	74	208	128
RAIRIE ISLAND 2	177	165	115	117	74	208	128
QUAD CITIES 1	2419	1573	1879	1246	790	519	496
QUAD CITIES 2	2419	1573	1879	1246	790	519	496
RANCHO SECO	412	402	337	787	222	756	446
RIVER BEND							
ROBINSON 2	1852	733	1426	923	2880	311	539
SALEM 1	449	127	602	291	341	102	300
SALEM 2		127	602	291	341	102	300
SAN ONOFRE 1	2387	3223	832	155	513	289	412
SAN ONOFRE 2					473	267	412
SAN ONOFRE 3						267	412
SEABROOK							
SEQUOYAH 1			285	246	559	536	263
SEQUOYAH 2			285	246	559	536	263
SHEARON HARRIS 1							
SHOREHAM							
ST. LUCIE 1	532	929	272	1204	632	672	246
ST. LUCIE 2					632	672	246

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TABLE 11.2

COLLECTIVE RADIATION EXPOSURE
 (Three year moving averages ending (n)

NAME	1982	1983	1984	1985	1986
ARKANSAS 1	375	551	501	419	376
ARKANSAS 2	375	551	501	419	376
BEAVER VALLEY 1	460	533	625	445	397
BIG ROCK POINT	281	250	249	236	177
BRAIDWOOD 1					
BROWNS FERRY 1	714	885	836	718	519
BROWNS FERRY 2	714	885	836	718	519
BROWNS FERRY 3	714	885	836	718	519
BRUNSWICK 1	1717	1651	1755	1590	1329
BRUNSWICK 2	1717	1651	1755	1590	1329
BYRON 1					
BYRON 2					
CALLAWAY					
CALVERT CLIFFS 1	391	389	368	307	254
CALVERT CLIFFS 2	391	389	368	307	254
CATAWBA 1					
CATAWBA 2					
CLINTON 1					
COOK 1	308	336	353	394	409
COOK 2	308	336	353	394	409
COOPER STATION	660	805	878	1142	817
CRYSTAL RIVER 3	403	379	359	430	403
DAVIS-BESSE	125	101	140	109	124
DIABLO CANYON 1					
DIABLO CANYON 2					
DRESDEN 2	870	1034	920	876	944
DRESDEN 3	870	1034	920	876	944
DUANE ARNOLD	563	718	518	812	496
FARLEY 1	311	336	401	746	719
FARLEY 2	249	336	401	746	719
FERMI 2					
FITZPATRICK	1552	1235	1084	1302	1076
FORT CALHOUN	448	369	404	543	423
FORT ST. VRAIN					
GINNA	834	883	796	558	392
GRAND GULF					
HADDAM NECK	838	849	909	900	961
HATCH 1	541	683	830	735	768
HATCH 2	541	683	830	735	768
HOPE CREEK					
INDIAN POINT 2	1779	1617	1588	1107	1362
INDIAN POINT 3	633	732	688	469	334
KEWAUHEE	136	136	135	160	161
LASALLE 1					357
LASALLE 2					357

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TABLE 11.2 (CONT'D)

NAME	1982	1983	1984	1985	1986
LIMERICK					
MAINE YANKEE	502	402	556	583	561
MCGUIRE 1	169	345	399	471	467
MCGUIRE 2					
MILLSTONE 1	1528	890	670	563	531
MILLSTONE 2	860	1275	1138	1194	873
MILLSTONE 3					
MONTICELLO	843	706	1192	970	1128
NINE MILE PT. 1	1149	1239	1005	672	810
NINE MILE PT. 2					
NORTH ANNA 1	469	544	755	575	585
NORTH ANNA 2	469	544	755	575	585
OCONEE 1	451	468	456	402	426
OCONEE 2	451	468	456	402	426
OCONEE 3	451	468	456	402	426
OYSTER CREEK	1172	1346	1725	1686	1746
PALISADES	552	736	627	686	584
PALO VERDE 1					
PALO VERDE 2					
PALO VERDE 3					
PEACH BOTTOM 2	1131	1241	1232	1482	1168
PEACH BOTTOM 3	1131	1241	1232	1482	1168
PERRY					
FILGRIM	2334	1512	2261	2046	1950
POINT BEACH 1	301	435	467	446	279
POINT BEACH 2	301	435	467	446	279
PRAIRIE ISLAND 1	152	132	102	133	137
PRAIRIE ISLAND 2	152	132	102	133	137
QUAD CITIES 1	1957	1566	1305	852	602
QUAD CITIES 2	1957	1566	1305	852	602
RANCHO SECO	384	509	449	588	475
RIVER BEND					
ROBINSON 2	1337	1027	1743	1371	1243
SALEM 1	393	340	411	245	248
SALEM 2	365	340	411	245	248
SAN ONOFRE 1	2147	1403	900	286	371
SAN ONOFRE 2					384
SAN ONOFRE 3					
SEABROOK					
SEQUOYAH 1	285	266	363	447	453
SEQUOYAH 2	285	266	363	447	453
SHEARON HARRIS 1					
SHOREHAM					
ST. LUCIE 1	578	802	703	826	517
ST. LUCIE 2					517
SUMMER					232

OVERALL INDUSTRY SUMMARY

TABLE 11.3 (CONT.)

PLANT	OPS. NET SURV. QP.	DATE	PERFORMANCE INDICATORS																	
			TOTAL SCRAPS			SAFETY SYSTEM ACTUATIONS			SIGNIFICANT EVENTS			SAFETY SYSTEM FAILURES			FORCED OUTAGE RATE (X)			EQUIPMENT OUTAGES PER 1000 CRIT. HRS.		
			SALP	4 QTR	4 QTR	4 QTR	4 QTR	4 QTR	4 QTR	4 QTR	4 QTR	Avg End	Avg End	Avg End	Avg End	Avg End	Avg End	Avg End		
MINE MILE PI- 1	2	3	2	3	07/87	0.00	0.50	0.25	0.00	0.00	0.75	0.75	4.00	7.00	0.27	0.77				
MINE MILE PI- 2	2	4	2	2	08/87	1.00	1.50	1.00	0.25	0.00	2.00	4.00			2.00					
NORTH Anna 1	2	2	2	11	12/86	0.50	0.75	0.50	0.50	0.25	0.50	1.00	0.75	9.75	27.25	0.17	1.42			
NORTH Anna 2	2	2	2	11	12/86	0.00	0.00	0.00	0.00	0.00	0.25	0.75	0.75	3.50	0.00	0.00	0.00			
OCONEE 1	1	11	1	11	10/87	0.00	0.00	0.00	0.00	0.00	0.50	0.25	0.75	7.75	0.75	1.81	0.52			
OCONEE 2	1	11	1	11	10/87	1.50	0.75	0.75	0.75	0.50	0.25	0.75	0.50	2.00	1.00	3.72	1.17			
OCONEE 3	1	11	1	11	10/87	0.00	0.00	0.25	0.25	1.00	0.50	1.25	1.00	11.25	3.00	1.03	0.30			
OYSTER CREEK	2	21	11	2	06/87	0.75	0.75	0.25	0.00	0.50	0.50	2.75	2.25	33.50	35.75	7.20	1.31			
PALISADES	2	3	21	3	12/87	0.00	0.25	1.00	0.75	0.25	0.25	2.00	1.75	78.75	48.25	0.35	1.57			
PALO VERDE 1	2	2	2	2	01/87	2.50	0.75	1.00	0.25	0.25	0.25	0.25	0.25	19.25	19.50	1.26	0.24			
PALO VERDE 2	2	2	2	2	01/87	2.25	0.75	1.25	0.25	0.25	0.00	0.25	0.25	19.25	8.00	2.96	0.90			
PALO VERDE 3								0.00	0.00	0.00	0.00	0.33								
PEACH BOTTOM 2	N	2	N	12/87	0.25	0.00	0.25	0.25	0.25	0.25	0.25	0.75	2.00	10.75	25.00	0.42	0.00			
PEACH BOTTOM 3	N	2	N	12/87	1.50	0.50	0.50	0.25	0.25	0.25	0.25	0.75	44.75	55.75	1.78	0.27				
PIERRY	2	2	2	2	07/87	1.75	1.50	1.00	1.00	1.00	1.00	1.00	1.00	7.00	0.00	9.50	0.00			
PILGRIM	21	2	30	N	04/87	0.00	0.00	0.75	0.50	0.25	0.25	1.25	1.25	25.00	0.00	0.00	0.00			
POINT BEACH 1	1	11	1	2	11/86	0.50	0.30	0.00	0.25	0.00	0.25	0.00	0.25	0.00	0.25	0.11	0.00			
POINT BEACH 2	1	11	1	2	11/86	0.25	0.25	0.25	0.00	0.25	0.25	0.00	0.25	0.50	1.60	0.00	0.00			
PRairie ISLAND 1	2	1	2	2	08/86	0.50	0.50	0.25	0.75	0.00	0.50	0.50	0.75	3.75	3.50	0.13	0.13			
PRairie ISLAND 2	2	1	2	2	08/86	0.25	0.00	0.75	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00			

~~PREDICTIONAL~~

TABLE 11.4

AUTOMATIC SCRAMS WHILE CRITICAL

(The latest quarter data are preliminary)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
ARKANSAS 1	0	1	0	1	0	0	2	0
ARKANSAS 2	1	3	1	0	0	0	1	1
BEAVER VALLEY 1	1	0	1	0	2	2	0	0
BEAVER VALLEY 2								
BIG ROCK POINT	0	0	1	0	1	0	0	0
BRAIDWOOD 1								
BROWNS FERRY 1	0	0	0	0	0	1	3	1
BROWNS FERRY 2	0	0	0	0	0	0	0	0
BROWNS FERRY 3	0	0	0	0	0	0	0	0
BRUNSWICK 1	1	2	2	1	0	1	1	0
BRUNSWICK 2	0	1	1	0	2	0	0	0
BYRON 1	3	0	1	0	4	2	1	0
BYRON 2								
CALLAWAY	0	4	2	0	0	0	0	1
CALVERT CLIFFS 1	1	0	1	2	0	0	3	1
CALVERT CLIFFS 2	1	1	1	0	1	0	2	1
CATAWBA 1	1	5	2	0	1	1	2	0
CATAWBA 2		1	1	2	3	0	2	0
CLINTON 1								
COOK 1	0	1	3	1	0	1	5	1
COOK 2	1	0	1	0	0	1	0	1
COOPER STATION	1	0	1	0	4	1	2	1
CRYSTAL RIVER 3	1	0	0	0	0	0	2	0
DAVIS-BESSE	0	0	0	1	2	0	2	1
DIABLO CANYON 1	1	0	1	1	3	1	0	1
DIABLO CANYON 2	4	2	4	0	2	1	1	0
DRESDEN 2	1	0	3	0	0	1	2	1
DRESDEN 3	0	0	1	4	1	1	2	1
DUANE ARNOLD	0	0	0	1	0	1	2	0
FARLEY 1	1	1	2	0	2	1	0	0
FARLEY 2	1	2	1	0	1	0	0	0
FERMI 2	0	0	1	1	2	2	2	1
FITZPATRICK	0	1	1	0	0	1	3	2
FORT CALHOUN	0	0	1	0	0	0	0	0
FORT ST. VRAIN	0	1	0	0	0	1	0	1
GINNA	0	0	1	2	0	0	0	0
GRAND GULF	3	0	2	0	0	1	1	0
HADDAM NECK	0	3	0	1	0	1	0	0
HATCH 1	0	2	1	1	2	0	2	0
HATCH 2	1	3	3	0	1	1	2	0
HOPZ CREEK								
INDIAN POINT 2	1	2	2	2	1	1	3	1

TABLE 11.4 (CONT.)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
INDIAN POINT 3	1	4	2	1	2	2	0	1
KEWAUNEE	0	3	0	0	0	1	1	0
LASALLE 1	0	0	0	1	3	1	1	1
LASALLE 2	2	3	0	0	0	1	0	0
LIMERICK	1	0	0	0	0	0	2	0
MAINE YANKEE	0	2	1	1	0	0	1	0
MCGUIRE 1	2	0	1	0	1	1	1	1
MCGUIRE 2	2	0	2	1	1	0	2	2
MILLSTONE 1	1	0	0	1	1	0	3	0
MILLSTONE 2	0	1	2	1	1	1	2	1
MILLSTONE 3	6	3	4	0	3	6	2	1
MONTICELLO	0	0	0	2	2	1	1	0
NINE MILE PT. 1	0	2	0	0	0	0	0	2
NINE MILE PT. 2								
NORTH ANNA 1	3	2	0	0	0	2	1	3
NORTH ANNA 2	0	4	0	0	0	0	0	0
OCONEE 1	1	1	0	0	0	0	0	0
OCONEE 2	2	0	2	1	2	1	0	0
OCONEE 3	1	0	0	0	0	0	0	0
OYSTER CREEK	1	0	0	1	2	0	1	0
PALISADES	1	1	0	0	0	0	1	0
PALO VERDE 1	4	1	6	2	1	1	1	0
PALO VERDE 2		3	6	1	0	2	1	0
PALO VERDE 3								
PEACH BOTTOM 2	2	1	0	1	0	0	0	1
PEACH BOTTOM 3	1	1	2	2	2	0	0	0
PERRY 1	0	1	2	2	2	2	1	1
PILGRIM	2	2	0	0	0	0	0	0
POINT BEACH 1	0	1	0	1	0	1	0	1
POINT BEACH 2	0	1	0	1	0	0	1	0
PRairie ISLAND 1	0	1	0	1	1	0	1	0
PRairie ISLAND 2	0	2	1	0	0	0	1	0
QUAD CITIES 1	0	1	1	2	1	0	0	0
QUAD CITIES 2	1	0	0	1	1	0	0	0
RANCHO SECO	0	0	0	0	0	0	2	2
RIVER BEND	6	7	4	1	1	1	0	0
ROBINSON 2	6	1	2	1	0	0	4	0
SALEM 1	3	4	2	0	0	1	0	0
SALEM 2	0	2	5	2	2	1	1	0
SAN ONOFRE 1	0	0	2	0	1	0	0	0
SAN ONOFRE 2	0	2	4	1	1	0	0	0
SAN ONOFRE 3	1	2	1	1	0	1	0	0
SEABROOK								1
SEQUOYAH 1	0	0	0	0	0	0	0	0
SEQUOYAH 2	0	0	0	0	0	0	0	0
SHEARON HARRIS 1					4	2	2	0

~~PRELIMINARY~~

TABLE 11.7

SAFETY SYSTEM ACTUATIONS

(The latest quarter data are preliminary) -- QUARTERLY DATA

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
ARKANSAS 1	0	0	0	0	0	0	1	0
ARKANSAS 2	0	0	0	0	0	0	0	0
BEAVER VALLEY 1	0	1	1	0	0	0	0	0
BEAVER VALLEY 2						0	3	2
BIG ROCK POINT	0	0	0	0	0	0	0	0
BRAIDWOOD 1				0	0	0	2	0
BROWNS FERRY 1	1	0	0	0	1	0	0	0
BROWNS FERRY 2	0	0	0	0	0	3	0	0
BROWNS FERRY 3	0	0	0	0	0	0	0	0
BRUNSWICK 1	1	1	3	0	1	1	2	0
BRUNSWICK 2	1	1	1	2	2	0	0	0
BYRON 1	0	0	0	0	1	0	1	0
BYRON 2				0	0	0	1	2
CALLAWAY	0	0	0	0	0	0	0	2
CALVERT CLIFFS 1	0	0	0	0	0	0	1	0
CALVERT CLIFFS 2	1	0	0	0	0	0	1	0
CATAWBA 1	0	0	0	2	0	0	0	1
CATAWBA 2	0	1	1	0	0	0	0	1
CLINTON 1			0	1	2	2	1	1
COOK 1	0	0	0	0	0	0	0	0
COOK 2	1	0	0	0	0	0	1	0
COOPER STATION	1	0	0	0	0	2	0	1
CRYSTAL RIVER 3	0	1	0	0	0	0	0	0
DAVIS-BESSE	2	1	1	0	0	0	0	0
DIABLO CANYON 1	2	0	1	0	1	0	1	0
DIABLO CANYON 2	1	3	3	1	1	1	2	0
DRESDEN 2	1	1	0	0	0	0	0	0
DRESDEN 3	0	2	1	0	0	0	0	0
DUANE ARNOLD	0	0	0	0	0	0	0	0
FARLEY 1	0	0	0	0	0	2	0	0
FARLEY 2	0	0	0	0	0	0	0	0
FERMI 2	0	1	1	2	0	0	0	2
FITZPATRICK	0	0	0	0	0	1	1	0
FORT CALHOUN	0	0	0	0	1	0	0	0
FORT ST. VRAIN	0	0	0	0	1	0	0	2
GINNA	0	0	0	0	0	0	0	0
GRAND GULF	0	0	0	1	0	1	1	0
HADDAM NECK	0	0	0	0	0	0	1	1
HATCH 1	2	1	0	0	0	0	0	0
HATCH 2	1	0	1	1	1	0	2	0
HOPE CREEK			11	10	3	1	1	0
INDIAN POINT 2	1	2	2	0	1	0	5	0
								4

~~PREDECISIONAL~~

TABLE 11.7 (CONT.)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
INDIAN POINT 3	0	1	0	0	1	1	1	0
KENWAUNEE	0	0	0	0	1	0	1	0
LASALLE 1	1	1	1	0	1	0	0	0
LASALLE 2	0	0	0	0	0	1	0	0
LIMERICK	0	1	0	0	0	1	2	0
MAINE YANKEE	0	0	0	0	0	0	0	0
MCGUIRE 1	0	1	1	0	0	0	3	0
MCGUIRE 2	1	1	0	0	0	0	0	0
MILLSTONE 1	0	0	0	0	0	0	1	0
MILLSTONE 2	0	0	0	3	0	0	0	0
MILLSTONE 3	4	0	1	0	1	1	0	1
MONTICELLO	0	1	0	1	0	1	0	0
NINE MILE PT. 1	2	2	1	0	0	0	0	5
NINE MILE PT. 2				3	0	0	0	1
NORTH ANNA 1	1	1	1	0	0	1	1	0
NORTH ANNA 2	0	2	0	0	0	0	0	2
OCONEE 1	0	0	0	0	0	2	1	0
OCONEE 2	2	0	0	0	0	0	0	0
OCONEE 3	1	0	0	0	1	0	0	0
OYSTER CREEK	0	1	1	0	0	0	0	0
PALISADES	5	0	4	0	0	0	2	1
PALO VERDE 1	1	0	2	1	1	0	0	0
PALO VERDE 2	0	1	3	1	0	1	0	0
PALO VERDE 3								0
PEACH BOTTOM 2	0	0	0	0	0	0	0	0
PEACH BOTTOM 3	0	0	1	1	0	1	0	0
PERRY 1	0	0	2	0	2	0	0	1
PILGRIM	0	1	0	2	1	0	0	1
POINT BEACH 1	0	1	0	0	0	0	0	1
POINT BEACH 2	0	0	0	1	0	0	0	0
PRairie ISLAND 1	2	0	0	0	0	1	2	0
PRairie ISLAND 2	1	1	1	0	0	0	0	0
QUAD CITIES 1	0	0	0	1	0	0	0	0
QUAD CITIES 2	0	0	0	0	0	0	0	0
RANCHO SECO	0	0	0	0	0	0	0	3
RIVER BEND	2	0	0	0	0	0	0	0
ROBINSON 2	4	0	0	0	0	0	0	0
SALEM 1	0	0	0	0	0	0	0	0
SALEM 2	0	1	2	0	0	0	0	0
SAN ONOFRE 1	0	0	0	0	0	0	0	0
SAN ONOFRE 2	1	0	0	0	0	0	0	0
SAN ONOFRE 3	0	0	0	0	0	1	0	0
SEABROOK								0
SEQUOYAH 1	0	1	6	1	2	3	1	0
SEQUOYAH 2	0	0	0	3	1	0	1	0
SHEARON HARRIS 1				3	1	0	1	2

~~PREDECISIONAL~~

TABLE 11.8

SIGNIFICANT EVENT FREQUENCY

(The latest quarter data are preliminary)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4	-- QUARTERLY DATA
ARKANSAS 1	1	1	0	1	0	0	1	0	
ARKANSAS 2	0	1	1	0	0	1	0	0	
BEAVER VALLEY 1	0	0	0	0	0	0	0	0	
BEAVER VALLEY 2									
BIG ROCK POINT	0	0	0	0	0	0	0	1	
BRAIDWOOD 1								0	
BROWNS FERRY 1	0	1	0	0	1	0	0	0	
BROWNS FERRY 2	0	1	0	0	0	0	0	0	
BROWNS FERRY 3	0	1	0	0	0	0	0	1	
BRUNSWICK 1	1	1	1	0	0	0	1	0	
BRUNSWICK 2	1	0	0	0	1	0	0	0	
BYRON 1	0	0	1	0	0	2	0	0	
BYRON 2									
CALLAWAY	0	0	0	0	0	0	0	1	
CALVERT CLIFFS 1	0	0	1	0	1	2	1	0	
CALVERT CLIFFS 2	0	0	1	0	1	2	1	0	
CATAWBA 1	0	2	1	0	0	0	0	0	
CATAWBA 2	0	2	0	0	1	0	0	0	
CLINTON 1									
COOK 1	0	0	0	1	0	0	0	0	
COOK 2	0	0	1	0	0	0	0	0	
COOPER STATION	0	1	0	0	0	0	0	0	
CRYSTAL RIVER 3	1	0	0	0	0	0	0	0	
DAVIS-BESSE	0	0	0	0	0	0	0	1	
DIABLO CANYON 1	1	0	0	0	1	0	1	0	
DIABLO CANYON 2	2	0	2	0	0	1	0	0	
DRESDEN 2	0	1	0	0	0	0	0	0	
DRESDEN 3	1	1	0	0	0	0	1	0	
DUANE ARNOLD	0	0	0	0	0	0	0	0	
PARLEY 1	0	0	1	0	0	0	0	0	
PARLEY 2	0	0	0	0	0	0	0	0	
FERMI 2	1	0	0	0	0	0	0	2	
FITZPATRICK	0	0	0	0	0	0	1	1	
FORT CALHOUN	0	0	0	0	0	0	0	0	
FORT ST. VRAIN	0	0	0	0	1	0	1	0	
GINNA	0	2	0	0	0	0	0	1	
GRAND GULF	0	0	0	0	0	0	0	0	
HADDAM NECK	1	0	1	0	0	0	0	0	
HATCH 1	2	0	0	0	0	0	0	0	
HATCH 2	0	1	0	1	0	0	0	0	
HOPE CREEK	1	0	0	1	0	0	0	0	
INDIAN POINT 2	0	2	2	2	3	0	0	1	

~~PPD/DO/S/CMA~~

TABLE 11.8 (CONT.)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
INDIAN POINT 3	0	1	0	0	0	1	0	0
KIWAUNEE	0	1	0	0	0	0	0	0
LASALLE 1	1	0	0	1	0	0	0	0
LASALLE 2	0	1	0	1	0	0	0	0
LIMERICK	0	0	0	0	0	0	0	0
MAINE YANKEE	1	0	0	0	0	0	0	0
MCGUIRE 1	1	0	0	1	0	0	0	0
MCGUIRE 2	1	0	1	1	1	0	1	0
MILLSTONE 1	1	0	0	0	0	0	1	0
MILLSTONE 2	0	0	0	0	0	0	0	0
MILLSTONE 3	0	0	0	0	0	0	0	0
MONTICELLO	0	3	0	0	0	1	0	0
NINE MILE PT. 1	0	0	0	0	0	0	0	0
NINE MILE PT. 2								
NORTH ANNA 1	1	0	0	0	0	1	1	0
NORTH ANNA 2	2	1	0	0	0	0	0	1
OCONEE 1	0	1	0	1	0	0	1	0
OCONEE 2	0	0	0	1	0	1	0	0
OCONEE 3	0	0	1	1	1	1	0	0
OYSTER CREEK	2	0	0	1	1	1	1	0
PALISADES	2	1	1	0	0	1	1	0
PALO VERDE 1	2	1	1	0	0	0	1	0
PALO VERDE 2	0	3	0	1	0	0	1	0
PALO VERDE 3								
PEACH BOTTOM 2	0	1	0	0	1	0	0	0
PEACH BOTTOM 3	0	2	0	0	1	0	0	0
PERRY 1	0	2	2	0	1	1	0	2
PILGRIM	1	1	0	1	0	0	0	1
POINT BEACH 1	0	0	0	1	0	0	0	0
POINT BEACH 2	0	0	1	0	0	0	0	0
PRAIRIE ISLAND 1	0	0	0	0	0	0	1	0
PRAIRIE ISLAND 2	0	0	0	0	0	0	0	0
QUAD CITIES 1	0	0	0	0	0	0	0	0
QUAD CITIES 2	0	0	0	0	0	0	0	0
RANCHO ECO	0	1	1	1	1	1	0	0
RIVER BEND	1	3	0	0	0	0	1	0
ROBINSON 2	1	0	0	0	0	0	0	1
SALEM 1	2	2	0	0	0	0	0	0
SALEM 2	0	1	1	0	0	0	0	1
SAN ONOFRE 1	0	0	2	0	0	0	1	1
SAN ONOFRE 2	1	0	1	0	0	0	0	0
SAN ONOFRE 3	0	1	1	0	0	0	1	0
SEABROOK								
SEQUOYAH 1	0	0	0	0	0	0	0	0
SEQUOYAH 2	0	0	0	0	0	0	0	0
SHEARON HARRIS 1				0	0	0	0	1

TABLE 11.9

~~PRELIMINARY~~

SAFETY SYSTEM FAILURES

-- QUARTERLY DATA

(The latest quarter data are preliminary)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
ARKANSAS 1	1	0	0	0	0	0	0	0
ARKANSAS 2	1	1	0	0	0	0	0	0
BEAVER VALLEY 1	0	0	0	0	1	0	0	0
BEAVER VALLEY 2						0	2	0
BIG ROCK POINT	0	0	0	0	1	0	0	0
BRAIDWOOD 1					2	3	0	1
BROWNS FERRY 1	0	0	0	0	1	1	1	1
BROWNS FERRY 2	0	0	0	0	2	0	3	0
BROWNS FERRY 3	0	0	0	0	2	0	1	0
BRUNSWICK 1	0	0	1	1	3	2	1	0
BRUNSWICK 2	2	0	0	0	6	2	0	1
BYRON 1	0	0	0	0	0	5	1	0
BYRON 2					0	2	0	0
CALJAWAY	0	1	0	0	0	1	3	2
CALVERT CLIFFS 1	1	0	0	0	3	0	0	0
CALVERT CLIFFS 2	0	0	0	0	0	1	0	0
CATAWBA 1	1	0	1	0	2	1	0	1
CATAWBA 2	0	0	0	0	1	1	0	1
CLINTON 1			1	0	0	1	0	1
COOK 1	1	1	0	0	0	0	3	0
COOK 2	1	1	0	0	0	0	2	0
COOPER STATION	2	1	0	1	1	0	1	0
CRYSTAL RIVER 3	1	0	0	0	1	0	2	1
DAVIS-BESSE	1	0	2	2	0	0	0	1
DIABLO CANYON 1	0	0	1	0	0	1	0	1
DIABLO CANYON 2	1	0	0	0	1	3	0	1
DRESDEN 2	0	0	0	0	0	2	1	2
DRESDEN 3	0	0	1	0	2	0	7	0
DUANE ARNOLD	2	2	1	3	1	2	1	1
PARLEY 1	0	0	0	0	1	0	0	1
PARLEY 2	1	0	0	0	0	0	0	1
FERMI 2	0	1	0	0	1	3	4	1
FITZPATRICK	2	2	2	2	0	0	3	0
PORT CALHOUN	0	0	0	0	1	3	0	0
PORT ST. VRAIN	0	0	1	1	2	0	0	0
GINNA	0	0	0	0	3	0	0	0
GRAND GULF	0	3	0	1	1	0	0	0
HADDAM NECK	2	2	1	0	0	0	1	0
HATCH 1	0	1	1	1	0	3	2	1
HATCH 2	0	0	3	2	0	2	3	2
HOPE CREEK			1	3	1	2	2	0
INDIAN POINT 2	0	0	0	0	2	3	0	0

~~PREDECISIONAL~~

TABLE 11.6 (CONT.)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
INDIAN POINT 3	0	0	0	0	0	1	0	0
KENWAUNEE	1	0	0	0	1	0	0	0
LASALLE 1	0	0	1	1	2	0	1	2
LASALLE 2	1	1	1	0	0	0	1	5
LIMERICK	0	1	0	0	3	3	1	3
MAINE YANKEE	0	0	0	0	0	1	0	0
MCGUIRE 1	2	1	1	2	2	0	2	4
MCGUIRE 2	2	0	1	1	2	0	0	3
MILLSTONE 1	0	0	0	1	0	2	3	0
MILLSTONE 2	0	3	0	2	0	0	0	0
MILLSTONE 3	4	0	0	0	0	1	0	1
MONTICELLO	2	1	1	0	0	2	0	1
NINE MILE PT. 1	0	1	1	0	2	0	1	0
NINE MILE PT. 2	0	1	1	0	1	3	5	7
NORTH ANNA 1	0	0	0	1	0	3	0	0
NORTH ANNA 2	0	0	0	1	1	1	1	0
OCONEE 1	0	0	0	1	2	0	0	1
OCONEE 2	0	0	0	1	2	0	0	0
OCONEE 3	0	0	0	1	2	2	0	0
OYSTER CREEK	1	1	3	3	3	2	0	0
PALISADES	0	0	3	0	4	1	0	3
PALO VERDE 1	0	2	0	0	1	0	0	2
PALO VERDE 2	0	2	0	0	1	0	0	0
PALO VERDE 3	0	2	0	0	1	0	0	0
PEACH BOTTOM 2	0	0	1	0	0	2	5	1
PEACH BOTTOM 3	1	0	0	0	0	1	2	0
PERRY 1	0	2	0	5	9	6	7	6
PILGRIM	0	2	2	0	2	1	1	1
POINT BEACH 1	0	0	0	0	0	0	1	0
POINT BEACH 2	0	0	0	0	0	0	1	0
PRAIRIE ISLAND 1	0	0	0	0	1	1	0	1
PRAIRIE ISLAND 2	0	0	0	0	0	0	0	1
QUAD CITIES 1	0	1	1	3	2	1	2	2
QUAD CITIES 2	2	3	0	1	4	0	1	2
RANCHO SECO	2	2	1	6	4	3	3	2
RIVER BEND	3	0	1	2	0	2	2	1
ROBINSON 2	1	0	0	0	0	6	4	5
SALEM 1	0	2	1	0	0	6	4	5
SALEM 2	0	2	1	0	0	2	2	1
SAN ONOFRE 1	0	0	0	0	0	1	2	3
SAN ONOFRE 2	1	0	0	0	0	0	0	0
SAN ONOFRE 3	0	0	0	0	0	0	0	0
SEABROOK	0	0	1	0	0	0	0	0
SEQUOYAH 1	0	0	0	1	3	1	7	4
SEQUOYAH 2	0	0	0	1	2	1	5	4
SHEARON HARRIS 1				0	2	1	1	1

~~PREDECISIONAL~~

TABLE 11.10

NAME	-- QUARTERLY DATA							
	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
ARKANSAS 1	20	1	0	79	11	0	4	1
ARKANSAS 2	2	3	18	5	0	36	12	1
BEAVER VALLEY 1	2	0	23	1	3	3	0	0
BEAVER VALLEY 2								
BIG ROCK POINT	6	0	12	0	0	4	29	27
BLAIDWOOD 1							6	9
BROWNS FERRY 1	0	100	100	100	100	100	56	11
BROWNS FERRY 2	0	100	100	100	100	100	100	100
BROWNS FERRY 3	0	100	100	100	100	100	100	100
BRUNSWICK 1	7	8	13	4	0	33	4	0
BRUNSWICK 2	0	54	2	3	16	4	0	0
BYRON 1	6	0	24	2	0	0	5	0
BYRON 2								
CALLAWAY	0	19	5	0	1	3	21	4
CALVERT CLIFFS 1	2	1	2	6	13	62	16	5
CALVERT CLIFFS 2	2	2	12	0	1	0	1	11
CATAWBA 1	8	30	33	2	18	1	9	6
CATAWBA 2							9	90
CLINTON 1		86	45	54	15	14	33	6
COOK 1	0	37	20	1	0	37	18	2
COOK 2	10	0	3	0	0	17	0	1
COOPER STATION	2	0	2	0	5	11	23	11
CRYSTAL RIVER 3	99	89	0	40	24	0	7	0
DAVIS-BESSE	100	100	100	92	9	0	14	2
DIABLO CANYON 1	3	0	4	0	10	3	0	7
DIABLO CANYON 2	14	5	5	0	15	90	0	7
DRESDEN 2	14	34	8	0	0	6	18	3
DRESDEN 3	0	0	25	13	6	16	39	0
DUANE ARNOLD	0	6	0	10	0	98	0	38
FARLEY 1	2	1	3	0	3	1	0	11
FARLEY 2	2	2	6	0	17	0	0	67
FERMI 2								
FITZPATRICK	0	5	98	91	36	66	76	12
FORT CALHOUN	0	0	2	2	0	2	11	3
FORT ST. VRAIN	100	50	100	100	100	24	73	89
GINNA	0	0	2	1	0	0	0	0
GRAND GULF	15	5	13	0	0	0	0	0
HADDAM NECK	0	12	26	15	1	2	6	0
HATCH 1	0	12	1	1	3	5	3	0
HATCH 2	5	5	8	9	1	2	6	0
HOPE CREEK								
INDIAN POINT 2	4	35	3	12	3	3	7	22
							0	0

~~PREDICTIONAL~~

TABLE 11.10 (CONT.)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
INDIAN POINT 3	1	10	70	1	4	3	0	2
KEWAUNEE	0	2	0	0	0	0	0	0
LASALLE 1	0	0	0	3	22	5	17	3
LASALLE 2	6	49	0	0	0	20	0	0
LIMERICK	10	0	10	0	6	0	2	0
MAINE YANKEE	21	3	2	1	0	36	51	0
MCGUIRE 1	6	2	65	34	4	1	12	4
MCGUIRE 2	3	50	3	23	4	0	5	2
MILLSTONE 1	2	0	0	16	1	0	8	0
MILLSTONE 2	0	1	7	6	21	1	2	1
MILLSTONE 3	35	7	27	0	3	14	1	0
MONTICELLO	0	0	0	3	4	1	1	0
NINE MILE PT. 1	10	2	16	0	0	0	0	28
NINE MILE PT. 2							79	59
NORTH ANNA 1	23	3	37	0	0	2	82	25
NORTH ANNA 2	0	8	14	0	0	0	0	0
OCONEE 1	1	20	12	18	0	1	0	0
OCONEE 2	1	0	2	3	2	1	0	0
OCONEE 3	1	0	1	32	0	12	1	0
OYSTER CREEK	7	0	0	63	41	30	13	59
PALISADES	66	50	100	100	100	15	22	56
PALO VERDE 1	39	47	30	7	36	4	38	0
PALO VERDE 2		21	39	7	22	9	1	0
PALO VERDE 3								
PEACH BOTTOM 2	20	12	24	19	0	0	100	12
PEACH BOTTOM 3	17	2	38	18	23	100	100	0
PERRY 1				0	0	0	0	0
PILGRIM	27	95	100	0	0	0	0	38
POINT BEACH 1	0	2	0	0	0	0	0	0
POINT BEACH 2	0	1	0	0	0	0	0	1
PRairie ISLAND 1	0	0	0	1	14	0	0	0
PRairie ISLAND 2	0	1	0	0	0	0	0	0
QUAD CITIES 1	0	1	3	6	1	0	0	0
QUAD CITIES 2	2	0	0	8	10	0	39	13
RANCHO SECO	100	100	100	100	100	100	100	100
RIVER BEND	37	26	16	5	6	0	3	54
ROBINSON 2	25	1	12	0	5	0	22	1
SALEM 1	8	7	22	0	9	2	0	0
SALEM 2	21	3	42	19	3	7	16	0
SAN ONOFRE 1	0	0	44	7	3	0	3	0
SAN ONOFRE 2	3	12	7	4	4	0	0	8
SAN ONOFRE 3	40	2	3	0	0	4	0	2
SEABROOK								
SEQUOYAH 1	100	100	100	100	100	100	100	100
SEQUOYAH 2	100	100	100	100	100	100	100	100
SHEARON HARRIS 1					34	8	20	1

~~PREDECISIONAL~~

TABLE 11.11

EQUIPMENT FORCED OUTAGES/1000 CRITICAL HRS
 (The latest quarter data are preliminary) -- QUARTERLY DATA

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
ARKANSAS 1	0.58	0.46	0.00	0.00	2.07	0.00	0.92	0.64
ARKANSAS 2	0.47	1.15	2.36	0.48	0.00	0.71	1.02	0.46
BEAVER VALLEY 1	0.47	0.00	0.00	0.46	0.47	1.56	0.00	0.00
BEAVER VALLEY 2							13.27	4.67
BIG ROCK POINT	0.49	0.00	1.02	0.00	3.45	0.63	2.13	1.56
BRAIDWOOD 1							1.89	1.00
BROWNS FERRY 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BROWNS FERRY 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BROWNS FERRY 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRUNSWICK 1	0.49	0.47	1.00	0.92	0.94	2.56	0.47	0.00
BRUNSWICK 2	0.00	3.46	0.48	0.54	2.78	0.47	0.00	0.00
BYRON 1	0.56	0.00	0.59	0.46	0.00	0.00	0.47	0.00
BYRON 2					0.00	2.51	2.72	1.29
CALLAWAY	0.00	2.58	1.87	0.00	1.40	0.81	0.00	0.89
CALVERT CLIFFS 1	0.50	0.46	0.46	0.00	0.52	0.00	1.07	0.50
CALVERT CLIFFS 2	0.47	0.93	2.03	0.00	1.15	0.00	0.94	1.44
CATAWBA 1	1.97	3.11	4.26	1.85	4.41	0.47	1.48	8.77
CATAWBA 2		4.79	0.83	2.85	11.99	1.55	3.30	0.52
CLINTON 1						1.11	1.61	0.85
COOK 1	0.00	0.73	1.65	0.46	0.00	2.29	0.00	0.48
COOK 2	0.74	0.00	0.50	0.00	0.00	0.60	2.59	0.00
COOPER STATION	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00
CRYSTAL RIVER 3	42.37	0.00	0.00	1.68	1.21	0.00	1.34	0.00
DAVIS-BESSE	0.00	0.00	0.00	16.85	0.99	1.54	0.52	0.46
DIABLO CANYON 1	0.47	0.00	0.00	0.00	0.99	0.94	0.00	0.47
DIABLO CANYON 2	3.54	0.94	0.94	0.00	1.46	0.00	0.00	0.49
DRESDEN 2	0.97	0.00	1.43	0.0	0.00	0.61	1.22	0.00
DRESDEN 3	0.00	0.00	3.95	0.5	1.69	0.97	2.07	0.00
DUANE ARNOLD	0.00	0.00	0.00	1.80	0.00	0.00	0.00	0.55
FARLEY 1	0.47	0.45	1.39	0.00	1.40	0.00	0.00	0.00
FARLEY 2	0.47	0.40	0.95	0.00	1.11	0.00	0.00	2.91
FERMI 2			3.45	4.86	1.49	2.57	1.54	0.02
FITZPATRICK	0.00	0.00	0.47	0.50	0.00	0.61	1.47	0.47
FORT CALHOUN	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00
FORT ST. VRAIN	0.00	0.00	0.00	0.00	0.00	0.58	2.84	4.04
GINNA	0.00	0.00	0.92	0.00	0.00	0.00	0.00	0.00
GRAND GULF	0.52	0.00	0.00	0.00	0.00	0.46	0.00	0.00
HADDAM NECK	0.00	1.54	2.38	0.00	0.46	0.47	0.00	0.00
HATCH 1	0.00	2.29	0.47	0.48	0.47	0.00	0.92	0.00
HATCH 2	0.48	0.98	2.29	1.74	0.00	0.46	1.00	0.00
HOPE CREEK			2.62	0.00	0.50	0.00	1.12	2.49
INDIAN POINT 2	0.00	4.67	0.46	2.04	0.00	0.47	0.00	0.00

~~PREDECISIONAL~~

TABLE 11.11 (CONT.)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
INDIAN POINT 3	0.93	3.32	6.80	0.00	1.51	1.52	0.00	0.00
KEWAUKEE	0.00	1.71	0.00	0.00	0.00	0.00	0.45	0.00
LASALLE 1	0.00	0.00	0.00	0.00	3.42	0.72	0.00	0.47
LASALLE 2	1.46	0.86	0.00	0.00	0.00	3.35	0.00	0.00
LIMERICK	1.10	0.00	0.50	0.00	0.48	0.00	0.00	0.00
MAINE YANKEE	0.00	0.95	0.57	0.92	0.00	0.00	0.00	0.00
MCGUIRE 1	1.95	0.94	2.26	0.68	2.82	0.46	1.44	0.86
MCGUIRE 2	1.19	0.00	4.62	0.58	3.83	0.00	0.98	1.38
MILLSTONE 1	0.00	0.00	0.00	0.52	0.00	0.00	0.92	0.00
MILLSTONE 2	0.00	0.00	0.54	2.45	0.58	0.00	0.92	0.46
MILLSTONE 3	0.00	1.28	1.83	0.00	1.18	1.73	0.00	0.00
MONTICELLO	0.00	0.00	0.00	0.46	1.00	0.00	0.45	0.00
NINE MILE PT. 1	0.00	3.40	1.06	0.00	0.00	0.00	0.00	3.09
NINE MILE PT. 2								
NORTH ANNA 1	1.17	1.39	0.68	0.00	0.00	0.00	3.17	0.90
NORTH ANNA 2	0.00	0.99	0.00	0.00	0.00	0.00	3.88	1.79
OCONEE 1	1.92	2.65	4.62	0.55	1.62	0.46	0.00	0.00
OCONEE 2	1.39	0.00	9.10	1.10	4.20	0.49	0.00	0.00
OCONEE 3	0.93	0.00	1.37	1.54	0.00	1.21	0.00	0.00
OYSTER CREEK	0.98	0.00	0.00	25.77	2.14	1.19	1.90	0.00
PALISADES	3.06	1.72	0.00	0.00	0.00	1.55	2.84	1.90
PALO VERDE 1	1.07	0.00	3.14	0.97	0.00	0.95	0.00	0.00
PALO VERDE 2			3.11	7.77	0.48	3.10	0.50	0.00
PALO VERDE 3								
PEACH BOTTOM 2	2.37	0.51	1.17	0.52	0.00	0.00	0.00	4.30
PEACH BOTTOM 3	1.61	0.00	3.53	2.48	1.10	0.00	0.00	0.00
PERRY 1				0.00	0.00	0.00	0.00	0.00
PILGRIM	1.90	14.49	0.00	0.00	0.00	0.00	0.00	2.14
POINT BEACH 1	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.00
POINT BEACH 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRAIRIE ISLAND 1	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00
PRAIRIE ISLAND 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
QUAD CITIES 1	0.00	0.49	0.96	0.00	0.48	0.00	0.00	0.00
QUAD CITIES 2	0.00	0.00	0.00	0.00	1.96	0.00	0.74	9.17
RANCHO SECO	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.54
RIVER BEND	4.06	2.00	1.68	1.25	0.97	0.51	0.00	0.00
ROBINSON 2	3.71	0.00	0.00	0.45	0.00	0.00	4.00	0.00
SALEM 1	2.18	3.05	2.30	0.00	1.99	0.00	0.00	0.00
SALEM 2	0.53	1.41	2.10	5.91	0.95	1.07	0.00	0.00
SAN ONOFRE 1	0.00	0.00	1.87	1.05	0.00	0.00	0.47	0.00
SAN ONOFRE 2	0.59	1.76	1.94	0.00	0.48	0.00	0.00	1.92
SAN ONOFRE 3	0.71	0.46	0.46	0.00	0.00	0.48	0.00	0.00
SEABROOK								
SEQUOYAH 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SEQUOYAH 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHEARON HARRIS 1					2.64	1.63	2.30	0.00

~~PREDECISIONAL~~

TABLE 11.12

CRITICAL HOURS

(The latest quarter data are preliminary) -- QUARTERLY DATA

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
ARKANSAS 1	1728	2173	1564	72	1935	2183	2177	1561
ARKANSAS 2	2116	1738	423	2093	2160	1413	1956	2186
BEAVER VALLEY 1	2117	1104	842	2182	2126	1278	2208	1727
BEAVER VALLEY 2								
BIG ROCK POINT	2032	2183	1963	2209	579	1597	603	1714
RAIDWOOD 1						369	2117	1921
BROWNS FERRY 1	0	0	0	0	0	0	1060	2000
BROWNS FERRY 2	0	0	0	0	0	0	0	0
BROWNS FERRY 3	0	0	0	0	0	0	0	0
BRUNSWICK 1	2028	2122	2004	2163	1064	391	2125	
BRUNSWICK 2	0	289	2093	1851	1801	2110	2208	2209
BYRON 1	1778	2183	1591	2169	1058	815	2128	2209
BYRON 2								
CALLAWAY	1416	1548	2135	2209	1723	1592	1468	1549
CALVERT CLIFFS 1	1993	2183	2170	559	1909	1240	1724	1126
CALVERT CLIFFS 2	2119	2142	1973	2208	1733	857	1866	1983
CATAWBA 1	2031	1610	704	1080	1816	0	2121	2085
CATAWBA 2		418	1209	1052	1836	2116	2029	114
CLINTON 1					1941	1515	1515	1923
COOK 1	2160	1367	1822	2187	509	1799	1869	1173
COOK 2	1353	0	1999	2209	2160	1749	0	2092
COOPER STATION	2132	2183	2177	78	1479	1679	1158	1966
CRYSTAL RIVER 3	24	266	2208	1193	2009	1998	2208	2209
DAVIS-BESSE	0	0	0	178	1657	2183	1494	0
DIABLO CANYON 1	2129	2183	1429	227	2016	1301	1933	2176
DIABLO CANYON 2	847	2119	2121	2209	2061	2134	2208	2122
DRESDEN 2	2067	1512	2097	1434	72	2208	2058	
DRESDEN 3	0	0	760	2006	1778	1649	1637	2183
DUANE ARNOLD	1767	1903	2016	1662	2067	1449	1449	2209
FARLEY 1	2126	2169	2166	816	1694	83	2069	1822
FARLEY 2	2130	1110	2100	2209	2136	1957	2208	2007
FERMI 2	0	0	580	823	1803	2183	2208	344
FITZPATRICK	1832	2105	2124	2015	1345	1168	649	1986
FORT CALHOUN	1965	2183	2129	2209	1571	1645	2041	2148
FORT ST. VRAIN	1091	1366	0	0	621	2208	2209	
GINNA	1170	2183	2176	2188	1710	703	495	
GRAND GULF	1923	2097	1437	167	2183	2208	2209	
HADDAM NECK	87	1297	1679	1998	2026	2157	2119	891
HATCH 1	0	1311	2132	2078	2136	2149	420	0
HATCH 2	2091	2036	1750	574	2141	678	2169	2209
HOPE CREEK		32	1144	1494	1989	2165	2005	2209
INDIAN POINT ?	321	643	2171	1964	1924	2119	1788	1609
							2208	96

~~PREDECISIONAL~~

TABLE 11.12 (CONT.)

NAME	86-1	86-2	86-3	86-4	87-1	87-2	87-3	87-4
INDIAN POINT 3	2145	1508	736	2193	1983	659	674	2180
KEWAUNEE	1416	1752	2208	2209	1314	2136	2202	2209
LASALLE 1	0	0	240	2156	1753	1391	330	2135
LASALLE 2	2057	1157	1192	2209	66	298	2208	2209
LIMERICK	1824	1104	2009	2209	2064	1073	781	2209
MAINE YANKEE	1735	2115	1757	2184	2064	336	1114	2209
MCGUIRE 1	2047	1066	442	1467	2128	2158	1390	1160
MCGUIRE 2	1635	201	2165	1720	2090	735	2051	2169
MILLSTONE 1	2125	2034	2208	1909	2142	1583	1088	2158
MILLSTONE 2	2160	2176	1855	408	1733	2171	2169	2169
MILLSTONE 3	788	1560	1644	2209	1690	1737	2192	731
MONTICELLO	2160	710	1949	2166	1997	2123	2198	857
NINE MILE PT. 1	1434	294	1886	2209	2160	2183	2208	1620
NINE MILE PT. 2						497	947	1113
NORTH ANNA 1	1716	2159	1476	2209	2160	487	258	1680
NORTH ANNA 2	1215	2020	1900	2167	2160	1972	1297	1413
OCONEE 1	1041	1134	1949	1825	1856	2162	1522	1374
OCONEE 2	2152	2183	1099	1819	2143	2051	2192	2209
OCONEE 3	2157	2183	2196	1300	52	1673	2208	2209
OYSTER CREEK	2041	271	0	78	1403	1682	1583	951
PALISADES	327	1163	0	0	0	1937	1762	528
PALO VERDE 1	933	904	1594	2067	1059	2096	1390	47
PALO VERDE 2		965	773	2066	645	2015	2186	2146
PALO VERDE 3								922
PEACH BOTTOM 2	1685	1972	1708	1909	1730	0	0	0
PEACH BOTTOM 3	622	1868	1416	2014	1823	0	0	0
PERRY 1		1	603	826	1098	1231	262	1401
PILGRIM	1578	138	0	0	0	0	0	0
POINT BEACH 1	2160	1333	2208	2205	2160	828	2208	2194
POINT BEACH 2	2160	2179	2142	781	2126	2139	2181	1137
PRAIRIE ISLAND 1	1512	1984	2208	2195	1874	1002	2202	2209
PRAIRIE ISLAND 2	2160	2161	2196	1455	2160	2183	2208	2209
QUAD CITIES 1	120	2036	2091	1904	2098	2183	1753	218
QUAD CITIES 2	1934	2079	1488	226	1533	2183	1360	1866
RANCHO SECO	0	0	0	0	0	0	0	0
RIVER BEND	1230	1497	1781	798	2071	1946	1763	215
ROBINSON 2	808	2156	1954	2201	1975	420	1750	2209
SALEM 1	1834	1312	1742	2209	2010	2149	2208	46
SALEM 2	1731	2133	1428	338	2101	1862	1548	912
SAN ONOFRE 1	0	0	1068	1907	2101	933	2141	2209
SAN ONOFRE 2	1707	567	2065	2141	2069	2183	1419	522
SAN ONOFRE 3	1402	2153	2167	1701	644	2093	2208	2190
SEABROOK								
SEQUOYAH 1	0	0	0	0	0	0	0	0
SEQUOYAH 2	0	0	0	0	0	0	0	0
SHEARON HARRIS 1					1134	1846	1738	1495