Enclosure 3
August 2009 Reactor Oversight Process Monthly Meeting Handouts
Meeting Summary of the 08/12/09 Reactor Oversight Process
Working Group Public Meeting
Dated August 27, 2009

Emergency **R**esponse **D**ata **S**ystem

ERDS Modernization

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August 2009

ERDS Modernization Background

- **Drivers For Modernization**
  - Obsolete Hardware
  - Reliability Issues

- **Phased Approach To Modernization**
  - Minimized Impact On Licensees
  - Phase 1 Hardware And Software Upgrade
  - Phase 2 Communication Technology Replacement

ERDS Modernization Phase 1

- **Outcomes Of Phase 1**
  - Updated ERDS Infrastructure (Hardware And Software)
  - Added Flexibility Of Web Based Client For States

- **Cut-over Completed On March 3, 2008**

ERDS Modernization Phase 2

- **Planned Outcomes For Phase 2**
  - Migrate Away From Obsolete Modem Technology
  - Update Data Transmission Method
  - Improve Security And Reliability
  - Increase Capability For Multiple Events
  - Include Flexibility For Future Enhancements

ERDS Modernization Phase 2

- **Engagement With Industry**
  - Information Technology Working Group
  - Nuclear Information Technology Strategic Leadership Group
  - Prototype For Virtual Private Network
  - ROP Working Group

Virtual Private Network Transition

- **VPN device**
  - Industry Proven Technology For Transmitting Secure Data From Point To Point
  - Reduce Maintenance Burden On Licensees
  - Assist In Addressing IT Cyber Security Concerns

Virtual Private Network Transition

- **Transition Plan**
  - Provides Information On Scheduling Site Transitions
  - Details The Technical Requirement Of The Equipment Tested
  - Provides Lessons Learned From The Prototype

Timeline

- **ERDS Modernization Phase 2**
  - – Final Design Approval, June 2008
  - – Prototype Evaluation, July - December 2008
  - – Federal Security Assessments, January 2009
  - – Equipment Procurement And Configuration, April 2009
  - – Site Transitions May 2009 – October 2010
    - 44% Of Licensees Have Expressed Interest
    - 1 Successful And 6 Scheduled Transitions

Timeline

- **ERDS Generic Communication**
  - Regulatory Issue Summary, July 2009
  - ERDS Newsletter, August 2009

Q & A

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Proposed Addition to
IMC 0608 Performance Indicator Program

0608-07 PI Data Submission

07.03 PI Submission for 10 CFR Part 50 Plants with a New Operating License and Plants Restarting from Extended Shutdown

Newly licensed 10 CFR Part 50 plants undergoing initial start-up power operations and those plants that are restarted from extended shutdown conditions may lack historical operating and performance data needed for the Performance Indicator (PI) program. In these instances, much of the PI data available at the time of initial start up of a new plant or a return to power operations after an extended shutdown may be incomplete or invalid. Additional plant operational data accumulated from further plant operation at power may be required in order to validate the full set of PIs. Note that the ROP PI program only applies to 10 CFR Part 50 licensees. 10 CFR Part 52 plants and other advanced reactor designs are not within the scope of the ROP PI program.

The purpose of this section is to discuss the submission of PI data for the above plants that may lack sufficient PI data.

There are several situations in which the following guidance would apply:

- Initial start-up of a new Part 50 plant,
- Initial start-up of a new plant at an existing site containing other operating units,
- Restart of an operating unit after an extended period of shutdown operations,
- Restart of an operating unit that had been in extended shutdown due to performance problems (IMC 0350 plant).

If, at any time a plant is not reporting a PI, or a PI becomes invalid due to a lack of confidence in the data, the agency will continue its oversight of the licensee via enhanced monitoring through the inspection program.

PI data corresponding to the Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Occupational Radiation Safety, Public Radiation Safety, and Security cornerstones of the ROP shall be submitted according to the following:

Initiating Events

Since the Unplanned Scrams per 7000 Critical Hours and Unplanned Power Changes per 7000 Critical Hours are rate-type PIs and use critical hours in their calculations, some period of time is needed before the results are used in the assessment program. NEI 99-02 states that these indicators are not considered valid if there are fewer than 2400 critical hours in the previous four quarters. Based on this information, the PIs should normally be used if the plant has more than 2400 critical hours in the first two full quarters after initial startup or resumption of plant operation. Since the PI uses four quarters of data, 1750 hours should be the default value for those quarters where the plant was in a shutdown condition.

With respect to the Unplanned Scrams with Complications PI, since this indicator counts the number of scrams and does not use critical hours in its calculation, it can be implemented immediately on startup. The first PI data submittal should be for the quarter in which the plant achieved initial startup or restart.

Mitigating Systems

The Mitigating Systems Performance Index (MSPI) PIs require twelve quarters of historical data to make them meaningful representations of system performance. Newly licensed plants as well as those plants restarting from extended shutdown may lack appropriate historical data required by MSPI until the plant has been operating for twelve quarters. Despite this, it is in the best interest of the NRC and the public to have access to this data, even if it is not being used for ROP calculations. Therefore plants that have operational data should submit MSPI data to the NRC prior to completing 12 quarters of historical operational data. The staff should discuss with each licensee to arrive at an agreeable time period in which the MSPIs would be submitted, since the nature and impact of submitting MSPI data with less than 12 quarters is different for each licensee. The NRC will make it clear to the public that MSPI data that constitutes less than 12 quarters of historical data may be used as information only and will not have Action Matrix assessment implications.

The Safety System Functional Failure (SSFF) PI counts the number of events or conditions that prevented, or could have prevented, the fulfillment of the safety function of structures or systems over the previous four quarters in accordance with 10 CFR 50.73(a)(2)(5). Since the PI value is equal to the number of events and does not use critical hours in its calculation, it can be implemented immediately on startup of a new plant. The first data submittal for a new plant should be for the quarter in which the plant achieved initial startup. Existing plants (i.e., plants that have previously submitted ROP PI data) in extended shutdowns should continue to report the data.

Barrier Integrity

The Reactor Coolant System Specific Activity and Reactor Coolant System Leakage PIs use maximum monthly values and Technical Specification limits in their calculations. Since they use the maximum monthly value and do not depend on critical hours or any other rate-type information in their calculations, they both can be implemented on initial startup. The first PI data submittal for a new plant should be for the quarter in which the plant started achieved initial startup. Existing plants should continue to report data as required. Since these values do not depend on plant operation, for existing plants that are in an extended shutdown, they would presumably be able to continue to report data throughout the shutdown period.

Emergency Preparedness

The Drill/Exercise Performance PI measures the percentage of timely and accurate classifications, notifications, and protective action recommendations (PARs) out of the total number of opportunities to perform classifications, notifications, and PARs, while the Emergency Response Organization Drill Participation PI measures the percentage of number of emergency response organization (ERO) members assigned to key positions that have participated in drill, exercise, or actual events out of the total number of key positions assigned to ERO members. Both of these PIs are measured over the previous 8 quarters of reactor operation. In order to have a statistically relevant amount of data, the first data submittal should occur one calendar year after initial power operations and be based upon all applicable PI data gathered until that time. However, the crossing of a performance threshold may only occur from the quarter where data is officially reported.

The Alert and Notification System (ANS) Reliability PI is very similar to the other Emergency Preparedness PIs in that it is a percentage calculation. It is the number of successful siren-tests out of the total number of siren-tests. However it is measured over the previous four quarters of reactor operation. The first data submittal for the ANS PI should be in the quarter after the final siren system design report has been approved by the Federal Emergency Management Agency. This may occur after power operations have begun.

Existing plants in extended shutdowns should continue to report data as required. Since these values do not depend on plant operation, they would presumably be able to continue to report data throughout the shutdown period.

Occupational Radiation Safety

The Occupational Exposure Control Effectiveness PI counts the number of Technical Specification high radiation area occurrences, very high radiation occurrences, and unintended exposure occurrences over the previous four quarters of reactor operation. Since it counts just the number of events and does not use critical hours in its calculation, it can be implemented immediately on startup. The first data submittal for a new plant should be for quarter in which the plant achieved initial startup. Existing plants in extended shutdowns should continue to report data as required. Since these values do not depend on plant operation, they would presumably be able to continue to report data throughout the shutdown period.

Public Radiation Safety

The RETS/ODCM Radiological Effluent Occurrence PI counts the number of radiological effluent release occurrences per site that exceed the values listed in the table in NEI 99-02, measured over the previous four quarters of plant operation. Since it counts just the number of events and does not use critical hours in its calculation, it can be implemented immediately on startup. The first data submittal for a new plant should be for quarter in which the plant achieved initial startup. Existing plants in extended shutdowns should continue to report data as required. Since these values do not depend on plant operation, they would presumably be able to continue to report data throughout the shutdown period.

Security

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that the related performance indicator, inspection, and assessment information will not be publically available. PI data for newly licensed plants and those restarting from extended shutdown will be submitted based on discussions between the licensee and NRC staff.

NEI Comment Resolution on Integrating Traditional Enforcement Into Assessment

NRC Proposal	NEI Comment Submitted by letter 02/11/2009 ML090690617	Resolution
1. Process TE and Performance Deficiency separately whenever possible Delay enforcement until investigation complete	Agree	No change to staff proposal
2. Each traditional enforcement outcome will receive some level of follow up	Agree	No change to staff proposal
3. SLIV traditional enforcement results triggering more than the minimum level of follow-up should be considered in the mid- and end-of-cycle meeting and reported in the assessment letters	Consider only escalated enforcement	SLIV included since significant flexibility given to the regions in determining the need for follow up. See comment 5
4.	Results of TE follow-up inspection would be reported in integrated inspections reports rather than in a special separate report	Not explicitly addressed in the staff proposal but consistent with the overall thinking. Documentation sections were added to each of the new procedures identifying the section of the reactor inspection report in which the follow up activities should be documented.
5. All traditional enforcement outcomes should be considered in assessment (not just those that are escalated)	Discussed at February 11 public meeting.	No change to staff proposal
6. Counting of number of SLIV TE violations did not differentiate between those that were willful and those that were impeding the regulatory process	Disagree. All traditional enforcement should not be of equal weight. An non-willful failure to report should not be treated the same as a willful violation	Triggers for follow-up inspections adjusted to reflect this comment.

Contact: Mary Ann Ashley, 301-415-1073
Document Date:08/17/2009

NRC Proposal	NEI Comment	Resolution
7..Use IP 92702 Developing specific guidance to follow-up on different numbers and levels of TE	Use IP71152	IP71152 specifically states that the reviews are to be focused on risk and safety significant issues. However, rather than expanding IP 92702, two new procedures were developed to address follow up on traditional enforcement. (IP92722 and IP92723)
8. If 1 or 2 SLIVs in two years, each would receive a limited follow-up	If 2 or more willful in 1 year period, conduct limited follow-up of licensee cause and corrective actions If not willful, DD DRP decide if there is a relationship and if follow-up is needed	Revise criteria for follow-up inspection to the following: For every non-escalated traditional enforcement violation, conduct a limited (1-4 hours) follow-up using IP 92702. For 3 or more SLIV violations in the same traditional enforcement area (willfulness, impeding, or consequences) within 12 months conduct IP 92723, if needed For any SLI or SLII traditional enforcement violation or for 2 or more SLIII traditional enforcement violations within a 12 month period, conduct IP 92722
9. If 3 SLIV or 1 SLIII within a 2 year period, then conduct an inspection of licensee root cause and extent of condition	For every SLIII, conduct an 8 hour inspection of root cause, and extent of cause and condition	
10. If More than 3 SLIV or More than 1 SLIII or Any 1 violation greater than SLIII in two year period, then conduct inspection expanded to include some aspect of safety culture	If 2 SLIII in one year or 1 violation greater than SLIII, then conduct a 16 hour inspection of licensee causal analysis but no focus on safety culture	

Contact: Mary Ann Ashley, 301-415-1073
Document Date:08/17/2009

INSPECTION OBJECTIVES

IP92702 Follow-up on Corrective Actions for Violations and Deviations

INSPECTION OBJECTIVES
01.01 To determine that adequate corrective actions have been implemented for traditional enforcement actions. (Existing objective in procedure.)

IP92722 Follow-up Inspection For Any Severity Level I Or II Traditional Enforcement Violation Or For Two Or More Severity Level III Traditional Enforcement Violation In A 12 Month Period

INSPECTION OBJECTIVES
01.01 To provide assurance that the cause(s) of individual Severity Level I and II violations or multiple Severity Level III traditional enforcement violations are understood.

01.02 To independently assess the extent of condition and the extent of cause for individual SLI and II violations or for multiple SLIII traditional enforcement violations.

01.03 To provide assurance that licensee corrective actions for escalated traditional enforcement violations are sufficient to address the causes and to prevent recurrence

01.04 To review the licensee's evaluation of the contribution of safety culture to the escalated traditional enforcement violations.

IP 92723 Follow Up Inspection For Three Or More Severity Level IV Traditional Enforcement Violations In The Same Area In A 12 Month Period

INSPECTION OBJECTIVES
01.01 To provide assurance that the cause(s) of multiple SL IV traditional enforcement violations are understood by the licensee.

01.02 To provide assurance that the extent of condition and extent of cause of multiple SLIV traditional enforcement violations are identified.

01.03 To provide assurance that licensee corrective actions to traditional enforcement violations are sufficient to address the cause(s).

Contact: Mary Ann Ashley, 301-415-1073
Document Date:08/17/2009

Section added to IMC 0305

12.08 Traditional Enforcement Follow up Inspections. Traditional enforcement violations are independent of the findings that result in a plant being assigned to a specific column of the action matrix. However, a traditional enforcement violation should normally receive limited follow up using IP 92702 to ensure that it has been captured in the licensee's corrective action program. An assessment of the overall traditional enforcement history during the previous 12 months is conducted during the mid-cycle and end-of-cycle reviews. The regulatory significance of escalated traditional enforcement actions or multiple Severity Level IV violations in one of the traditional enforcement areas of willfulness, impeding the regulatory process, and actual consequences may indicate the need to perform more detailed follow up.

Conducting IP 92722 should be considered to follow up on any Severity Level I or II traditional enforcement violation or for two or more Severity Level III violations in any 12 month period. Conducting IP 92723 should be considered to follow up whenever a licensee has been issued three of more Severity Level IV violations in one of the traditional enforcement areas of willfulness, impeding the regulatory process or actual consequences during any 12- month period.

If follow up of traditional enforcement actions are planned, they should be coordinated with any supplemental inspections to avoid duplication of effort. Follow up of traditional enforcement actions is not considered a deviation from the Action Matrix since traditional enforcement actions are not covered by the ROP and are not an input to the Action Matrix.

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Document Date:08/17/2009

APPENDIX B

ISSUE SCREENING

Introduction & Limitations

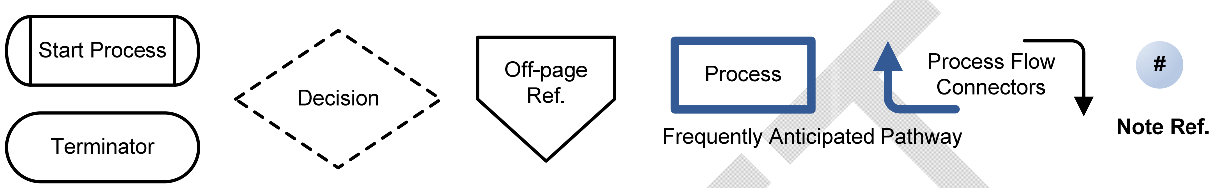
Use the following Figures 1, 2, and 3, and additional guidance to screen each ROP inspection-developed ISSUE OF CONCERN (IOC). The guidance in this appendix is not all-inclusive. It must be used in conjunction with additional guidance documents, including but not necessarily limited to Inspection Manual Chapters 2515, 7111, 0305, and 0308, and the Enforcement Manual and Policy, as appropriate. Figure 1 presumes that the underlying IOC for each SL-IV (or greater) WILLFUL violation will constitute a FINDING (a PERFORMANCE DEFICIENCY of more-than-minor significance). Should an exception be identified, management must be consulted to assure the issue is correctly dispositioned.

Enhanced Integration of TRADITIONAL ENFORCEMENT

This revision of Appendix B implements a more integrated approach to addressing FINDINGS and associated VIOLATIONS warranting TRADITIONAL ENFORCEMENT (TE). The integrated approach involves separating the TE VIOLATION from the associated FINDING and assigning a SIGNIFICANCE COLOR to the FINDING, in accordance with the SIGNIFICANCE DETERMINATION PROCESS (SDP), while concurrently assigning a SEVERITY LEVEL (SL) and, as appropriate, CIVIL PENALTY (CP) to the VIOLATION, in accordance with Enforcement Policy. Should the IOC underlying a SL-IV (or greater) TE VIOLATION *not* screen as a FINDING (a PD of more-than-minor significance), the TE VIOLATION will be issued absent an associated FINDING.

General Notes, Legend, and User Aids

Figures 1, 2, 3, and 4 are comprised of flow diagram logic blocks, process flow connectors, and reference numbers. Five logic block shapes are used. These shapes and their logical functions are illustrated below along with process flow connectors containing arrows illustrating the direction of logic flow and process queues such as the use of **bold borders** to denote more frequently anticipated pathways and dashed lines to denote steps requiring enhanced coordination:



In some instances logic block outputs split into multiple pathways. In other instances, a logic block may be entered via more than one pathway. All logical pathways must be pursued and are accompanied by notes to draw the reader's attention. Terms displayed in ALL CAPS are explicitly defined in IMC 0612.

All logic blocks are accompanied by unique note reference numbers that correlate to more detailed guidance in the body of this Appendix. This guidance may stand alone, it may paraphrase another document, or, in order to avoid unnecessary duplication, may simply refer the reader to the applicable guidance document. Hyperlinks and/or ADAMS ML numbers are provided, as appropriate, to facilitate cross-referencing.

Reference number 1 is assigned to the "Start Process" block in Figure 1 and reference numbers 2 through 16 are assigned in sequence along the bold path through Figures 1, 2, and 3, terminating at the most frequently anticipated Figure 3 termination. Four primary-path logic blocks are assigned to Figure 1, six to Figure 2, and six to Figure 3. Reference numbers 17 through 40 are assigned to the remaining logic blocks from left-to-right, top-to-bottom, Figures 1, then 2, then 3.

Figure 1 Overview

All screening begins at Figure 1, block 1. This ensures that every IOC is screened for POTENTIAL WILLFULNESS. IOCs screened by inspection staff as having no POTENTIAL WILLFULNESS transition promptly to Figure 2. If inspectors determine an IOC involves POTENTIAL WILLFULNESS, the IOC will be dispositioned by an ALLEGATION REVIEW BOARD (ARB).

The ARB will determine (a) that an INVESTIGATION is *not* warranted, in which case the IOC transitions directly to Figure 2, or (b) that a WILLFULNESS INVESTIGATION *is* warranted. In the latter case, a deliberative process involving key stakeholders will determine whether there is sufficient information to disposition the underlying IOC as a FINDING and whether it may be dispositioned without compromising the INVESTIGATION. If so, the FINDING (minus the VIOLATION) transitions to Figure 3.

If, however, an ROP FINDING cannot be dispositioned without compromising the INVESTIGATION, it is held at Figure 1 until the INVESTIGATION is complete. If WILLFULNESS is confirmed, the associated FINDING (minus the VIOLATION) transitions to Figure 3. The VIOLATION, as informed by the associated ROP FINDING, will be dispositioned using TE. If the INVESTIGATION does not confirm WILLFUL-NESS, the FINDING and associated VIOLATION transition together to Figure 3.

Figure 2 Overview

All Figure 2 screening originates from Figure 1. If not already accomplished in Figure 1, the IOC is screened to determine if it involves a PERFORMANCE DEFICIENCY that is of MORE-THAN-MINOR SIGNIFICANCE and thus constitutes a FINDING. Each FINDING is screened to determine if it involves a VIOLATION and, if so, to determine if the VIOLATION either (a) contributed to ACTUAL SAFETY CONSEQUENCES, or (b) IMPACTED the REGULATORY PROCESS. If so, the FINDING will be assigned an ROP SIGNIFICANCE COLOR while the associated TE VIOLATION will be assigned a SL and, as appropriate, CP. All FINDINGS transition to Figure 3. On occasion, an IOC entering Figure 2 will not screen to a FINDING and thus will not transition to Figure 3.

Figure 3 Overview

Figure 3 receives FINDINGS from Figures 1 and 2. It screens each FINDING to identify which is POTENTIALLY GREATER THAN GREEN. Each GREEN FINDING is screened to determine which is LICENSEE-IDENTIFIED. Each LICENSEE IDENTIFIED GREEN FINDING is screened to determine if it involved a VIOLATION that must be documented. Each FINDING that is *not* LICENSEE IDENTIFIED or confirmed to be GREATER THAN GREEN is screened for potential CROSS-CUTTING ASPECTS (CCAs). Each CCA is screened to determine which are reflective of CURRENT LICENSEE PERFORMANCE. CCA’s identified through this process are documented with their associated FINDINGS.

Additionally, Figure 3 screens for (a) GREEN LICENSEE-IDENTIFIED FINDINGS and for (b) FINDINGS TO-BE-DETERMINED (TBD) and APARENT VIOLATIONS (AV).

Figure 1: Screen Issue of Concern for Willfulness; Coordinate Accordingly

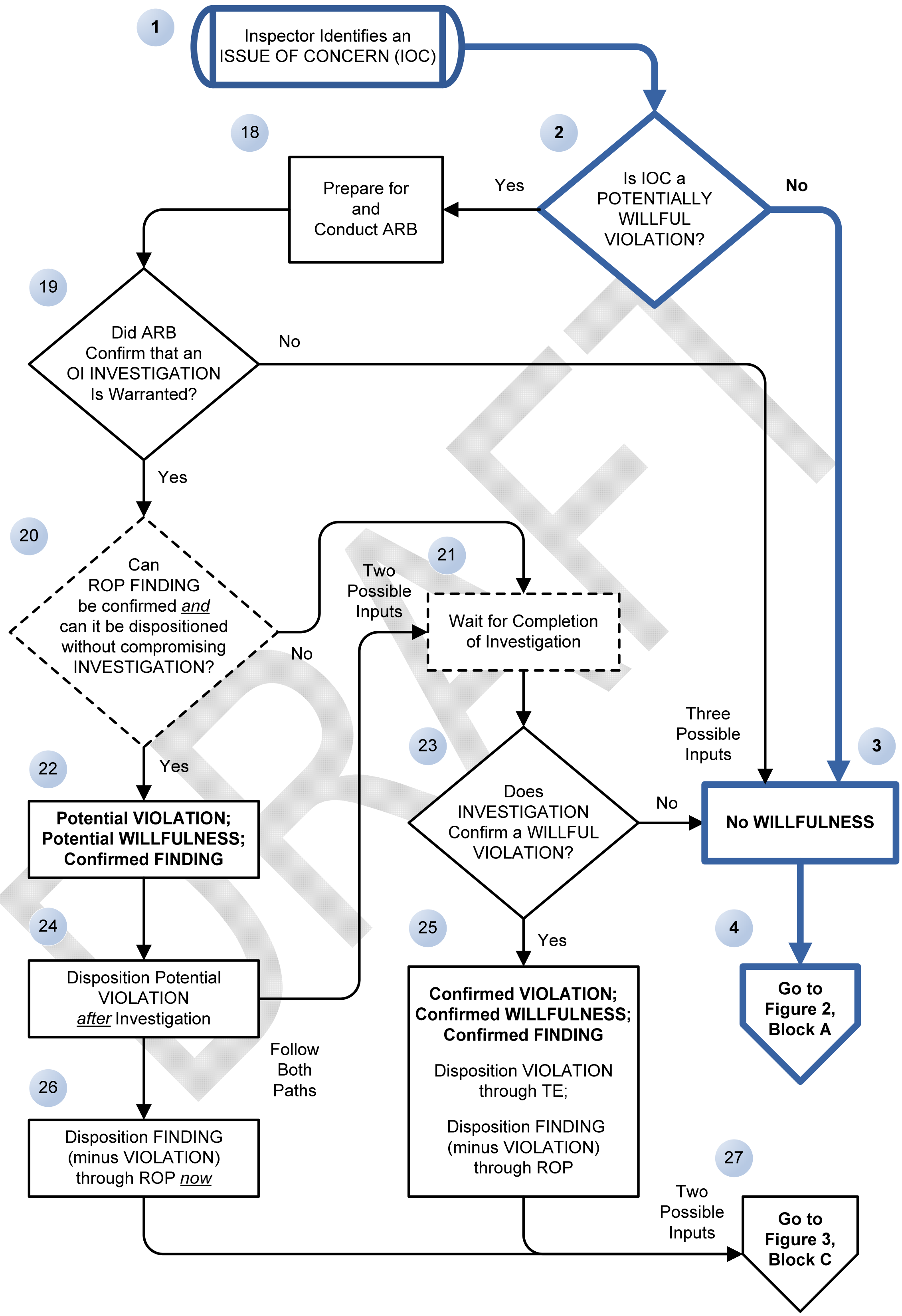


Figure 2: TE Screen for Regulatory Process Impact or Actual Consequence; ROP Screen – Is Issue of Concern a Performance Deficiency, More-than-minor, a Violation, a Non-Finding Violation, or otherwise

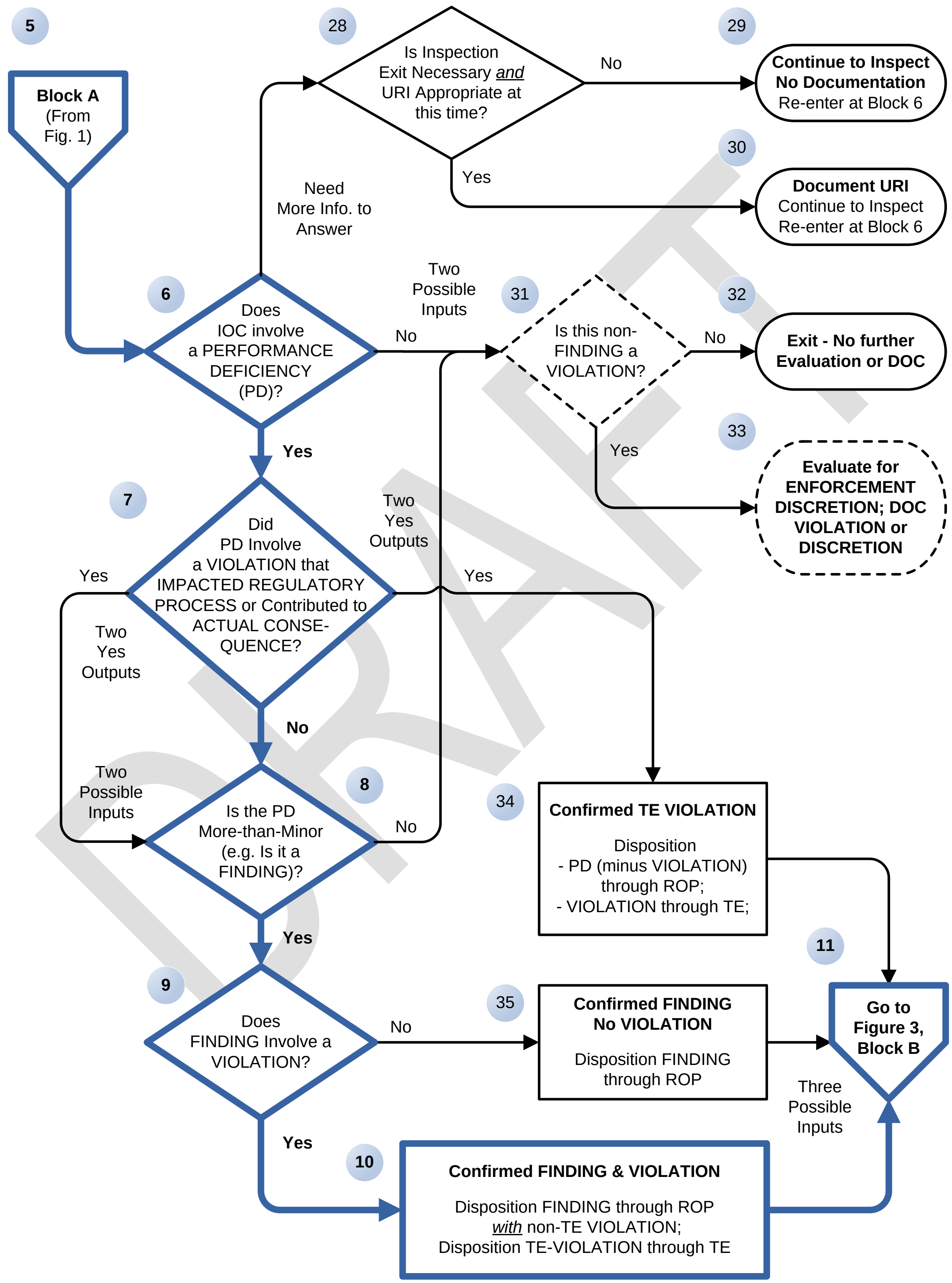
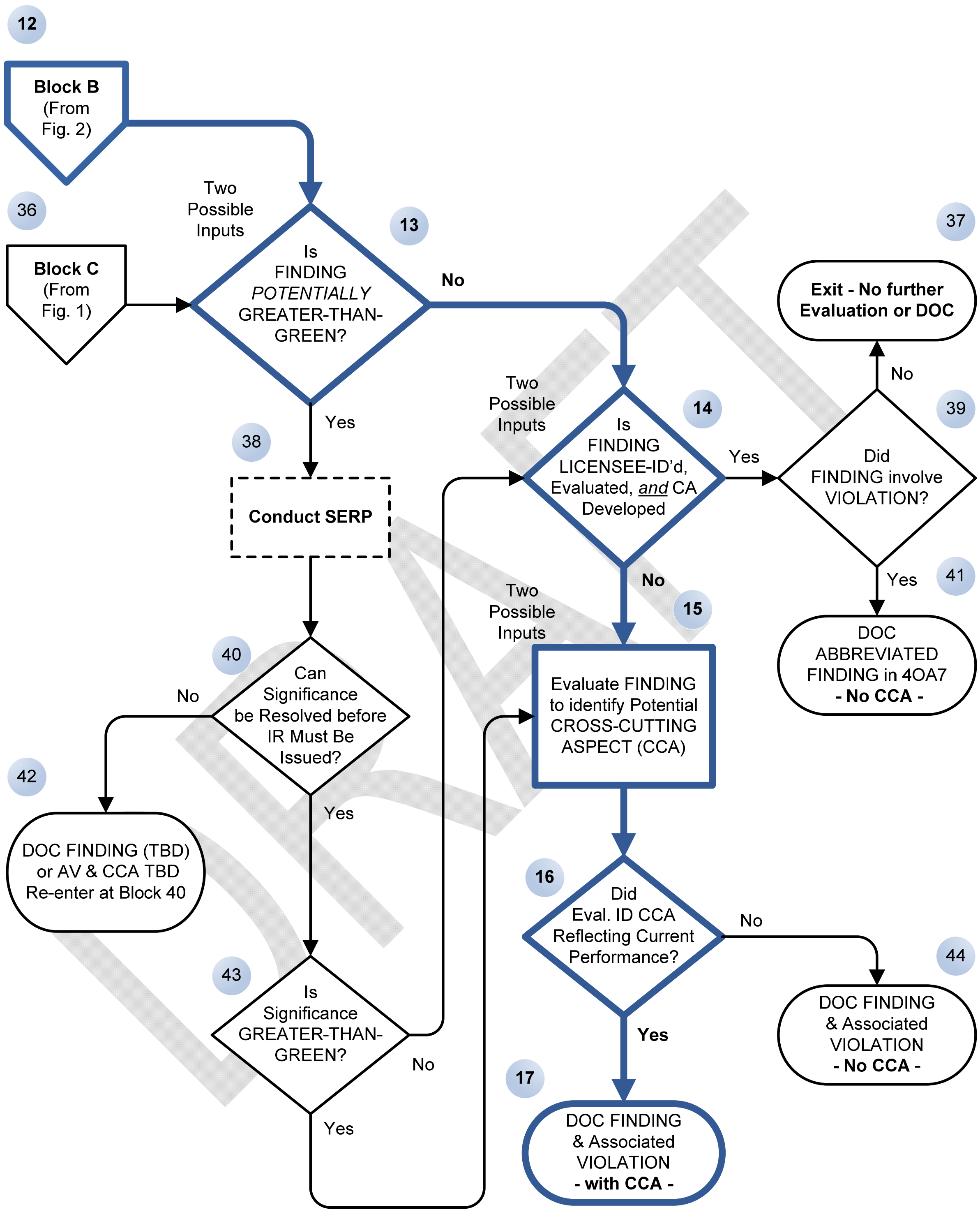


Figure 3: Determine Significance, Cross-Cutting Aspect (CCA), and Whether to Document an Abbreviated Finding



Additional Guidance to Clarify Figures 1 through 3

The following additional guidance is intended to further clarify the application of Figures 1 through 3 in the ROP screening process. The guidance is arranged by reference number order. Guidance for each logic block is preceded by the applicable reference number and the logic block, itself, as shown in its associated Figure.

Block 1

As defined in IMC 0612, an IOC is a well-defined observation or collection of observations that is of concern and may or may not involve a performance deficiency. IOC's are routinely identified during IMC 2515 plant status and IP 71111 inspection activities. Development and dispositioning of IOC's occurs as part of the ROP inspection and IMC 0612 App B issue screening process. All IOC's enter the issue screening process at block 1 to ensure that every IOC for POTENTIAL WILLFULNESS.

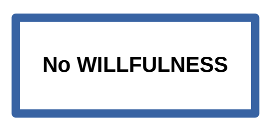
Block 2

The inspector is effectively making two decisions: (a) Does this IOC involve a VIOLATION and (b) is the VIOLATION POTENTIALLY WILLFUL.

All IOC's that involve a VIOLATION must be screened by inspectors for <u>POTENTIAL</u> WILLFULNESS. The determination of WILLFULNESS, however, is a legal decision that can only be made by the Office of General Council using facts developed during an INVESTIGATION conducted by the Office of Investigations.

See 'Documenting VIOLATIONs That Potentially Involve Willfulness' in the Enforcement Manual for additional insights.

Block 3



1. An IOC arrives at this determination in one of three ways:

   a The <u>*inspector concludes that the IOC is not a POTENTIALLY WILLFUL VIOLATION*</u>,

   b The Allegations Review Board <u>*(ARB) fails to confirm that all of the following conditions apply*</u> to a POTENTIALLY WILLFUL VIOLATION:

      i It was the consequence of an ROP PERFORMANCE DEFICIENCY (PD) that was more-than-minor,

      ii It was the consequence of a VIOLATION of regulatory requirements,

      iii It warrants an Office of Investigations (OI) INVESTIGATION;

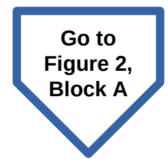
   c A completed OI <u>*INVESTIGATION does not confirm that the FINDING VIOLATION involved WILLFULNESS*</u>.

2. The terms "willful" or "willfulness," as used here and in the Enforcement Policy, refers to violations involving either deliberate intent to violate requirements or to falsify information, or careless disregard violation of requirements or for the completeness and accuracy of information provided.

3. Willful VIOLATIONs are of particular concern to the Commission because its regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor.

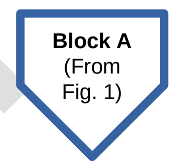
4. Willful VIOLATIONs cannot be tolerated by either the Commission or a licensee. Therefore, a VIOLATION may be considered more significant than the underlying noncompliance if it includes indications of willfulness.

Block 4



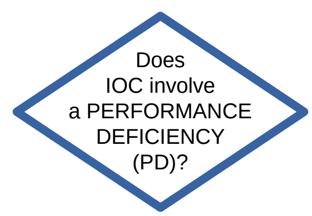
All IOC's entering Figure 1 that are determined to involve no WILLFULNESS transition to Figure 2, Block A (Reference number 5). It should be noted that in two of the three pathways leading to this transition, the IOC remains an IOC. In one instance, it will have been concluded that the IOC was a FINDING with an associated non-WILLFUL VIOLATION.

Block 5



All IOC's entering Figure 2 arrive at Block A and have been determined to involve no WILLFULNESS. This begins screening to determine whether the IOC constitutes a FINDING (a potentially redundant step – see Block 3), whether the FINDING involves a VIOLATION(a potentially redundant step – see Block 3), and whether a VIOLATION contributed to ACTUAL SAFETY CONSEQUENCES or IMPACTED the REGULATORY PROCESS and thus warranted separating the TE VIOLATION from the associated FINDING and assigning a SIGNIFICANCE COLOR to the FINDING, in accordance with the SDP, while concurrently assigning a SL and, as appropriate, CIVIL PENALTY (CP) to the VIOLATION, in accordance with Enforcement Policy. Additional possible outcomes are also addressed in Figure 2.

Block 6

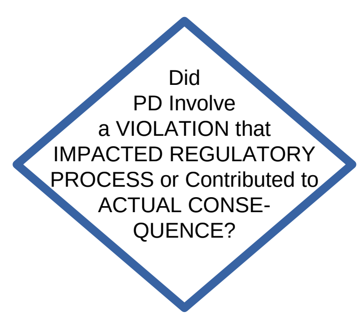


1. <u>ROP PD Screen</u> - If the answer the ***<u>both</u>*** questions 1.a. and 1.b., below, is "yes", the IOC ***<u>is</u>*** an ROP PD. If ***<u>either</u>*** question is "no," the IOC is ***<u>not</u>*** an ROP PD. IOC's determined to involve PD's will proceed to Block 7. IOC's determined to ***<u>not</u>*** to involve PD's are non-FINDINGS and will proceed to Block 31.

   a Was the IOC the result of the licensee's failure to meet a requirement or a standard? A PD can exist if a licensee fails to meet a SELF-IMPOSED STANDARD or a standard required by regulation.

   b Was the cause of the IOC reasonably within the licensee's ability to foresee and correct and should the IOC have been prevented?

Block 7



1. <u>Non-WILLFUL TE VIOLATION Screen</u> - The inspector is expected to refer to the Enforcement Policy/Manual for guidance on addressing the following TE VIOLATION questions:

   a Was there a VIOLATION that IMPACTED THE REGULATORY PROCESS? The NRC considers the safety implications of VIOLATIONs that may impact the NRC's ability to carry out it statutory mission. VIOLATIONs may be significant because they may challenge the regulatory envelope upon which certain activities were licensed. These types of VIOLATIONs include failures such as:

- i Failure to provide complete and accurate information,
- ii Failure to receive prior NRC approval for changes in licensed activities,
- iii Failure to notify NRC of changes in licensed activities,
- iv Failure to perform 10 CFR 50.59 analyses,
- v Reporting failure, etc.,

b Was there a VIOLATION that contributed to ACTUAL SAFETY CONSEQUENCES (e.g., actual onsite or offsite releases of radiation, onsite or offsite radiation exposures, accidental criticalities, core damage, loss of significant safety barriers, loss of control of radioactive material, or radiological emergencies)?

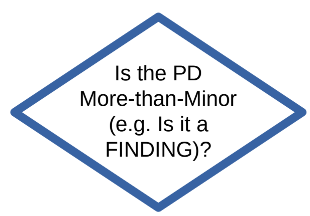
c If the answers to *both* 1.a. and 1.b. are "No," then there is no TE VIOLATION. Proceed to Block 8.

d If the answer to *either* 1.a. or 1.b. is "Yes," then a TE VIOLATION has occurred. Proceed to Blocks 34 *and* 8. It will be necessary to disposition the TE VIOLATION *and* the underlying PD.

e The regulatory significance (severity level) of VIOLATIONS contributing to ACTUAL SAFETY CONSEQUENCE or IMPACTING THE REGULATORY PROCESS is determined in accordance with the Enforcement Policy. A civil penalty (CP) is imposed with the VIOLATION, if appropriate. See the Enforcement Policy for additional guidance.

f An ROP SIGNIFICANCE will be assigned to the associated FINDING assuming the underlying PD is determined to be more-than-minor.

Block 8



1. PD's entering this Block either may- or may not involve VIOLATIONs. Involved VIOLATIONS may- or may not IMPACT REGULATORY PROCESS or contribute to ACTUAL CONSEQUENCE.

2. ROP Minor Screen – The PD is compared to examples in IMC 0612 Appendix E when suitable examples are provided to make the minor- vs. more-than-minor determination. When the examples are not suitable, the PD is evaluated against the minor screening questions below to make the determination.

   a If the PD is sufficiently similar to one or more "MORE-THAN-MINOR" examples *and* dissimilar from the "minor" examples to reasonably conclude that *at least one* of the minor screening questions, listed below, warrants a "yes" answer, the PD is MORE-THAN-MINOR and *is* a FINDING. Proceed to block 9.

   b If the PD is sufficiently similar to one or more "minor" examples *and* dissimilar from the "more-than-minor" examples to reasonably conclude that *all* of the minor screening questions, below, warrant a "no" answer, the PD is minor and *not* a FINDING. Proceed to block 31.

   c If it is not possible to resolve whether the PD is minor or MORE-THAN-MINOR based on the steps above, whether because there are no sufficiently similar examples or because the examples provide potentially contradictory guidance, proceed to step 3 – Minor Screening Questions.

3. Minor Screening Questions – The following questions form the basis for determining whether an ROP PD is minor or MORE-THAN-MINOR. TE VIOLATIONS should be screened using the Enforcement Manual directly – not 0612 guidance. Apply the following questions to non-TE PD's (with or without VIOLATIONS) when application of Appendix E examples does not result in a minor- vs. more-than-mionr screening determination. The questions are intended to be consistent with the Enforcement Manual to the extent practical in that the ROP addresses FINDINGS with or without VIOLATIONS whereas the Enforcement Manual addresses only VIOLATIONS. If the answer to *any* of the following questions is "yes," then the PD *is* a FINDING. Proceed to block 9. If the answer to all of the following questions is "no," then the PD is minor and is *not* a FINDING. Proceed to block 31.

   a Could the PD be reasonably viewed as a precursor to a significant event?

   b If left uncorrected would the PD have the potential to lead to a more significant safety concern?

   c Does the PD relate to a performance indicator (PI) that would have caused the PI to exceed a threshold?

   d Is the PD associated with one of the cornerstone attributes listed at the end of this attachment and did the PD adversely affect the associated cornerstone objective?

Block 9

Does FINDING Involve a VIOLATION?

1. Determine whether the FINDING involved a VIOLATION of NRC requirements (any TE VIOLATION should have been previously dispositioned).

   a If the FINDING involved a VIOLATION, then proceed to block 10. FINDINGS involving Non-TE VIOLATIONS will be documented in RPS as NCV or NOV. See Section 0612-06 for documentation guidance. FINDINGS involving TE VIOLATIONS will be separated from the VIOLATIONS and documented as FINs. The TE VIOLATION will be documented in RPS as a VIO

   b If the FINDING *did not* involve a VIOLATION, proceed to block 35. Non-VIOLATION FINDING will be documented and entered into RPS as FINs (as opposed to a VIO or NCV).

Block 10

Confirmed FINDING & VIOLATION

Disposition FINDING through ROP *with* non-TE VIOLATION;
Disposition TE-VIOLATION through TE

1. A FINDING arriving at this process determination has an associated VIOLATION:

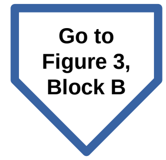
2. If the associated VIOLATION is a TE VIOLATION, it will be separated from the FINDING and dispositioned through TE and will be assigned a SL and, if appropriate, a CP while the FINDING will be dispositioned through the ROP and will receive an appropriate COLOR.

3. If the associated VIOLATION is a non-TE VIOLATION, both the FINDING and VIOLATION will be dispositioned together through the ROP and will receive an appropriate COLOR. No SL or CP will be assigned.

Note: A VIOLATION is said to have a TE aspect when it (a) involves WILLFULNESS, (b) results in an ACTUAL SAFETY CONSEQUENCE, or (c) IMPACTS THE REGULATORY PROCESS.

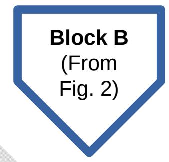
Block 11

All IOCs entering Figure 2 that are determined to be FINDINGS transition to Figure 3, Block B (Reference number 11). While all FINDINGS transition, the associated VIOLATION transitions with the FINDING only if there is no TE. If, however, the VIOLATION involves a TE aspect, the FINDING transitions separately to Figure 2 while the VIOLATION is dispositioned in accordance with Enforcement Policy.



Block 12

All confirmed FINDINGs will transition from Figure 2 to Figure 3 via this pathway. Most will be associated with non-TE VIOLATIONs, some with no VIOLATION at all, and some will be associated with TE VIOLATIONs that contribute to ACTUAL SAFETY CONSEQUENCE or that IMPACT the REGULATORY PROCESS.



Block 13

1. All FINDINGS entering Figure 3, whether from Figure 1 or Figure 2, will be screened to determine if they are POTENTIALLY GREATER-THAN-GREEN using the Phase 1, “Initial Screening and Characterization” worksheet described in Attachment 4 to Manual Chapter 0609.

   a. Phase 1 screening identifies which FINDINGs have very low-significance (GREEN) and which FINDINGS have potentially greater significance and thus require additional evaluation using the appropriate SDP Appendix of IMC 0609.

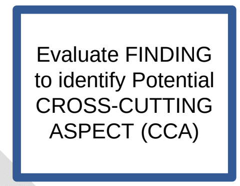
   b. Phase 1 is intended to be accomplished by the inspection staff, with the assistance of a Senior Reactor Analyst (SRA), if needed. Inspectors should collect information needed for determining the SIGNIFICANCE of the FINDING, such as the affected SSC, the nature of the degradation, and the duration of the degraded condition. Inspectors should obtain licensee risk perspectives, as early in the SDP as a licensee is prepared to offer them, and use the SDP framework to the extent possible to evaluate the adequacy of the licensee’s input and assumptions.

2. Most FINDINGS will be determined *__not__* POTENTIALLY-GREATER-THAN-GREEN and will transition to block 13 and screened to determine if they are LICENSEE-IDENTIFIED.

3. Those FINDINGS that *__are__* POTENTIALLY-GREATER-THAN-GREEN will transition to block 36 for review by a Significance and Enforcement Review Panel (SERP).

Block 14

Block 15



1. Based on the information developed during the inspection, is the most significant contributor of the FINDING similar to one of the CCAs described in Appendix G of IMC 0612 (formerly IMC 0305, Section 06.07)?

   a Identify a Potential CCA deemed to provide the most meaningful insight into the FINDING.

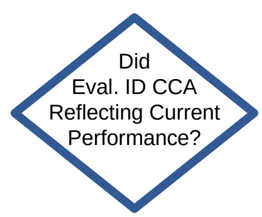
      i Typically one Potential CCA will be assigned per FINDING. In the event the FINDING involves multiple examples, it is generally appropriate for a single CCA.to be reflected in the examples. This is consistent with Enforcement Manual guidance.

      ii On rare occasions, for unusually complex FINDINGS, it may be appropriate to assign more than one CCA. The regional office will obtain concurrence of the NRR Performance Assessment Branch Chief prior to making more than one CCA assignment per FINDING.

   b Not all FINDINGS reflect CCAs.

2. The objective of this process is to identify the Potential CCA that is most reflective of the FINDING. Occasionally no Potential CCA will be reflected and, on rare occasions, more than one Potential CCA will be reflected. Proceed to block 15.

Block 16



1. Assuming one or more Potential CCA's were identified in block 14, answer the following questions with respect to each Potential CCA to determine if it is reflective of current performance:

   a Is there a reason why the most significant contributor of the performance deficiency is not reflective of current licensee performance? Consider all of the following:

      i When did the FINDING or event occur?

      ii If the FINDING or event was the result of a latent issue, when did the cause of the FINDING occur?

      iii If the FINDING or event was the result of a latent issue, did the licensee have reasonable opportunities to identify the problem?

         (1) Example: An NRC inspection determines that an engineering calculation contains non-conservative assumptions, if this calculation had been reviewed or used in a modification activity within the recent performance guideline period, then an opportunity is considered to have existed,

iv Have programs, processes or organizations changed such that the problem would not reasonably occur today?

2. If the Potential CCA is deemed to be reflective of current plant performance, the FINDING *has* a CCA. Proceed to block 16.

3. If the Potential CCA is not deemed reflective of current plant performance, the FINDING *does not* have a CCA. Proceed to block 41.

Block 17

DOC FINDING & Associated VIOLATION **- with CCA -**

1. A FINDING has been confirmed as has one CCA (or, in rare instances, more than one CCA). The FINDING may or may not be directly associated with a confirmed VIOLATION and that VIOLATION may or may not be associated with a confirmed TE attribute (e.g. WILLFULNESS, IMPACTING REGULATORY PROCESS, or ACTUAL CONSEQUENCES)

2. If there is no associated VIOLATION, the FINDING will be documented as a FIN with CCA.

3. If there is a confirmed non-TE VIOLATION, the FINDING will be documented as a VIO or NCV with CCA.

   a. Work with the Office of Enforcement, through the Regional Enforcement Coordinator, and refer to the Enforcement Policy/Manual to determine whether the VIOLATION should be cited (VIO) or non-cited (NCV).

   b. Refer to the Enforcement Policy/Manual for guidance on addressing the following questions:

      i. Did the licensee fail to restore compliance?

      ii. Did the licensee fail to enter the VIOLATION into their corrective action program?

      iii. Was the VIOLATION willful?

      iv. (For enforcement only) Was the VIOLATION repetitive and NRC-identified?

   c. If the answer to *any* of the above questions is "Yes", the VIOLATION should be cited in a Notice of VIOLATION (VIO). Go to Section 0612-06 for documentation guidance.

   d. If the answer to *all* of the applicable questions is "No", the VIOLATION may be dispositioned as a non-cited VIOLATION. Go to Section 0612-06 for documentation guidance.

Block 18

Prepare for and Conduct ARB

Block 19

Did ARB Confirm that an OI INVESTIGATION Is Warranted?

Block 20

Can ROP FINDING be confirmed *and* can it be dispositioned without compromising INVESTIGATION?

Dispositioning an ROP FINDING during an ongoing WILLFULNESS INVESTIGATION is not expected to be a common occurrence. Generally, to preclude the possibility of compromising an ongoing INVESTIGATION, inspectors will suspend those ROP disposition activities that require interaction with the licensee until the INVESTIGATION is complete. However, there are instances in which continuation of ROP disposition activity and related licensee interaction are justified and appropriate.

The decision of whether to proceed with ROP FINDING disposition prior to completing an INVESTIGATION will be the result of a deliberative process involving all appropriate stakeholders. Key stakeholder will (a) ensure that their specific concerns are considered in order to achieve the two outcomes desired by the agency – a valid and defendable finding within the ROP and a valid and defendable violation within the enforcement program, and (b) generally include the Offices of Investigations (OI) and Enforcement (OE), the associated Region, the Division of Inspection and Regional Support (DIRS). The primary parties to this decision will be the Directors (or their designees) of the OI Field Office, DIRS, and the associated Regional Division of Reactor Projects or Safety.

Timely resumption of the ROP FINDING disposition process previously placed on 'hold,' is desirable because ROP FINDING disposition SDP insights are often integral to dispositioning TRADITIONAL ENFORCEMENT VIOLATIONS. Thus the 'hold' decision should be revisited as soon as the INVESTIGATION is sufficiently complete and when new information arises that might otherwise warrant revising the original decision. Because of the sensitive nature of INVESTIGATIONS and associated outcomes, all key stakeholders must concur on both the original decision and on its subsequent revision.

Block 21

Wait for Completion of Investigation

Block 22

Potential VIOLATION; Potential WILLFULNESS; Confirmed FINDING

Block 23

Does INVESTIGATION Confirm a WILLFUL VIOLATION?

1. The Office of Investigations (OI), upon concluding its INVESTIGATION will determine whether the VIOLATION involved either deliberate intent to violate requirements or to falsify information, or careless disregard violation of requirements or for the completeness and accuracy of information provided.

2. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. Willful violations cannot be tolerated by the Commission. Therefore, a violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness.

3. Violations with willful aspects will typically be considered for escalated enforcement, i.e., SL I, SL II, or SL III. The term "willfulness" as used in this policy refers to conduct involving either a careless disregard violation of requirements or deliberate violation of requirements. In determining the significance of a violation involving willfulness, consideration will be given to such factors as the position and responsibilities of the person involved in the violation (e.g., licensee official[1] or non-supervisory employee), the significance of any underlying violation, the intent of the violator (i.e., careless disregard or deliberateness), and the economic or other advantage, if any, gained as a result of the violation. The relative weight given to each of these factors in arriving at the significance assessment will be dependent on the circumstances of the violation.

4. However, if a licensee refuses to correct a minor violation within a reasonable time such that it willfully continues, the violation should be considered at least more than minor. Licensees are expected to take significant remedial action in responding to willful violations commensurate with the circumstances such that it demonstrates the seriousness of the violation thereby creating a deterrent effect within the licensee's organization.

Block 24

Disposition Potential VIOLATION *after* Investigation

Block 25

Confirmed VIOLATION; Confirmed WILLFULNESS; Confirmed FINDING

Disposition VIOLATION through TE;

Disposition FINDING (minus VIOLATION) through ROP

Section 2-1 Screen for SL for TE

a. Work with the Office of Enforcement through the Regional Enforcement Coordinator to determine the SL of the VIOLATION. (Note: In some cases, the SL of the VIOLATION will be based on the significance of the issue associated with

1 The term "licensee official" as used in this policy statement means a first-line supervisor or above, a licensed individual, a radiation safety officer, or an authorized user of licensed material whether or not listed on a license. Notwithstanding an individual's job title, severity level categorization for willful acts involving individuals who can be considered licensee officials will consider several factors, including the position of the individual relative to the licensee's organizational structure and the individual's responsibilities relative to the oversight of licensed activities and to the use of licensed material.

the VIOLATION as evaluated through an SDP in accordance with IMC 0609.)

b. If the VIOLATION is minor or determined to be LICENSEE-IDENTIFIED and is SL IV, go to 0612-11 or 0612-10, respectively, for documentation guidance.

c. If the VIOLATION is determined to be SL IV and is NRC-identified or self-revealing, proceed to Section 1-5 to determine if a CCA should be assigned to the FINDING.

If the VIOLATION is potentially SL III or higher, then the FINDING is an AV. Proceed to Section 1-5 to determine if a CCA should be assigned to the FINDING. The final significance of the FINDING will be determined in accordance with the Enforcement Policy.

Block 26

Disposition FINDING (minus VIOLATION) through ROP *now*

Block 27

Go to Figure 3, Block C

Block 28

Is Inspection Exit Necessary *and* URI Appropriate at this time?

Block 29

Continue to Inspect No Documentation
Re-enter at Block 6

Block 30

Document URI
Continue to Inspect
Re-enter at Block 6

Block 31

Is this non-FINDING a VIOLATION?

Block 32

Exit - No further Evaluation or DOC

Block 33

Evaluate for ENFORCEMENT DISCRETION; DOC VIOLATION or DISCRETION

Block 34

Confirmed TE VIOLATION

Disposition
- PD (minus VIOLATION) through ROP;
- VIOLATION through TE;

Block 35

Confirmed FINDING No VIOLATION

Disposition FINDING through ROP

1. Work with the Office of Enforcement through the Regional Enforcement Coordinator to determine the SL of the VIOLATION and CP, if applicable.

   a In some cases, the SL of the VIOLATION will be based, in part, on the significance of the FINDING associated with the VIOLATION as evaluated through an SDP in accordance with IMC 0609.

2. The FINDING will be dispositioned separately from the VIOLATION, in accordance with ROP guidance.

Block 36

Block C (From Fig. 1)

Block 37

Exit - No further Evaluation or DOC

Block 38

Conduct SERP

Block 39

Did FINDING involve VIOLATION?

Block 40

Can Significance be Resolved before IR Must Be Issued?

Block 41

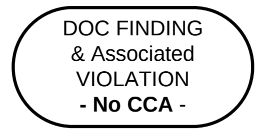
DOC ABBREVIATED FINDING in 4OA7
- No CCA -

Block 42

DOC FINDING (TBD) or AV & CCA TBD
Re-enter at Block 40

Block 43

Block 44



IMC-0612 App B Screening process steps that are not reflected in Figures 1, 2, and 3 or guidance above. Expected to be developed and integrated into existing figures or additional figure(s).

Section 1-4. Significance Determination - SDP

a. Determine the significance of the FINDING using the SDP in accordance with IMC 0609.

b. If the FINDING is determined to be Green and is NRC-identified or self-revealing, proceed to Section 1-5 to determine if a CCA should be assigned to the FINDING.

c. If the FINDING is determined to be Green and is LICENSEE-IDENTIFIED, go to Section 0612-10 for documentation guidance.

d. If the FINDING is potentially greater than Green, proceed to Section 1-5 to determine if a CCA should be assigned to the FINDING. The final significance of the FINDING will be determined in accordance with IMC 0609.

Section 3-2 Screening for Potential Cited VIOLATION

Work with the Office of Enforcement through the Regional Enforcement Coordinator to determine whether the VIOLATION should be cited or non-cited. The inspector is expected to refer to the Enforcement Policy/Manual for guidance on addressing the following questions:

- Did the licensee fail to restore compliance?
- Did the licensee fail to enter the VIOLATION into their corrective action program?
- Was the VIOLATION willful?
- (For enforcement only) Was the VIOLATION repetitive and NRC-identified?

a. If the answer to any of the above questions is "Yes", the VIOLATION should be considered for a Notice of VIOLATION. Go to Section 0612-06 for documentation guidance.

If the answer to all of the applicable questions is "No", the VIOLATION may be dispositioned as a non-cited VIOLATION. Go to Section 0612-06 for documentation guidance.

CORNERSTONE OBJECTIVES AND ATTRIBUTES

Cornerstone	REACTOR SAFETY - Initiating Events
Objective	To limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.
Attributes	**Areas to Measure**
Design Control	Initial Design and Plant Modifications
Protection Against External Factors	Flood Hazard, Fire, Loss of Heat Sink, Toxic Hazard, Switchyard Activities, Grid Stability
Configuration Control	Shutdown Equipment Lineup, Operating Equipment Lineup
Equipment Performance	Availability, Reliability, Maintenance; Barrier Integrity (SGTR, ISLOCA, LOCA (S,M,L)), Refueling/Fuel Handling Equipment
Procedure Quality	Procedure Adequacy (Maint, Test, Ops)
Human Performance	Human Error

Cornerstone	REACTOR SAFETY - Mitigating Systems
Objective	To ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage).
Attributes	**Areas to Measure**
Design Control	Initial Design and Plant Modifications
Protection Against External Events	Flood Hazard, Fire, Loss of Heat Sink, Toxic Hazard, Seismic, Weather
Configuration Control	Shutdown Equipment Lineup, Operating Equipment Lineup
Equipment Performance	Availability, Reliability
Procedure Quality	Operating (Post Event) Procedures (AOPs, SOPs, EOPs); Maintenance and Testing (Pre-event) Procedures
Human Performance	Human Error (Post Event), Human Error (Pre-event)

Cornerstone	REACTOR SAFETY - Barrier Integrity
Objective	To provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events.
Attributes	**Areas to Measure** (to Maintain Functionality of **Fuel Cladding**)
Design Control	Physics Testing; Core Design Analysis (Thermal Limits, Core Operating Limit Report, Reload Analysis, 10 CFR50.46)
Configuration Control	Reactivity Control (Control Rod Position, Reactor Manipulation, Reactor Control Systems); Primary Chemistry Control; Core Configuration (Loading)
Cladding Performance	Loose Parts (Common Cause Issues); RCS Activity Level
Procedure Quality	Procedures which could impact cladding
Human Performance	Procedure Adherence (FME, Core Loading, Physics Testing, Vessel Assembly, Chemistry, Reactor Manipulation); FME Loose Parts, Common Cause Issues
Attributes	**Areas to Measure** (to Maintain Functionality of **RCS**)
Design Control	Plant Modifications
Configuration Control	System Alignment; Primary/Secondary Chemistry
RCS Equipment and Barrier Performance	RCS Leakage; Active Components of Boundary (Valves, Seals); ISI Results
Procedure Quality	Routine OPS/Maintenance procedures; EOPs and related Off-Normal Procedures invoked by EOPs
Human Performance	Routine OPS/Maintenance Performance; Post Accident or Event Performance
Attributes	**Areas to Measure** (to Maintain Functionality of **Containment**)
Design Control	Plant Modifications; Structural Integrity; Operational Capability
Configuration Control	Containment Boundary Preserved; Containment Design Parameters Maintained
SSC and Barrier Performance	S/G Tube Integrity, ISLOCA Prevention; Containment Isolation, SSC Reliability /Availability, Risk Important Support Systems Function
Procedure Quality	Emergency and Operating Procedures; Risk Important Procedures (OPS, Maintenance, Surveillance)
Human Performance	Post Accident or Event Performance; Routine OPS/Maintenance Performance

Cornerstone	REACTOR SAFETY - Barrier Integrity
Attributes	**Areas to Measure** (to Maintain Radiological Barrier Functionality of **Control Room and Auxiliary Building** - PWR, and Standby Gas Trains - BWR only)
Design Control	Plant Modifications; Structural Integrity
Configuration Control	Building Boundaries Preserved
SSC and Barrier Performance	Door, Dampers, Fans, Seals, Instrumentation
Procedure Quality	EOPs, Abnormal and Routine Operating Procedures, Surveillance Instructions, Maintenance Procedures
Human Performance	Post Accident or Event Performance; Routine OPS/Maintenance Performance
Attributes	**Areas to Measure** (to Maintain Functionality of **Spent Fuel Pool Cooling System**)
Design Control	Plant Modifications; Structural Integrity
Configuration Control	System Alignment
SSC Performance	Pumps, Valves, Instrumentation
Procedure Quality	EOPs, Abnormal and Routine Operating Procedures, Surveillance Instructions, Maintenance Procedures
Human Performance	Post Accident or Event Performance; Routine OPS/Maintenance Performance

Cornerstone	REACTOR SAFETY - Emergency Preparedness
Objective	To ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.
Attributes	**Areas to Measure**
ERO Readiness	Duty Roster; ERO Augmentation System; ERO Augmentation Testing; Training
Facilities and Equipment	ANS Testing; Maintenance Surveillance and Testing of Facilities, Equipment and Communications Systems; Availability of ANS, Use in Drills and Exercises
Procedure Quality	EAL Changes, Plan Changes; Use in Drills and Exercises
ERO Performance	Program Elements Meet 50.47(b) Planning Standards, Actual Event Response; Training, Drills, Exercises
Offsite EP	FEMA Evaluation

Cornerstone	RADIATION SAFETY - Occupational Radiation Safety
Objective	To ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation.
Attributes	**Areas to Measure**
Plant Facilities/Equipment and instrumentation	Plant Equipment Instrumentation, (ARM Cals & Availability, Source Term Control), Procedures (Radiation Protection and Maintenance)
Program & Process	Procedures (HPT, Rad Worker, ALARA); Exposure/Contamination Control and Monitoring (Monitoring and RP Controls); ALARA Planning (Management Goals, Measures - Projected Dose)
Human Performance	Training (Contractor HPT Quals, Radiation Worker Training, Proficiency)

Cornerstone	RADIATION SAFETY - Public Radiation Safety
Objective	To ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation.
Attributes	**Areas to Measure**
Plant Facilities/Equipment and instrumentation	Process Radiation Monitors (RMS) (Modifications, Calibrations, Reliability, Availability), REMP Equipment, Meteorology Instruments, Transportation Packaging; Procedures (Design/Modifications, Equipment Calculations, Transportation Packages, Counting Labs)
Program & Process	Procedures (Process RMs & REMP, Effluent Measurement QC, Transportation Program, Material Release, Meteorological Program, Dose Estimates); Exposure and Radioactivity Material Monitoring and Control (Projected Offsite Dose, Abnormal Release, DOT Package Radiation Limits, Measured Dose)
Human Performance	Training (Technician Qualifications, Radiation & Chemical Technician Performance)

Cornerstone	SAFEGUARDS - Security
Objective	To provide assurance that the licensee's security system and material control and accountability program use a defense-in-depth approach and can protect against (1) the design basis threat of radiological sabotage from external and internal threats, and (2) the theft or loss of radiological materials.
Attributes	**Areas to Measure**
Physical Protection System	Protected Areas (Barriers, Alarms, Assessment); Vital Areas (Barriers, Alarms, Assessment)
Access Authorization	Personnel Screening; Behavior Observations; Fitness for Duty
Access Control	Search; Identification
Response to Contingency Events	Protective Strategy; Implementation of Protective Strategy
Material Control and Accounting	Records; Procedures; Inventories

ATTACHMENT 1

Revision History for APPENDIX B to IMC 0612 - Issue Screening

Commitment Tracking Number	Issue Date	Description of Change	Training Needed	Training Completion Date	Comment Resolution Accession Number
N/A	11/01/2006	Revision history reviewed for the last four years.	NO	N/A	N/A
N/A	04/29/2002 CN 02-021	Appendix B was removed as an attachment to IMC-0612 and was issued as stand alone document.	NO	N/A	N/A
N/A	05/19/2005 CN 05-014	Revised to add Question No. 5 to Minor Questions in Section 3 and Question No. 6 to the SDP Questions in Section 4 to reflect the new maintenance risk assessment and risk management SDP, IMC 0609, Appendix K, “Maintenance Rule Risk Assessment and Risk Management.”	NO	N/A	N/A
N/A	09/30/2005 CN 05-028	Revised to clarify the definition of a performance deficiency and a functionality of the control room. Also, the auxiliary building attribute was added to the cornerstone and objective section.	NO	N/A	N/A

Commitment Tracking Number	Issue Date	Description of Change	Training Needed	Training Completion Date	Comment Resolution Accession Number
N/A	11/02/06 CN 06-033	Revised definition of performance deficiency to bring the definition in alignment with the basis for performance deficiency as described in ROP basis document, IMC-0308 attachment 3, “Significance Determination Process Basis Document.”	YES	09/06/2006	ML 063000483
N/A	09/20/07 CN 07-029	Revised flow chart and Section 3 guidance to address feedback forms. Corrected formatting error on page B-7.	NO	N/A	N/A
N/A	12/04/08 CN 08-034	Revised Guidance and Flow Chart to be consistent with changes to IMC 0612. Updated Cornerstone Objectives and Attributes to be consistent with IMC 0308.	Yes	12/03/2008	ML083220751
N/A	__/__/__ CN 09-___	Revised Guidance and Flow Chart to… **(ADAMS ML091590496)**	Yes		ML___________

NRC Proposal for Modification to the MSPI Calculations in CDE

1. Change the algorithm for rounding that is applied to the calculation of the final MSPI value.

   States the "Desired" as:

   "The URI and UAI will be added prior to rounding to product an unrounded MSPI number. The displayed (and submitted) values for MSPI will then be rounded to two significant digits. The displayed (and submitted) values for UAI and URI will then be rounded to three significant digits."

   Recommend changing to:

   "The URI and UAI will be calculated and added without rounding. The displayed (and submitted) values for UAI and URI will then be rounded to three significant digits. The displayed (and submitted) values for MSPI (sum of UAI and URI) will be rounded to two significant digits."

08/14/2009

FREQUENTLY ASKED QUESTION

Plant: N/A
Date of Event: N/A
Submittal Date: August 11, 2009
Licensee Contact: Ken Heffner
NRC Contact: John Thompson, 301 415-1011, john.thompson@nrc.gov

Performance Indicator: Mitigating System Performance Indicator

Site-Specific FAQ? NO

FAQ requested to become effective: NA

<u>Question Section</u>

An industry practice (used by some licensees for some equipment) is to consider equipment potentially "available," upon completion of maintenance but prior to the performance of the post maintenance test (PMT). This determination of availability is typically performed independent of operations personnel, and is made after the completion of the PMT. If the equipment passes its PMT, the status of the equipment between the completion of maintenance and the PMT is scored for MSPI purposes as "available." This approach creates the potential for inconsistency with the treatment of recovery actions to restore the monitored functions where explicit guidance is provided for recovery from testing and operational alignments but not from maintenance. The current guidance associated with the transition between unavailability to availability results in the potential for limited operator awareness, the potential for non-conservative treatment of equipment reliability and the potential for regulatory inconsistency.

NEI guidance needing interpretation/revision:

There is no explicit guidance in NEI 99-02 or NUMARC 93-01 on requirements for scoring the transition from an unavailable state to an available state. Although industry guidance for the recovery of testing or operational alignment could be considered a minimum set of requirements, as these requirements are related to the determination of equipment availability, it appears that application of this guidance to post-maintenance return to service is not a typical practice.

Basis for Revising NEI 99-02, Appendix F, Section f 1.2.1

<u>Lack of Clear Guidance</u>

Unlike operability, recovery of testing or operational alignment (NEI 99-02 Revision 5, Section 1.2.1), and treatment of test-related human errors (Industry White Paper), there is no explicit guidance in NEI 99-02 or NUMARC 93-01 on requirements for scoring the transition from an unavailable state to an available state. One significant difference between the test/operational alignment recovery, and post-maintenance return to service, is the extra failure potential that exists in the latter case, owing to the maintenance action's possible inefficacy. As a result, more requirements, not fewer, would need to be met in order to justify a conclusion of "availability." The present lack of clear guidance results in the potential for scoring the transition from an unavailable state to an available state based on the use of a post-maintenance decision process in which availability is considered to commence on removal of clearance tags, independent of operations. Such a practice does not meet the staff's expectations.

Potential for Limited Operator Awareness

The industry's white paper on this subject dated December 10, 2008 states that most of the licensees contacted use a process in which operators determine "operability" while other personnel (usually system engineers) determine "availability." The paper further states that this determination is made several days or weeks after the SSC was declared operable. The paper also states that most (but not all) licensees do not credit the availability of a SSC, in this available/not operable state, in their online risk assessment.

A logical conclusion is that plant operations is largely decoupled from the process of determining the degree of credit that is taken for the mitigation capability of these monitored components. This decoupling increases the staff concern regarding the industry presumption that recovery of the equipment (if not readied for operation or aligned for auto-start) at the time it is considered transferred for the unavailable to available state is so likely that additional unavailability time does not need to be counted.

Potential for Degraded Equipment Reliability

There are two key considerations associated with equipment reliability during the "available" / not operable state: (1) transition point from unavailable to available, and (2) role of the post-maintenance test.

Transition Point from Unavailable to Available

Although this is not stated explicitly by industry, the staff believes that the transition point used by industry is the time at which the clearance tags are logged as being removed. However, as noted above, it is the staff's understanding that the removal of these tags does not necessarily mean that the equipment is aligned and fully functional. The equipment may require additional alignments in accordance with the appropriate operating instructions (e.g., system refilling and venting may be required) prior to being returned to service. In addition, the equipment controls may remain in pull-to-lock pending completion of equipment line-ups and the post-maintenance tests. If operators are aware that the equipment has not been tested, they are less likely to initiate manual recovery actions. The criterion for determining "availability" should be that restoration actions are virtually certain to succeed. This criterion corresponds to the criterion used for restoration following testing.

Post Maintenance Testing

Equipment adjustments or tuning may occur during the PMT. Such adjustments are unlikely to be reported as a PMT failure, but may improve the reliability of the equipment.

Calculated Unavailability

Industry has provided a white paper that demonstrates that the current industry approach is correct *given certain assumptions*. These assumptions are:

1. The transition point from an unavailable state to an available state represents a transition to a return to service condition where the system is aligned for operations, and operations is aware that it is aligned and that it will automatically start on a valid starting signal or can be promptly restored.

2. No equipment adjustments or tuning occur during the PMT.

Under these conditions, the calculations presented by industry appear correct.

Potential for Inconsistency in the ROP

The lack of guidance on determining the "available" / not operable state and the noted variability in this determination lead to inconsistency in the MSPI indicators, which can result in a reduction of public confidence.

Event or circumstances requiring guidance interpretation:

Section F.1.2.1. Actual Train Unavailability

The definition for “Train unavailable hours” states:

Page F-5 Lines 18 to 22

Train unavailable hours: The hours the train was not able to perform its monitored function while critical. Fault exposure hours are not included; unavailable hours are counted only for the time required to recover the train’s monitored functions. In all cases, a train that is considered to be OPERABLE is also considered to be available. Unavailability must be by train; do not use average unavailability for each train because trains may have unequal risk weights.

Recommend changing to:

“The hours the train was not able to perform its monitored function while critical. Fault exposure hours are not included; unavailable hours are counted only for the time required to recover the train’s monitored functions. In all cases, a train that is considered to be OPERABLE is also considered to be available. Trains that are not Operable, but considered available must be returned to service in order to be considered available. Unavailability must be by train; do not use average unavailability for each train because trains may have unequal risk weights.”

Return to Service: Return to service is the transition from unavailable to available. A train is “returned to service” when the following conditions are met: clearance tags have been removed, the train has been aligned and prepared for operation, (e.g., valve line-up complete, system filled and vented), further adjustment of associated equipment is not required or expected as the result of the unavailability period, and operators concur that the train is able to perform its expected functions. For standby equipment, automatic functions are aligned or can be promptly restored by an operator consistent with the requirements for crediting operator recovery stated later in this section.

Page F-6 Line 35 to F-7 Line 6

Under the heading “Credit for Operator Recovery Actions to Restore the Monitored Functions”

1. During testing or operational alignment:

“Unavailability of a monitored function during testing or operational alignment need not be included if the test or operational alignment configuration is automatically overridden by a valid starting signal, or the function can be promptly restored either by an operator in the control room or by a designated operator stationed locally for that purpose, Restoration actions must be contained in a written procedure, must by uncomplicated (a single action or a few actions), must be capable of being restored in time to satisfy PRA success criteria, and must not require diagnosis or repair. Credit for …”

Change to

1.During testing, operational alignment or return to service:

“Unavailability of a monitored function during testing, operational alignment or return to service need not be included if the test or operational alignment configuration is automatically overridden by a valid starting signal, or the function can be promptly restored either by an operator in the control room or by a designated operator stationed locally for that purpose, Restoration actions must be contained in a written procedure, must by uncomplicated (a single action or a few actions), must be capable of being restored in time to satisfy PRA success criteria, and must not require diagnosis or repair. Credit for …"

Section F 2.2.2 Failures

Recommend adding explanatory text to the following definitions:

Page F-25 Lines 21 to 23:

EDG failure to start: A failure to start includes those failures up to the point the EDG has achieved required speed and voltage. (Exclude post maintenance tests (PMTs), unless the cause of failure was independent of the maintenance performed. Include all failures that result from a non-PMT demand following return to service. If a PMT failure occurs following return to service and was independent of the maintenance performed, then this failure is excluded and the train, during the period from the completion of the maintenance activity to the declaration of return to service, is counted as unavailable.)

Page F-26 Lines 1 to 5:

EDG failure to load/run: Given that it has successfully started, a failure of the EDG output breaker to close, to successfully load sequence and to run/operate for one hour to perform its monitored functions, This failure mode is treated as a demand failure for calculation purposed (Exclude post maintenance tests, unless the cause of failure was independent of the maintenance performed. Include all failures that result from a non-PMT demand following return to service. If a PMT failure occurs following return to service and was independent of the maintenance performed, then this failure is excluded and the train, during the period from the completion of the maintenance activity to the declaration of return to service, is counted as unavailable.)

Page F-26 Lines 7 to 9

EDF failure to run: Given that it has successfully started and loaded and run for an hour, a failure of an EDG to run/operate. (Exclude post maintenance tests, unless the cause of failure was independent of the maintenance performed. Include all failures that result from a non-PMT demand following return to service. If a PMT failure occurs following return to service and was independent of the maintenance performed, then this failure is excluded and the train, during the period from the completion of the maintenance activity to the declaration of return to service, is counted as unavailable.)

Page F-26 Lines 11 to 13

Pump failure on demand: A failure to start and run for at least one hour is counted as failure on demand. (Exclude post maintenance tests, unless the cause of failure was independent of the maintenance performed. Include all failures that result from a non-PMT demand following return to service. If a PMT failure occurs following return to service and was independent of the maintenance performed, then this failure is excluded and the train, during the period from the completion of the maintenance activity to the declaration of return to service, is counted as unavailable.)

Page F-26 Lines 15 to 17

Pump failure to run: Given that it has successfully started and run for an hour, a failure of a pump to run/operate. (Exclude post maintenance tests, unless the cause of failure was independent of the maintenance performed. Include all failures that result from a non-PMT demand following return to service. If a PMT failure occurs following return to service and was independent of the maintenance performed, then this failure is excluded and the train, during the period from the completion of the maintenance activity to the declaration of return to service, is counted as unavailable.)

Page F26 Lines 19 to 21

Valve failure on demand: A failure to transfer to the required monitored state (open, close, or throttle to the desired position as applicable) is counted as failure on demand. (Exclude post maintenance tests, unless the cause of failure was independent of the maintenance performed. Include all failures that result from a non-PMT demand following return to service. If a PMT failure occurs following return to service and was independent of the maintenance performed, then this failure is excluded and the train, during the period from the completion of the maintenance activity to the declaration of return to service, is counted as unavailable.)

Page F26 Lines 23 to 25

Breaker failure on demand: A failure to transfer to the required monitored state (open or close as applicable) is counted as failure on demand (Exclude post maintenance tests, unless the cause of failure was independent of the maintenance performed. Include all failures that result from a non-PMT demand following return to service. If a PMT failure occurs following return to service and was independent of the maintenance performed, then this failure is excluded and the train, during the period from the completion of the maintenance activity to the declaration of return to service, is counted as unavailable.)

Industry Response to the FAQ:

Industry comments have been considered and incorporated into this proposal.

Staff White Paper

EDG Component Boundary (Fuel Oil Transfer Pump Issue)

Issue

The current guidance on treatment of the failures associated with the EDG fuel oil system is unclear because of the following: the fuel oil system is stated to be within the boundary of the EDG supercomponent, but the fuel oil transfer pumps (FOTP) (which are part of the fuel oil system) are stated not to be "monitored," although at some plants they are dedicated to, and required by, individual EDGs, which *are* monitored. In previous discussions of some fuel-oil-system-induced EDG failures, some discussants argued that FOTP failures should not contribute to the MSPI, based on reading the guidance as implying that FOTPs are not "monitored." After discussions between NRC staff and industry representatives, it is now agreed that FOTP performance should be reflected in the MSPI, but the question is how. Staff concerns with the performance of the "constrained non-informative prior" (CNIP) distribution argue against a permanent adoption of this prior distribution to FOTP performance.

Options

(1) the "supercomponent" approach: capturing FOTP failures in the EDG contribution, at plants where individual FOTP failures can cause EDG failure;

(2) Treating the FOTP itself as a monitored component, and applying the usual MSPI priors ("Constrained Non-Informative Prior," or CNIP, for fail to start and fail to run) and calculational approaches;

(3) Monitor the FOTP separately as in (2), but use a heavy-tailed prior instead of the CNIP, such as a mixture distribution or a logistic-normal distribution for unreliability. These are called "heavy-tailed" because, compared to the CNIP, they have more density in their high-unreliability "tails." Each possibility has unique pros and cons, discussed below.

The industry has stated concerns with Option #1. As noted under "Issue," the staff has concerns with the CNIP (Option #2). The recommendation below is to explore Option #3 within a phased approach.

Recommendation

The recommendation is to address two needs: the need to recognize the fuel system within the MSPI program, and the need to address issues with the CNIP that have been recognized for some time, but brought into sharper focus through discussion of the fuel system issue. These needs are addressed within the phased approach outlined below. The phases are not meant to be implemented in isolation; their current formulation is predicated on their being implemented collectively.

Phase 1: Interim Use of CNIP for FOTP

Incorporate the fuel oil transfer pump (FOTP) into the MSPI as a separate component. This Phase 1 activity would apply an existing MSPI CNIP to FOTP performance, and would establish the modeling protocol associated with deriving an appropriate plant-specific, mission-specific Birnbaum for the FOTP (as opposed to simply equating FOTP fail-to-start with EDG fail-to-run). This immediately reflects the FOTP in the MSPI, while keeping FOTP issues separate from EDG fail-to-run. However, because of staff issues with the CNIP, Phase 1 is not considered a satisfactory end point; it is just a stop-gap. Phase 1 will be initiated only if industry agrees to Phases 2 and 3.

Phase 2: Development of Improved Prior Distributions for FOTP (a distribution for each failure mode)

Develop new priors for FOTP performance that have improved false-positive and false-negative characteristics relative to the CNIP. NUREG-1816 ("Independent Verification of the Mitigating Systems Performance Index (MSPI) Results for the Pilot Plants"), Appendix J, discussed the shortcomings of the CNIP, and indicated that work would continue to establish a better prior distribution. As summarized in NUREG-1816, the selection of the CNIP for implementation was based on a comparison between the CNIP and two other possibilities.

Update the "Industry" Prior	The industry prior reflects variability across the industry of the long-term average value.
Update the Constrained Non-Informative Prior (CNIP)	Mean of the prior distribution is the industry mean. Other characteristics of the prior are determined by the requirement to be "non-informative." This prior is updated with current failure and demand information.
Maximum-Likelihood Estimate (MLE)	Makes no use of historical information; derives an estimate entirely from current failure and demand information. This is non-informative in an intuitive sense, but true "non-informative" priors actually need to have more complex mathematical properties.

The CNIP was found to be the best of those three choices, but it was recognized in NUREG-1816 that alternative distributions were promising for the application. Phase 2 would examine other alternatives to the CNIP, including a "mixture" distribution (see NUREG-1816) and a "logistic-normal" distribution. The general properties of these alternative distributions are understood; the point of the Phase 2 activity is to agree on parameter values to be used in the distributions, and, in the case of non-conjugate priors, how to modify the CDE to perform the required updates and calculate the required posterior mean values. Phase 2 would focus on doing this for the FOTP, pointing the way to a broader application of improved prior distributions within the MSPI program.

Phase 3: Development of Improved Prior Distribution for Other Components

Phase 2 is effectively a pilot for Phase 3's application of the improved prior distributions to other components within the MSPI. Using the FOTP as a case study, Phase 2 will have shown which distribution is preferred, how to choose its parameter values, and how to carry out the update process within the CDE. In Phase 3, these results will be extended to other components within the MSPI scope.

<u>Discussion: Example of Behavior of Different Options</u>

Figure 1 below illustrates the effects of different priors. The situation being modeled is the functional unreliability over a 24-hour mission for an EDG having a 4-hour day tank supplied by a single FOTP.

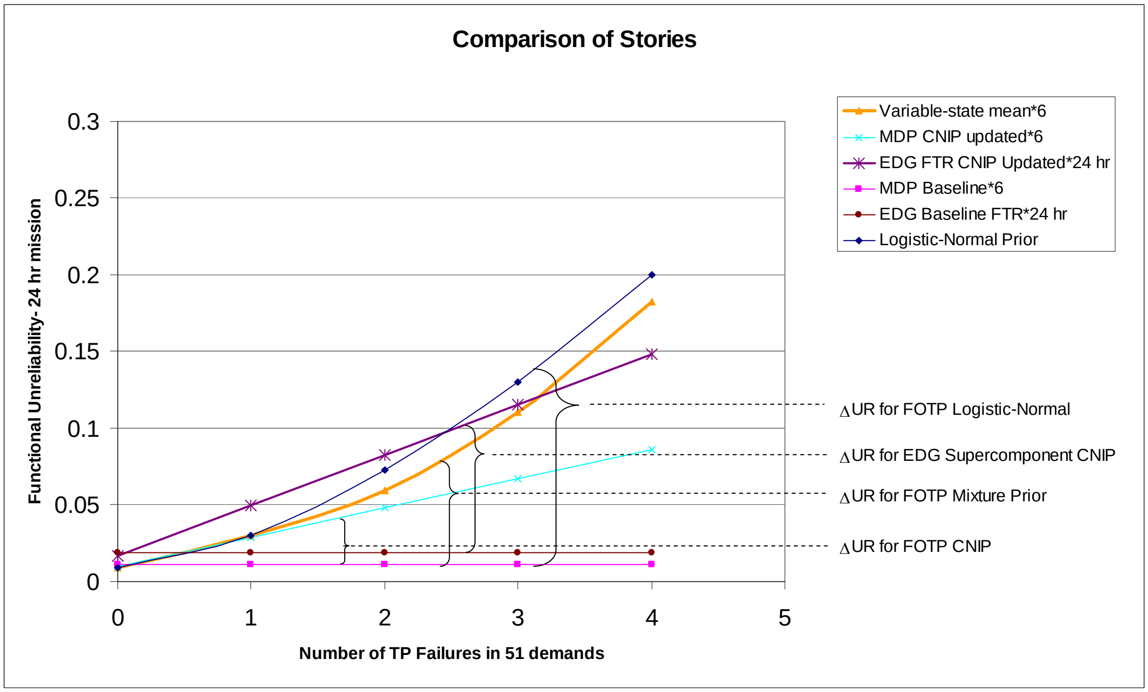


Figure 1. Different ΔUR Contributions Resulting from Different Prior Distributions

Assumptions:

- Functional unreliability to be calculated for a 24-hour mission
- Monthly EDG testing for 1 hour
- Annual EDG testing for 24 hours, replacing the monthly test (in a 3-year period, testing run hours amount to 3*24 + 33 = 105 run hours)
- The FOTP is demanded once for each hourly test (this assumption inflates the number of demands) and 6 times in each 24-hour test
- 4-hour day tank implies 6 FOTP demands in a 24-hour mission. The mission failure therefore depends on the probability of failing conditional on 6 FOTP demands (not just 1) and this fact is reflected in the “MDP Baseline *6” plot and the curves other than “EDG FTR CNIP Updated * 24 hr.” If FOTP is rolled into the EDG FTR hourly rate, then the mission time calculation takes care of the number of demands.

Figure 1 shows ΔUR calculations for four priors. For convenience, the baselines are also shown.

- Consider first the “ΔUR for EDG Supercomponent CNIP” curve. This corresponds to “Option 1” above. In this case, the FOTP is considered part of the EDG supercomponent, and an FOTP failure causing EDG fail-to-run is scored just that way. For 1 failure, this leads to the largest ΔUR of the cases considered, but for larger numbers of failures, the situation is more complex.

- Consider next the "ΔUR for FOTP CNIP" curve. This corresponds to "Option 2" above. This case treats the FOTP as a monitored component, and applies the CNIP to it in the usual way. This treatment gives ΔUR smaller than that of the EDG supercomponent calculation, for the reason mentioned earlier: for more reliable components, the CNIP gives a smaller ΔUR for a given number of failures. In fact, for more than zero failures, it gives the smallest ΔUR of all the priors considered.
- Finally, consider the "ΔUR for FOTP Logistic-Normal" and the "ΔUR for FOTP Mixture Prior" curves. These priors are instances of "Option 3" above. Here, as in Option 2, the FOTP is treated as a separately-monitored component, but the results are very different from those given by the CNIP. The mixture prior and the logistic-normal prior are more responsive to more failures, yielding a higher ΔUR. This comes about because these priors have more density at high unreliability values than the CNIP does.

Appendix J of NUREG-1816 [NRC 2005] discussed the pillowing tendency of the CNIP relative to the mixture prior. Specifically, if a component is assigned a low mean prior failure probability, the β parameter in the CNIP is large, and several failures are therefore required to change the posterior mean significantly. This so-called "pillowing" effect occurs in our example because the FOTP CNIP has a β parameter of 498. For the parameter values used in the example above, the logistic-normal prior behaves qualitatively similarly to the mixture, because both have appreciable prior density at high unreliability.

It is clear that the CNIP is systematically insensitive when the mean is small. The mixture prior and the logistic-normal have the same mean as the CNIP, yet give a much larger ΔUR for increasing observed failures.

For this example, both the mixture prior and the logistic-normal prior are more forgiving for one failure than the "supercomponent" prior, but their posterior distributions change rapidly for more than a few failures. This behavior results from the ways in which the parameters were chosen for these priors. Formulating these priors as done here gives a built-in "stop:" starting with a low prior probability of degraded performance (in the mixture prior) and not putting too much density at high unreliability (in the logistic-normal) keeps the posterior from changing too much until there is sufficient statistical evidence to overcome the prior presumption of good performance.

Pros and Cons of Different Approaches

Approach	Prior	Pros	Cons
"Supercomponent" Approach: Treat FOTP failures that actually cause EDG FTR as EDG FTR, within existing MSPI calculational approach	**Option 1:** CNIP for EDG FTR	• Arguably the simplest way to avoid the "pillowing" drawback of "CNIP for standby pump" below. • No new parameters and no need to track FOTP demands. • Pillowing not much of an issue because EDG FTR is a relatively high probability failure mode	• Takes a piecemeal approach to the pillowing issue (only addresses FOTP, but the problem exists for all relatively high-reliability components) • May complicate future improvements to FTR Birnbaum estimation for late failures • Appears conservative for small # of failures, non-conservative for larger # of failures
Model FOTP as a separate component; model FOTP contribution to EDG mission failure probability as a function of day tank capacity, mission time, etc.	**Option 2:** CNIP for FOTP	• Simple: Existing calculational process for FOTP • Just need to model contribution to run mission failure. • Prior parameters all already pre-determined	• Pillowing: Nonconservative behavior when nominally reliable components have more failures than expected (A well-understood problematic attribute of CNIPs for highly-reliable components)
	Option 3: Mixture Prior for FOTP	• Can be conjugate and therefore easy to implement within existing CDE; • Not excessively conservative for small # of failures, not non-conservative for larger # of failures; • Capable of outputting p(degraded)	• Lots of parameters to determine. Most previous data analysis has been carried out to determine overall (e.g., fleet-wide and/or long-term) average behavior, not characteristics of different performance states.
	Option 3: Logistic-Normal Prior for FOTP	• Behavior qualitatively resembles Mixture Prior (e.g., No pillowing) • Fewer parameters than mixture prior (mean plus one other)	• Still need to agree on one additional parameter per prior (besides baseline mean): weight in the tail • Update process requires slightly fancier calculation to be added to CDE

EDG Test Demands

Unit_Nme	DeviceID	Total	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arkansas Nuclear One, Unit 1	92	304.7	48.0	37.0	15.3	6.0	15.0	26.0	23.0	28.0	34.0	20.0	31.0	21.4
Arkansas Nuclear One, Unit 1	28468	324.5	60.0	40.0	22.8	6.0	11.0	27.0	29.0	25.0	34.0	19.0	31.0	19.8
Arkansas Nuclear One, Unit 2	30727	204.2	2.1	2.1	19.0	22.0	20.0	21.0	19.0	21.0	19.0	23.0	17.0	19.0
Arkansas Nuclear One, Unit 2	54598	207.7	2.3	2.3	20.0	24.0	8.2	26.0	25.0	19.0	19.0	27.0	14.0	20.9
Beaver Valley Power Station, Unit 1	64497	180.9	12.7	19.0	14.0	17.0	15.0	13.0	16.0	20.0	13.3	12.7	12.7	15.6
Beaver Valley Power Station, Unit 1	64832	178.9	12.7	19.0	16.0	18.0	15.0	14.0	15.0	16.0	12.3	12.7	12.7	15.6
Beaver Valley Power Station, Unit 2	70252	170.1	12.7	14.0	16.0	16.0	15.0	16.0	15.2	13.0	13.3	12.7	12.7	13.6
Beaver Valley Power Station, Unit 2	71036	170.1	12.7	16.0	15.0	15.0	13.0	14.0	14.2	14.0	15.3	12.7	12.7	15.6
Braidwood Station, Unit 1	75429	241.4	20.9	21.0	13.0	24.2	20.2	20.9	20.0	18.0	21.0	19.0	23.0	20.2
Braidwood Station, Unit 1	75430	252.0	20.9	22.0	13.0	18.4	33.6	20.9	21.0	20.0	19.0	20.0	23.0	20.2
Braidwood Station, Unit 2	103804	285.1	23.1	18.0	20.0	28.8	45.2	23.1	16.0	22.0	19.0	19.0	19.0	31.8
Braidwood Station, Unit 2	103913	256.0	21.3	20.0	22.0	27.8	23.3	21.3	17.0	20.0	22.0	20.0	18.0	23.3
Browns Ferry Nuclear Plant, Unit 2	124217	228.9	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.0	18.0	18.7	18.7	24.9
Browns Ferry Nuclear Plant, Unit 2	124306	232.8	19.0	19.0	19.0	19.0	19.0	19.0	19.0	17.3	19.3	19.0	19.0	25.3
Browns Ferry Nuclear Plant, Unit 2	124307	219.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	16.5	16.5	18.0	18.0	24.0
Browns Ferry Nuclear Plant, Unit 2	920861	219.1	17.7	17.7	17.7	17.7	17.7	17.7	17.7	16.2	20.2	17.7	17.7	23.6
Browns Ferry Nuclear Plant, Unit 3	129112	212.1	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.0	16.0	17.3	17.3	23.1
Browns Ferry Nuclear Plant, Unit 3	129113	212.1	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.0	16.0	17.3	17.3	23.1
Browns Ferry Nuclear Plant, Unit 3	129115	243.7	20.0	20.0	20.0	20.0	20.0	20.0	20.0	19.0	18.0	20.0	20.0	26.7
Browns Ferry Nuclear Plant, Unit 3	129117	227.9	18.7	18.7	18.7	18.7	18.7	18.7	18.7	17.0	18.0	18.7	18.7	24.9
Brunswick Steam Electric Plant, Unit 2	138701	214.1	13.7	13.7	13.7	13.7	13.5	13.5	20.0	20.0	20.0	20.0	20.9	31.6
Brunswick Steam Electric Plant, Unit 2	138703	214.1	13.7	13.7	13.7	13.7	13.5	13.5	20.0	20.0	20.0	20.0	20.9	31.6
Brunswick Steam Electric Plant, Unit 2	138705	214.1	13.7	13.7	13.7	13.7	13.5	13.5	20.0	20.0	20.0	20.0	20.9	31.6
Brunswick Steam Electric Plant, Unit 2	138707	214.1	13.7	13.7	13.7	13.7	13.5	13.5	20.0	20.0	20.0	20.0	20.9	31.6
Byron Station, Unit 1	144445	263.0	24.0	24.0	24.0	24.0	24.0	24.0	21.0	13.0	20.0	17.0	29.0	19.0
Byron Station, Unit 1	144447	259.0	24.0	24.0	24.0	24.0	24.0	24.0	18.0	15.0	18.0	26.0	21.0	17.0
Byron Station, Unit 2	149279	243.0	24.0	24.0	24.0	24.0	24.0	24.0	15.0	17.0	13.0	22.0	17.0	15.0
Byron Station, Unit 2	149281	256.0	24.0	24.0	24.0	24.0	24.0	24.0	16.0	21.0	13.0	22.0	19.0	21.0
Callaway Nuclear Plant, Unit 1	154071	263.2	22.0	22.0	22.0	22.0	22.0	24.0	14.0	22.0	23.5	25.7	22.0	22.0
Callaway Nuclear Plant, Unit 1	154072	284.2	25.3	25.3	25.3	25.3	25.3	19.0	15.0	22.0	21.3	29.6	25.3	25.3
Calvert Cliffs Nuclear Power Plant, Unit 1	159126	238.5	18.5	52.0	15.0	20.0	17.0	18.0	16.0	14.0	14.0	20.0	15.0	19.0
Calvert Cliffs Nuclear Power Plant, Unit 1	159750	238.3	19.3	21.0	25.0	24.0	25.0	17.0	20.0	15.0	13.0	16.0	21.0	22.0
Calvert Cliffs Nuclear Power Plant, Unit 2	163078	250.2	21.2	30.0	17.0	14.0	23.0	18.0	17.0	20.0	14.0	14.0	30.0	32.0
Calvert Cliffs Nuclear Power Plant, Unit 2	163626	234.8	17.8	22.0	21.0	17.0	17.0	18.0	32.0	17.0	27.0	13.0	14.0	19.0
Catawba Nuclear Station, Unit 1	166779	210.1	22.0	12.0	20.0	13.0	13.0	17.0	29.0	21.0	16.0	16.0	14.7	16.4
Catawba Nuclear Station, Unit 1	166780	200.8	22.7	13.0	21.0	12.0	14.0	17.0	22.0	16.0	16.0	16.0	14.7	16.4
Catawba Nuclear Station, Unit 2	172652	228.1	20.0	15.0	16.0	33.0	18.0	17.0	27.0	19.0	18.0	14.0	14.7	16.4
Catawba Nuclear Station, Unit 2	173053	200.4	19.3	15.0	14.0	19.0	16.0	16.0	22.0	19.0	14.0	15.0	14.7	16.4
Clinton Power Station, Unit 1	178388	239.8	53.8	17.0	17.0	17.0	13.3	17.0	17.0	17.0	17.0	19.8	17.0	17.0

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Clinton Power Station, Unit 1	178752	244.4	53.1	17.5	17.5	17.5	13.4	17.5	17.5	17.5	17.5	20.4	17.5	17.5
Columbia Generating Station, Unit 2	185526	182.3	14.7	14.7	14.7	14.7	17.3	14.7	14.7	14.7	14.7	14.7	14.7	18.3
Columbia Generating Station, Unit 2	185770	183.3	14.7	14.7	14.7	14.7	18.3	14.7	14.7	14.7	14.7	14.7	14.7	18.3
Comanche Peak Steam Electric Station, Unit 1	190618	270.0	24.0	25.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	15.0	18.0
Comanche Peak Steam Electric Station, Unit 1	191043	270.3	25.3	18.0	25.3	25.3	25.3	25.3	25.3	25.3	25.3	19.3	14.0	16.3
Comanche Peak Steam Electric Station, Unit 2	196783	257.0	24.0	16.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	15.0	13.0	21.0
Comanche Peak Steam Electric Station, Unit 2	197074	244.0	22.7	14.0	22.7	22.7	22.7	22.7	22.7	22.7	22.7	17.0	13.0	18.7
Cooper Nuclear Station, Unit 1	246629	223.8	17.6	17.6	17.6	17.6	17.6	17.6	16.4	14.0	15.0	25.0	24.0	23.8
Cooper Nuclear Station, Unit 1	250005	236.1	21.2	21.2	21.2	21.2	21.2	21.2	19.3	16.0	15.0	15.0	17.0	26.6
Crystal River Unit 3, Unit 3	262755	192.3	13.0	17.0	14.0	14.0	14.0	21.0	14.0	18.0	17.0	13.7	18.3	18.3
Crystal River Unit 3, Unit 3	262756	191.1	9.0	20.0	16.0	14.0	17.0	14.0	16.0	19.0	16.0	12.9	17.0	20.2
Davis-Besse Nuclear Power Station, Unit 1	268257	195.5	16.5	22.0	14.0	9.0	22.0	16.0	13.0	13.0	8.0	25.0	13.0	24.0
Davis-Besse Nuclear Power Station, Unit 1	269404	191.9	16.9	15.0	11.0	10.0	28.0	14.0	17.0	13.0	8.0	24.0	14.0	21.0
Diablo Canyon Power Plant, Unit 1	272071	379.2	40.7	40.7	40.2	40.7	40.7	32.3	20.0	24.0	28.0	24.0	24.0	24.0
Diablo Canyon Power Plant, Unit 1	272072	456.5	31.3	31.3	40.8	31.3	31.3	36.8	35.2	42.3	49.3	42.3	42.3	42.3
Diablo Canyon Power Plant, Unit 1	272113	312.2	30.0	30.0	58.5	30.0	30.0	24.1	15.2	18.3	21.3	18.3	18.3	18.3
Diablo Canyon Power Plant, Unit 2	276584	396.9	31.3	31.3	20.8	31.3	31.3	31.3	30.5	36.6	42.7	36.6	36.6	36.6
Diablo Canyon Power Plant, Unit 2	276585	397.1	35.3	35.3	35.3	35.3	35.3	35.3	25.7	30.9	36.0	30.9	30.9	30.9
Diablo Canyon Power Plant, Unit 2	276858	354.4	32.0	32.0	23.0	32.0	32.0	32.0	23.8	28.6	33.3	28.6	28.6	28.6
Donald C. Cook Nuclear Plant, Unit 1	201637	186.0	14.7	14.0	15.3	14.7	14.7	16.0	16.0	16.0	16.0	14.0	16.0	18.7
Donald C. Cook Nuclear Plant, Unit 1	201638	205.0	14.7	27.0	21.3	14.7	14.7	16.0	16.0	16.0	16.0	14.0	16.0	18.7
Donald C. Cook Nuclear Plant, Unit 2	202801	202.7	14.7	14.0	18.0	14.7	14.7	16.0	16.0	16.0	16.0	28.0	16.0	18.7
Donald C. Cook Nuclear Plant, Unit 2	202802	200.0	14.7	14.0	11.3	14.7	14.7	16.0	16.0	16.0	16.0	32.0	16.0	18.7
Dresden Station, Unit 2	281253	187.4	14.8	20.0	13.0	14.1	14.8	14.8	14.7	14.0	15.0	12.0	18.0	22.0
Dresden Station, Unit 2	281254	232.4	16.8	29.0	15.0	16.6	16.8	16.8	18.2	16.0	17.0	17.0	17.0	36.0
Dresden Station, Unit 3	285123	223.4	19.1	17.0	15.0	27.3	19.1	19.1	14.8	20.0	12.0	24.0	15.0	21.0
Duane Arnold Energy Center, Unit 1	292556	173.7	16.3	13.0	10.0	10.0	9.1	16.3	16.3	16.3	16.3	16.3	16.3	17.9
Duane Arnold Energy Center, Unit 1	293925	185.9	17.5	6.0	19.0	8.0	11.4	17.5	17.5	17.5	17.5	17.5	17.5	19.0
E. I. Hatch Nuclear Plant, Unit 1	373369	217.4	17.4	14.0	21.0	19.0	17.0	21.0	16.0	20.0	18.0	13.0	17.0	24.0
E. I. Hatch Nuclear Plant, Unit 1	373380	211.6	17.6	9.0	10.0	19.0	20.0	23.0	17.0	24.0	18.0	16.0	15.0	23.0
E. I. Hatch Nuclear Plant, Unit 1	373820	204.9	16.9	14.0	22.0	18.0	15.0	19.0	13.0	19.0	14.0	18.0	13.0	23.0
E. I. Hatch Nuclear Plant, Unit 2	378663	214.6	19.6	20.0	14.0	21.0	22.0	13.0	17.0	16.0	18.0	16.0	15.0	23.0
E. I. Hatch Nuclear Plant, Unit 2	378777	231.2	22.1	27.0	14.0	22.1	22.0	13.0	20.0	19.0	16.0	17.0	16.0	23.0
Farley Nuclear Plant, Unit 1	294265	350.6	29.3	29.0	29.0	31.0	29.0	31.0	33.0	24.0	31.0	25.6	29.3	29.3
Farley Nuclear Plant, Unit 1	294266	368.6	26.3	37.0	46.0	30.0	28.0	30.0	30.0	28.0	25.0	35.6	26.3	26.3
Farley Nuclear Plant, Unit 1	294267	166.3	13.9	12.0	22.0	12.0	11.0	14.0	13.5	15.0	11.4	13.9	13.9	13.9
Farley Nuclear Plant, Unit 1	294268	312.8	20.7	27.0	21.0	33.0	43.0	28.0	21.0	20.0	26.0	31.8	20.7	20.7
Farley Nuclear Plant, Unit 2	299053	297.1	22.7	26.0	25.0	27.0	29.0	26.0	21.0	21.0	25.0	29.1	22.7	22.7
Fermi 2, Unit 2	305131	244.0	15.0	23.0	14.0	26.0	20.0	15.0	25.0	19.0	20.0	26.0	21.0	20.0
Fermi 2, Unit 2	305133	225.0	13.0	16.0	14.0	21.0	20.0	14.0	17.0	16.0	29.0	22.0	23.0	20.0

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Fermi 2, Unit 2	305200	256.0	15.0	20.0	9.0	23.0	30.0	18.0	19.0	29.0	17.0	34.0	20.0	22.0
Fermi 2, Unit 2	305202	250.0	14.0	18.0	16.0	19.0	27.0	16.0	26.0	15.0	28.0	23.0	23.0	25.0
Fort Calhoun Station, Unit 1	315392	276.0	24.0	27.0	17.0	37.0	28.0	15.0	23.0	24.0	16.0	15.0	20.0	30.0
Fort Calhoun Station, Unit 1	315455	258.0	16.0	25.0	17.0	32.0	21.0	20.0	15.0	25.0	15.0	18.0	28.0	26.0
Grand Gulf Nuclear Station, Unit 1	323887	263.0	12.0	27.0	33.0	19.0	32.0	28.0	13.0	21.0	22.0	18.0	19.0	19.0
Grand Gulf Nuclear Station, Unit 1	324067	260.0	16.0	29.0	31.0	16.0	33.0	29.0	14.0	23.0	18.0	15.0	19.0	17.0
H. B. Robinson Steam Electric Plant, Unit 2	713103	213.3	16.0	16.0	16.0	16.0	16.0	11.9	25.0	18.7	18.7	21.8	18.7	18.7
H. B. Robinson Steam Electric Plant, Unit 2	713379	230.7	16.0	16.0	16.0	16.0	16.0	14.4	26.0	21.3	21.3	24.9	21.3	21.3
Hope Creek, Unit 1	384243	214.0	18.0	18.0	18.0	18.0	18.0	18.0	20.5	18.0	18.0	17.0	19.0	13.5
Hope Creek, Unit 1	384249	198.7	15.3	15.3	15.3	15.3	15.3	15.3	19.8	20.0	18.0	19.0	17.0	12.8
Hope Creek, Unit 1	384251	194.0	16.0	16.0	16.0	16.0	16.0	16.0	18.0	16.0	15.0	18.0	16.0	15.0
Hope Creek, Unit 1	384680	210.7	17.3	17.3	17.3	17.3	17.3	17.3	22.3	18.0	16.0	19.0	18.0	13.3
Indian Point, Unit 2	390338	215.3	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	23.0	15.0	24.3
Indian Point, Unit 2	390342	186.8	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	19.0	16.0	16.8
Indian Point, Unit 2	390359	234.0	20.0	20.0	20.0	20.0	20.0	20.0	16.0	16.0	16.0	28.0	13.0	25.0
Indian Point, Unit 3	394291	193.0	12.0	15.0	18.0	18.0	17.0	14.0	14.3	15.0	15.0	18.8	20.0	16.0
Indian Point, Unit 3	394357	189.0	12.0	17.0	18.0	13.0	15.0	14.0	14.3	15.0	15.0	16.8	23.0	16.0
Indian Point, Unit 3	394359	198.0	12.0	23.0	18.0	15.0	17.0	22.0	14.3	15.0	15.0	16.8	16.0	14.0
James A. FitzPatrick Nuclear Power Plant, Unit 1	309388	366.5	60.0	60.0	51.0	43.0	24.0	19.4	17.4	25.3	15.0	15.0	13.0	23.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309390	365.5	60.0	60.0	51.0	40.0	29.0	17.4	16.4	25.3	15.0	15.0	14.0	22.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309392	390.5	60.0	60.0	53.0	44.0	26.0	22.1	17.1	27.2	13.0	27.0	14.0	27.1
James A. FitzPatrick Nuclear Power Plant, Unit 1	309446	372.5	60.0	60.0	53.0	43.0	21.0	22.1	17.1	27.2	13.0	17.0	14.0	25.1
Kewaunee Power Station, Unit 1	399159	214.9	18.9	18.0	14.0	20.0	17.0	16.0	23.0	15.0	15.0	22.0	17.0	19.0
Kewaunee Power Station, Unit 1	399176	210.4	17.4	23.0	20.0	18.0	16.0	18.0	16.0	17.0	17.0	15.0	16.0	17.0
LaSalle County Generating Station, Unit 1	402984	244.6	20.3	26.0	28.0	17.0	23.0	20.0	18.0	16.0	19.0	17.0	18.6	21.7
LaSalle County Generating Station, Unit 1	402986	226.3	21.3	22.0	25.0	17.0	19.0	26.0	15.0	18.0	15.0	16.0	14.1	17.8
LaSalle County Generating Station, Unit 2	408836	228.6	19.7	21.0	28.0	17.0	22.0	18.0	20.0	14.0	18.0	13.0	20.1	17.8
Limerick Generating Station, Unit 1	413910	184.0	16.5	16.5	16.5	16.5	16.5	8.3	12.1	16.0	15.0	17.0	13.0	20.1
Limerick Generating Station, Unit 1	413911	194.3	16.5	16.5	16.5	16.5	16.5	12.4	15.3	15.0	18.0	17.0	12.0	22.1
Limerick Generating Station, Unit 1	414093	186.0	16.5	16.5	16.5	16.5	16.5	8.3	12.1	15.0	19.0	15.0	15.0	19.1
Limerick Generating Station, Unit 1	414094	189.1	16.5	16.5	16.5	16.5	16.5	12.4	12.1	16.0	15.0	17.0	12.0	22.1
Limerick Generating Station, Unit 2	420673	188.1	16.5	16.5	16.5	16.5	16.5	12.4	12.1	12.0	22.0	16.0	16.0	15.1
Limerick Generating Station, Unit 2	420941	181.0	16.5	16.5	16.5	16.5	16.5	12.4	8.0	12.0	19.0	15.0	16.0	16.1
Limerick Generating Station, Unit 2	420943	182.1	16.5	16.5	16.5	16.5	16.5	12.4	11.1	13.0	17.0	16.0	14.0	16.1
Limerick Generating Station, Unit 2	420945	188.1	16.5	16.5	16.5	16.5	16.5	13.4	12.1	14.0	18.0	17.0	14.0	17.1
McGuire Nuclear Station, Unit 1	425897	308.1	22.7	32.0	32.0	15.0	36.0	46.0	13.0	25.0	19.0	21.0	22.7	23.8
McGuire Nuclear Station, Unit 1	426106	291.1	22.7	27.0	27.0	17.0	34.0	37.0	14.0	27.0	19.0	20.0	22.7	23.8
McGuire Nuclear Station, Unit 2	431267	270.1	22.7	22.0	24.0	26.0	20.0	30.0	27.0	14.0	18.0	20.0	22.7	23.8
McGuire Nuclear Station, Unit 2	431268	275.1	22.7	22.0	25.0	37.0	14.0	25.0	29.0	12.0	21.0	20.0	22.7	24.8
Millstone Nuclear Power Station, Unit 2	440377	222.2	24.8	16.4	16.0	21.2	11.2	26.0	16.0	14.0	19.0	20.0	17.0	20.6

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Millstone Nuclear Power Station, Unit 2	440379	196.1	16.9	16.9	16.0	16.5	13.7	17.0	15.0	14.0	17.0	17.0	17.0	19.1
Millstone Nuclear Power Station, Unit 3	444272	191.2	16.3	15.2	14.2	14.2	14.2	16.0	13.0	20.0	16.0	14.0	19.0	19.1
Millstone Nuclear Power Station, Unit 3	444340	192.5	16.4	13.3	13.2	14.3	15.3	16.0	14.0	19.0	19.0	16.0	19.0	17.1
Monticello Nuclear Generating Plant, Unit 1	449718	187.9	15.5	12.0	12.0	23.9	16.0	18.9	12.9	13.0	14.6	18.1	15.5	15.5
Monticello Nuclear Generating Plant, Unit 1	450139	177.0	14.5	16.0	12.0	17.0	16.0	14.6	12.1	14.0	14.9	16.9	14.5	14.5
Nine Mile Point Nuclear Station, Unit 1	453530	190.0	12.0	20.0	21.0	14.0	15.0	13.0	16.0	13.0	19.0	12.0	17.0	18.0
Nine Mile Point Nuclear Station, Unit 1	453794	179.0	12.0	13.0	12.0	17.0	14.0	14.0	16.0	14.0	20.0	12.0	19.0	16.0
Nine Mile Point Nuclear Station, Unit 2	456878	217.6	14.6	32.7	14.6	11.0	14.6	18.0	13.0	19.0	13.0	24.0	14.0	29.0
Nine Mile Point Nuclear Station, Unit 2	456879	209.6	14.6	25.7	14.6	11.0	14.6	20.0	13.0	19.0	12.0	22.0	17.0	26.0
North Anna Power Station, Unit 1	511898	180.7	14.7	14.7	20.0	14.0	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
North Anna Power Station, Unit 1	518352	178.7	14.7	13.0	19.0	14.7	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
North Anna Power Station, Unit 2	534562	173.7	14.7	14.7	13.0	14.0	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
North Anna Power Station, Unit 2	572985	176.7	14.7	14.7	16.0	14.0	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
Oyster Creek Nuclear Generating Station, Unit 1	590380	477.0	24.0	44.0	34.0	41.0	44.0	52.0	48.0	37.0	37.0	36.0	39.0	41.0
Oyster Creek Nuclear Generating Station, Unit 1	590381	447.0	24.0	35.0	33.0	34.0	41.0	44.0	41.0	40.0	35.0	40.0	36.0	44.0
Palisades Nuclear Plant, Unit 1	593097	293.3	30.0	30.0	30.0	30.0	30.0	20.0	20.0	20.0	20.0	20.0	20.0	23.3
Palisades Nuclear Plant, Unit 1	593098	293.3	30.0	30.0	30.0	30.0	30.0	20.0	20.0	20.0	20.0	20.0	20.0	23.3
Palo Verde Nuclear Generating Station, Unit 1	596679	203.1	16.7	21.0	11.0	13.0	14.0	20.0	14.0	15.0	28.0	15.5	16.7	18.3
Palo Verde Nuclear Generating Station, Unit 1	596680	211.9	16.3	26.0	15.0	13.0	13.0	19.0	13.0	18.0	24.0	15.3	16.3	23.0
Palo Verde Nuclear Generating Station, Unit 2	603103	206.1	16.7	16.0	23.0	13.0	14.0	18.0	20.0	15.0	19.0	15.5	16.7	19.3
Palo Verde Nuclear Generating Station, Unit 2	603104	200.9	16.3	17.0	21.0	13.0	15.0	18.0	16.0	13.0	21.0	15.3	16.3	19.0
Palo Verde Nuclear Generating Station, Unit 3	610313	209.1	16.7	33.0	13.0	14.0	18.0	13.0	17.0	18.0	15.0	16.5	16.7	18.3
Palo Verde Nuclear Generating Station, Unit 3	610315	205.9	16.3	29.0	15.0	15.0	18.0	13.0	19.0	18.0	13.0	15.3	16.3	18.0
Peach Bottom Atomic Power Station, Unit 2	615673	509.6	59.5	36.0	44.9	59.5	59.5	59.5	39.9	30.0	32.0	29.0	25.0	34.9
Peach Bottom Atomic Power Station, Unit 2	615674	479.8	59.5	31.0	39.9	46.6	59.5	59.5	38.9	34.0	32.0	26.0	19.0	33.9
Peach Bottom Atomic Power Station, Unit 2	615675	500.6	59.5	32.0	42.9	59.5	59.5	59.5	40.9	32.0	32.0	31.0	21.0	30.9
Peach Bottom Atomic Power Station, Unit 2	615676	481.9	59.5	36.0	45.9	31.8	59.5	59.5	41.9	32.0	33.0	30.0	19.0	33.9
Perry Nuclear Power Plant, Unit 1	626613	256.8	15.5	15.0	22.0	14.0	35.0	20.0	41.0	21.0	24.0	18.3	15.5	15.5
Perry Nuclear Power Plant, Unit 1	626615	280.8	15.5	20.0	29.0	24.0	24.0	40.0	27.0	18.0	34.0	18.3	15.5	15.5
Pilgrim Nuclear Power Station, Unit 1	632109	187.7	16.7	3.0	11.0	15.0	17.0	14.0	17.0	20.0	22.0	19.0	20.0	13.0
Pilgrim Nuclear Power Station, Unit 1	632139	223.3	18.7	7.7	15.0	11.0	15.0	21.0	18.0	16.0	16.0	20.0	32.0	33.0
Point Beach Nuclear Plant, Unit 1	635653	170.8	12.0	12.0	12.0	12.0	15.0	40.0	11.5	15.0	17.5	15.0	8.8	0.0
Point Beach Nuclear Plant, Unit 1	635704	151.2	12.0	12.0	12.0	12.0	14.0	15.0	12.9	16.3	19.1	16.3	9.5	0.0
Point Beach Nuclear Plant, Unit 1	635811	148.2	12.0	12.0	12.0	12.0	12.0	17.0	9.9	16.3	19.1	16.3	9.5	0.0
Point Beach Nuclear Plant, Unit 1	635812	146.6	12.0	12.0	12.0	12.0	14.0	13.0	14.1	15.3	17.9	15.3	8.9	0.0
Prairie Island Nuclear Generating Plant, Unit 1	641679	160.3	18.0	16.0	12.0	10.0	13.0	13.0	14.0	15.0	14.3	12.0	12.0	11.0
Prairie Island Nuclear Generating Plant, Unit 1	641686	153.3	13.0	14.0	13.0	12.0	14.0	13.0	13.0	14.0	12.3	12.0	12.0	11.0
Prairie Island Nuclear Generating Plant, Unit 2	645367	154.0	12.0	6.0	11.0	16.0	15.0	15.0	14.0	16.0	14.0	12.0	12.0	11.0
Prairie Island Nuclear Generating Plant, Unit 2	645606	165.0	12.0	12.0	14.0	18.0	18.0	14.0	16.0	13.0	13.0	12.0	12.0	11.0
Quad Cities Station, Unit 1	648766	338.9	33.5	33.5	33.5	33.5	33.5	33.5	25.7	19.0	22.0	20.0	22.0	29.4

EDG Test Demands

Quad Cities Station, Unit 1	648777	198.7	16.6	16.6	16.6	16.6	16.6	16.6	16.3	17.0	17.0	15.0	19.0	15.1
Quad Cities Station, Unit 2	653988	273.3	27.2	27.2	27.2	27.2	27.2	27.2	19.6	17.0	16.0	20.0	16.0	21.8
R. E. Ginna Nuclear Power Plant, Unit 1	319512	170.8	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	14.3	23.1
R. E. Ginna Nuclear Power Plant, Unit 1	319513	170.8	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	14.3	23.1
River Bend Station, Unit 1	656958	283.2	12.2	27.0	30.0	30.0	17.0	14.0	14.0	19.0	43.0	19.0	25.0	33.0
River Bend Station, Unit 1	707056	321.0	9.0	26.0	52.0	28.0	23.0	17.0	23.0	21.0	43.0	22.0	19.0	38.0
Salem, Unit 1	716195	271.5	24.0	24.0	24.0	24.0	24.0	21.7	21.7	21.7	21.7	21.4	22.0	21.4
Salem, Unit 1	716626	271.2	21.3	21.3	21.3	21.3	21.3	25.0	25.0	25.0	25.0	16.3	24.0	24.3
Salem, Unit 1	716627	271.7	23.3	23.3	23.3	23.3	23.3	24.0	24.0	24.0	24.0	18.0	19.0	22.0
Salem, Unit 2	720261	276.7	27.3	27.3	27.3	27.3	27.3	20.5	21.0	21.0	21.0	22.3	14.0	20.3
Salem, Unit 2	720262	273.4	25.3	25.3	25.3	25.3	25.3	21.4	22.7	22.7	22.7	20.7	14.0	22.7
Salem, Unit 2	720709	278.9	27.3	27.3	27.3	27.3	27.3	22.1	20.3	20.3	20.3	22.1	15.0	22.1
San Onofre Nuclear Generating Station, Unit 2	724718	246.2	12.0	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	27.6
San Onofre Nuclear Generating Station, Unit 2	724771	261.3	12.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	29.3
San Onofre Nuclear Generating Station, Unit 3	731367	239.3	12.0	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
San Onofre Nuclear Generating Station, Unit 3	731388	234.9	12.0	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	26.2
Seabrook Station, Unit 1	736429	234.9	19.6	19.6	19.6	19.6	19.6	18.0	24.0	14.0	19.0	22.0	16.0	23.9
Seabrook Station, Unit 1	736430	239.6	19.9	19.9	19.9	19.9	19.9	23.0	20.0	16.0	20.0	24.0	13.0	24.0
Sequoyah Nuclear Plant	926916	215.6	17.6	18.0	13.0	20.0	20.0	17.0	18.0	17.0	17.0	17.0	20.0	21.0
Sequoyah Nuclear Plant	926917	221.4	18.4	19.0	13.0	18.0	18.0	18.0	19.0	20.0	16.0	17.0	21.0	24.0
Sequoyah Nuclear Plant	926922	225.7	18.7	13.0	18.0	24.0	16.0	21.0	19.0	13.0	21.0	20.0	17.0	25.0
Sequoyah Nuclear Plant	926924	215.3	19.3	13.0	18.0	20.0	14.0	22.0	18.0	16.0	18.0	19.0	16.0	22.0
Shearon Harris Nuclear Power Plant, Unit 1	367900	217.3	17.3	17.3	16.3	17.0	26.3	11.4	20.0	19.0	19.0	18.9	17.3	17.3
Shearon Harris Nuclear Power Plant, Unit 1	367902	214.0	18.7	18.7	19.7	15.0	14.0	11.6	18.0	20.0	18.0	23.1	18.7	18.7
South Texas Project Electric Generating Station, Unit 1	749675	206.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	19.8	16.8	16.3
South Texas Project Electric Generating Station, Unit 1	749676	203.1	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.8	16.3
South Texas Project Electric Generating Station, Unit 1	750279	203.1	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.8	16.3
South Texas Project Electric Generating Station, Unit 2	756108	205.5	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.0	16.5
South Texas Project Electric Generating Station, Unit 2	756646	205.5	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.0	16.5
South Texas Project Electric Generating Station, Unit 2	756647	205.5	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.0	16.5
St. Lucie Nuclear Power Plant, Unit 1	760685	228.9	20.0	20.0	20.0	20.0	20.0	20.0	18.0	15.0	15.0	20.9	20.0	20.0
St. Lucie Nuclear Power Plant, Unit 1	760785	229.8	20.0	20.0	20.0	20.0	20.0	20.0	18.0	15.0	16.0	20.8	20.0	20.0
St. Lucie Nuclear Power Plant, Unit 2	765935	227.9	20.0	20.0	20.0	20.0	20.0	20.0	18.0	10.0	16.0	23.9	20.0	20.0
St. Lucie Nuclear Power Plant, Unit 2	765968	231.0	20.0	20.0	20.0	20.0	20.0	20.0	18.0	15.0	16.0	22.0	20.0	20.0
Surry Power Station, Unit 1	814319	221.3	19.3	19.3	19.3	19.3	19.3	16.0	23.6	20.0	15.0	22.0	15.0	13.0
Surry Power Station, Unit 1	820522	219.1	17.3	17.3	17.3	17.3	17.3	28.0	16.4	18.0	16.0	21.0	17.0	16.0
Surry Power Station, Unit 2	830214	220.9	18.7	18.7	18.7	18.7	18.7	17.0	19.6	16.0	19.0	21.0	17.0	18.0
Susquehanna Steam Electric Station, Unit 1	865544	191.1	15.4	15.4	7.8	15.4	13.5	15.5	23.0	16.0	18.0	16.0	19.0	16.0
Susquehanna Steam Electric Station, Unit 1	865545	198.3	15.4	12.5	14.5	14.5	13.5	16.7	23.0	15.0	26.0	13.0	21.0	13.0
Susquehanna Steam Electric Station, Unit 1	865592	197.0	15.4	10.7	15.4	15.4	13.5	16.5	23.0	15.0	20.0	19.0	19.0	14.0

EDG Test Demands

Susquehanna Steam Electric Station, Unit 1	865593	191.0	15.4	12.5	13.5	15.4	13.5	16.5	17.0	18.0	17.0	19.0	14.0	19.0
Susquehanna Steam Electric Station, Unit 1	865594	210.3	15.4	15.4	12.5	13.5	13.5	13.8	21.0	23.0	19.0	22.0	19.0	22.0
Three Mile Island Nuclear Station, Unit 1	868007	176.9	13.0	13.0	13.0	13.0	13.0	17.5	12.0	13.0	14.0	14.0	20.0	21.4
Three Mile Island Nuclear Station, Unit 1	868008	166.9	13.0	13.0	13.0	13.0	13.0	17.5	12.0	16.0	13.0	12.0	15.0	16.4
Turkey Point Nuclear Power Plant, Unit 3	871775	224.0	12.0	14.0	15.0	18.0	24.0	16.0	30.0	16.0	19.0	23.0	19.0	18.0
Turkey Point Nuclear Power Plant, Unit 3	871940	219.0	12.0	15.0	18.0	12.0	26.0	16.0	23.0	19.0	16.0	22.0	18.0	22.0
Turkey Point Nuclear Power Plant, Unit 4	875868	225.0	12.0	15.0	23.0	23.0	19.0	20.0	20.0	18.0	13.0	21.0	19.0	22.0
Turkey Point Nuclear Power Plant, Unit 4	875869	233.0	12.0	15.0	17.0	21.0	21.0	23.0	23.0	19.0	18.0	22.0	21.0	21.0
V. C. Summer Nuclear Station, Unit 1	769866	285.3	28.7	28.7	22.7	16.7	16.7	24.0	24.0	24.0	24.0	24.0	24.0	28.0
V. C. Summer Nuclear Station, Unit 1	769940	202.6	14.7	14.7	15.7	16.7	16.7	17.3	17.3	17.3	17.3	17.3	17.3	20.2
Vermont Yankee Nuclear Power Station, Unit 1	878423	185.5	13.3	13.3	14.0	13.0	13.3	15.7	23.8	13.0	17.0	13.0	18.0	18.0
Vermont Yankee Nuclear Power Station, Unit 1	878576	182.0	13.3	13.3	13.3	13.3	13.3	14.3	13.0	16.0	15.0	18.0	13.0	26.0
Vogtle Electric Generating Plant, Unit 1	882490	218.2	17.7	17.7	17.7	17.7	17.7	17.7	20.0	13.0	20.0	20.0	15.0	23.9
Vogtle Electric Generating Plant, Unit 1	883291	234.1	19.1	19.1	19.1	19.1	19.1	19.1	19.0	13.0	24.0	21.0	15.0	27.5
Vogtle Electric Generating Plant, Unit 2	887650	211.6	17.2	17.2	17.2	17.2	17.2	17.2	13.0	23.0	16.0	19.0	17.0	20.6
Vogtle Electric Generating Plant, Unit 2	887652	196.8	15.8	15.8	15.8	15.8	15.8	15.8	13.0	17.0	21.0	13.0	17.0	20.9
Waterford 3 Steam Electric Station, Unit 3	892650	235.0	20.0	17.0	24.0	16.0	25.0	20.0	17.0	19.0	18.0	21.0	19.0	19.0
Waterford 3 Steam Electric Station, Unit 3	892685	221.0	8.0	16.0	23.0	13.0	21.0	16.0	16.0	24.0	23.0	18.0	18.0	25.0
Watts Bar Nuclear Plant, Unit 1	898018	192.0	16.0	16.0	16.0	16.0	16.0	16.0	13.3	16.0	16.0	18.7	16.0	16.0
Watts Bar Nuclear Plant, Unit 1	898020	192.0	16.0	16.0	16.0	16.0	16.0	16.0	13.3	16.0	16.0	18.7	16.0	16.0
Watts Bar Nuclear Plant, Unit 1	898885	186.0	15.5	15.5	15.5	15.5	15.5	15.5	12.9	15.5	15.5	18.1	15.5	15.5
Watts Bar Nuclear Plant, Unit 1	898886	186.0	15.5	15.5	15.5	15.5	15.5	15.5	12.9	15.5	15.5	18.1	15.5	15.5
Wolf Creek Generating Station, Unit 1	903397	225.6	24.6	14.0	22.0	23.0	13.0	28.0	18.0	17.0	18.0	15.0	15.0	18.0
Wolf Creek Generating Station, Unit 1	903501	262.4	29.4	19.0	31.0	24.0	15.0	34.0	17.0	16.0	20.0	16.0	16.0	25.0
	Average	19.6	20.1	20.3	20.2	19.9	20.2	20.1	19.0	18.6	19.1	19.3	18.1	20.9
	Maximum	42.5	60.0	60.0	58.5	59.5	59.5	59.5	48.0	42.3	49.3	42.3	42.3	44.0
	Minimum	12.2	2.1	2.1	7.8	6.0	8.2	8.3	8.0	10.0	8.0	12.0	8.8	0.0

EDG Test LR Demands

Unit_Nme	DeviceID	Total	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arkansas Nuclear One, Unit 1	92	220.83	26.0	22.0	26.8	14.0	17.0	16.0	14.0	19.0	19.0	14.0	19.0	14.1
Arkansas Nuclear One, Unit 1	28468	220.75	28.0	20.0	26.5	13.0	20.0	17.0	19.0	15.0	19.0	13.0	17.0	13.3
Arkansas Nuclear One, Unit 2	30727	216.37	18.1	18.1	17.0	17.0	25.1	16.0	18.0	15.0	18.0	19.0	16.0	19.1
Arkansas Nuclear One, Unit 2	54598	185.94	2.3	2.3	18.0	19.0	8.2	21.0	24.0	17.0	18.0	23.0	13.0	20.2
Beaver Valley Power Station, Unit 1	64497	174.44	12.7	15.0	14.0	15.0	15.0	13.0	16.0	16.0	13.3	12.7	12.7	19.1
Beaver Valley Power Station, Unit 1	64832	177.44	12.7	15.0	16.0	16.0	14.0	14.0	15.0	15.0	12.3	12.7	12.7	22.1
Beaver Valley Power Station, Unit 2	70252	168.61	12.7	13.0	15.0	16.0	14.0	15.0	15.2	13.0	13.3	12.7	12.7	16.1
Beaver Valley Power Station, Unit 2	71036	168.11	12.7	14.0	14.0	14.0	13.0	14.0	14.2	14.0	15.3	12.7	12.7	17.6
Braidwood Station, Unit 1	75429	197.79	16.6	16.6	16.6	16.6	12.4	16.6	14.0	15.0	13.0	16.0	19.0	25.5
Braidwood Station, Unit 1	75430	186.59	14.8	14.8	14.8	14.8	11.1	14.8	16.0	16.0	12.0	16.0	15.0	26.2
Braidwood Station, Unit 2	103804	195.17	15.8	15.8	15.8	15.8	11.9	15.8	14.0	12.0	17.0	15.0	16.0	30.2
Braidwood Station, Unit 2	103913	202.04	16.8	16.8	16.8	16.8	12.6	16.8	14.0	12.0	17.0	15.0	17.0	30.2
Browns Ferry Nuclear Plant, Unit 2	124217	189.44	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.5	15.5	15.3	15.3	20.4
Browns Ferry Nuclear Plant, Unit 2	124306	181.56	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.0	16.0	14.7	14.7	19.6
Browns Ferry Nuclear Plant, Unit 2	124307	187.44	15.3	15.3	15.3	15.3	15.3	15.3	15.3	14.5	14.5	15.3	15.3	20.4
Browns Ferry Nuclear Plant, Unit 2	920861	183.5	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.3	14.3	15.0	15.0	20.0
Browns Ferry Nuclear Plant, Unit 3	129112	184.5	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.3	14.3	15.0	15.0	20.0
Browns Ferry Nuclear Plant, Unit 3	129113	188.44	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.5	14.5	15.3	15.3	20.4
Browns Ferry Nuclear Plant, Unit 3	129115	208.17	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.8	15.8	17.0	17.0	22.7
Browns Ferry Nuclear Plant, Unit 3	129117	195.33	16.0	16.0	16.0	16.0	16.0	16.0	16.0	15.0	15.0	16.0	16.0	21.3
Brunswick Steam Electric Plant, Unit 2	138701	177.53	12.7	12.7	12.7	12.7	12.5	12.5	16.0	16.0	16.0	16.0	16.1	21.8
Brunswick Steam Electric Plant, Unit 2	138703	177.53	12.7	12.7	12.7	12.7	12.5	12.5	16.0	16.0	16.0	16.0	16.1	21.8
Brunswick Steam Electric Plant, Unit 2	138705	177.53	12.7	12.7	12.7	12.7	12.5	12.5	16.0	16.0	16.0	16.0	16.1	21.8
Brunswick Steam Electric Plant, Unit 2	138707	177.53	12.7	12.7	12.7	12.7	12.5	12.5	16.0	16.0	16.0	16.0	16.1	21.8
Byron Station, Unit 1	144445	226.2	20.0	20.0	20.0	20.0	20.0	20.0	18.0	12.0	17.0	20.2	22.0	17.0
Byron Station, Unit 1	144447	219	20.0	20.0	20.0	20.0	20.0	20.0	16.0	13.0	16.0	20.0	18.0	16.0
Byron Station, Unit 2	149279	211.67	20.0	20.0	20.0	20.0	20.0	20.0	13.7	15.0	12.0	17.0	20.0	14.0
Byron Station, Unit 2	149281	211.67	20.0	20.0	20.0	20.0	20.0	20.0	12.7	18.0	12.0	18.0	17.0	14.0
Callaway Nuclear Plant, Unit 1	154071	237.17	22.0	22.0	22.0	22.0	22.0	14.0	13.0	13.0	17.5	25.7	22.0	22.0
Callaway Nuclear Plant, Unit 1	154072	264.22	25.3	25.3	25.3	25.3	25.3	13.0	15.0	14.0	15.3	29.6	25.3	25.3
Calvert Cliffs Nuclear Power Plant, Unit 1	159126	223.5	17.1	47.0	17.0	17.0	15.0	15.0	13.0	13.0	14.0	16.0	14.0	25.4
Calvert Cliffs Nuclear Power Plant, Unit 1	159750	198.95	15.7	19.0	17.0	19.0	15.0	14.0	15.0	13.0	13.0	14.0	18.0	26.2
Calvert Cliffs Nuclear Power Plant, Unit 2	163078	212.92	16.1	23.0	16.0	13.0	19.0	17.0	15.0	18.0	12.0	13.0	17.0	33.8
Calvert Cliffs Nuclear Power Plant, Unit 2	163626	207.97	15.4	18.0	15.0	15.0	14.0	15.0	20.0	17.0	23.0	12.0	13.0	30.6
Catawba Nuclear Station, Unit 1	166779	190.78	16.7	12.0	20.0	13.0	13.0	15.0	20.0	17.0	15.0	16.0	14.7	18.4
Catawba Nuclear Station, Unit 1	166780	182.78	16.7	12.0	18.0	12.0	12.0	16.0	19.0	15.0	13.0	16.0	14.7	18.4
Catawba Nuclear Station, Unit 2	172652	206.38	16.7	15.0	14.0	27.0	18.0	14.0	23.0	16.0	17.0	14.0	14.7	17.0
Catawba Nuclear Station, Unit 2	173053	191.58	16.7	13.0	13.0	19.0	15.0	14.0	19.0	16.0	13.0	14.0	14.7	24.2
Clinton Power Station, Unit 1	178388	206.33	51.5	14.0	14.0	14.0	12.5	14.0	14.0	14.0	14.0	16.3	14.0	14.0

EDG Test LR Demands

Clinton Power Station, Unit 1	178752	205.33	50.5	14.0	14.0	14.0	12.5	14.0	14.0	14.0	14.0	16.3	14.0	14.0
Columbia Generating Station, Unit 2	185526	178.42	14.3	14.3	14.3	14.3	17.2	14.3	14.3	14.3	14.3	14.3	14.3	17.9
Columbia Generating Station, Unit 2	185770	173.5	14.0	14.0	14.0	14.0	16.0	14.0	14.0	14.0	14.0	14.0	14.0	17.5
Comanche Peak Steam Electric Station, Unit 1	190618	259.33	23.3	21.0	23.3	23.3	23.3	23.3	23.3	23.3	23.3	19.8	15.0	16.8
Comanche Peak Steam Electric Station, Unit 1	191043	251.33	23.3	16.0	23.3	23.3	23.3	23.3	23.3	23.3	23.3	18.8	14.0	15.8
Comanche Peak Steam Electric Station, Unit 2	196783	245.5	23.3	13.0	23.3	23.3	23.3	23.3	23.3	23.3	23.3	14.0	13.0	18.8
Comanche Peak Steam Electric Station, Unit 2	197074	234.5	22.0	12.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	16.0	13.0	17.5
Cooper Nuclear Station, Unit 1	246629	198	16.0	16.0	16.0	16.0	16.0	16.0	15.0	14.0	15.0	18.0	17.0	23.0
Cooper Nuclear Station, Unit 1	250005	215.3	19.6	19.6	19.6	19.6	19.6	19.6	17.9	15.0	15.0	14.0	13.0	22.8
Crystal River Unit 3, Unit 3	262755	184.36	8.0	15.0	15.0	14.0	14.0	14.0	11.0	13.0	13.0	11.9	15.3	40.1
Crystal River Unit 3, Unit 3	262756	211.86	8.0	20.0	14.0	14.0	14.0	12.0	16.0	16.0	14.0	12.1	15.7	56.1
Davis-Besse Nuclear Power Station, Unit 1	268257	189.28	15.0	17.0	14.0	14.0	13.0	14.0	13.0	13.0	13.0	19.0	13.0	31.2
Davis-Besse Nuclear Power Station, Unit 1	269404	177.76	14.7	14.0	12.0	15.0	12.0	12.0	17.0	13.0	19.0	14.0	12.0	23.1
Diablo Canyon Power Plant, Unit 1	272071	200.79	19.3	19.3	18.8	19.3	19.3	17.0	12.2	14.6	17.0	14.6	14.6	14.6
Diablo Canyon Power Plant, Unit 1	272072	214.64	17.3	17.3	21.3	17.3	17.3	17.5	14.8	17.7	20.7	17.7	17.7	17.7
Diablo Canyon Power Plant, Unit 1	272113	182.23	14.7	14.7	24.7	14.7	14.7	14.4	11.7	14.1	16.4	14.1	14.1	14.1
Diablo Canyon Power Plant, Unit 2	276584	196.93	16.7	16.7	14.2	16.7	16.7	16.7	13.8	16.6	19.3	16.6	16.6	16.6
Diablo Canyon Power Plant, Unit 2	276585	196	16.7	16.7	16.7	16.7	16.7	16.7	13.3	16.0	18.7	16.0	16.0	16.0
Diablo Canyon Power Plant, Unit 2	276858	202.29	16.0	16.0	16.0	16.0	16.0	16.0	14.8	17.7	20.7	17.7	17.7	17.7
Donald C. Cook Nuclear Plant, Unit 1	201637	162.89	13.3	13.0	14.7	13.3	13.3	13.3	13.3	13.3	13.3	13.0	13.3	15.6
Donald C. Cook Nuclear Plant, Unit 1	201638	176.89	13.3	24.0	18.7	13.3	13.3	13.3	13.3	13.3	13.3	12.0	13.3	15.6
Donald C. Cook Nuclear Plant, Unit 2	202801	177.22	13.3	13.0	17.0	13.3	13.3	13.3	13.3	13.3	13.3	25.0	13.3	15.6
Donald C. Cook Nuclear Plant, Unit 2	202802	171.89	13.3	13.0	10.7	13.3	13.3	13.3	13.3	13.3	13.3	26.0	13.3	15.6
Dresden Station, Unit 2	281253	241.4	16.2	18.0	13.0	15.2	16.2	16.2	15.1	13.0	14.0	12.0	15.0	77.6
Dresden Station, Unit 2	281254	497.1	38.4	41.0	28.0	36.8	38.4	38.4	29.6	29.0	29.0	26.0	26.0	136.5
Dresden Station, Unit 3	285123	204.42	18.0	17.0	15.0	21.5	18.0	18.0	13.5	18.0	12.0	15.0	12.0	26.4
Duane Arnold Energy Center, Unit 1	292556	175.33	14.0	22.0	10.0	13.0	13.0	14.0	14.0	14.0	14.0	14.0	14.0	19.3
Duane Arnold Energy Center, Unit 1	293925	167.65	14.8	11.0	10.0	12.0	13.4	14.8	14.8	14.8	14.8	14.8	14.8	18.0
E. I. Hatch Nuclear Plant, Unit 1	373369	203.97	16.5	14.0	20.0	15.1	13.0	21.0	16.0	19.0	17.0	13.0	16.0	23.3
E. I. Hatch Nuclear Plant, Unit 1	373380	200.31	8.3	9.0	10.0	16.1	20.0	23.0	17.0	23.0	18.0	16.0	15.0	24.9
E. I. Hatch Nuclear Plant, Unit 1	373820	213.78	29.0	14.0	22.0	16.3	14.0	19.0	13.0	18.0	14.0	18.0	13.0	23.5
E. I. Hatch Nuclear Plant, Unit 2	378663	227.48	20.7	20.0	14.0	23.2	21.0	13.0	17.0	16.0	18.0	15.0	15.0	34.6
E. I. Hatch Nuclear Plant, Unit 2	378777	230.48	20.7	25.0	14.0	19.2	21.0	13.0	20.0	18.0	16.0	16.0	16.0	31.6
Farley Nuclear Plant, Unit 1	294265	233.44	21.7	17.0	23.0	16.0	20.0	20.0	19.0	15.0	18.0	20.4	21.7	21.7
Farley Nuclear Plant, Unit 1	294266	227.44	18.7	29.0	29.0	14.0	15.0	19.0	15.0	17.0	13.0	20.4	18.7	18.7
Farley Nuclear Plant, Unit 1	294267	104.57	8.7	8.0	13.0	9.0	6.0	9.0	8.2	9.0	7.5	8.7	8.7	8.7
Farley Nuclear Plant, Unit 1	294268	215.22	15.3	18.0	16.0	21.0	33.0	18.0	15.0	11.0	17.0	20.2	15.3	15.3
Farley Nuclear Plant, Unit 2	299053	209.89	16.3	20.0	19.0	17.0	22.0	19.0	14.0	13.0	20.0	16.9	16.3	16.3
Fermi 2, Unit 2	305131	233.25	14.0	23.0	14.0	26.0	19.0	15.0	18.0	14.0	15.0	23.0	17.0	35.3
Fermi 2, Unit 2	305133	212	13.0	16.0	14.0	21.0	19.0	13.0	16.0	14.0	19.0	20.0	16.0	31.0

EDG Test LR Demands

Fermi 2, Unit 2	305200	223.3	15.0	18.0	9.0	23.0	19.0	14.0	17.0	14.0	15.0	24.0	15.0	40.3
Fermi 2, Unit 2	305202	217	13.0	17.0	16.0	19.0	22.0	15.0	19.0	14.0	17.0	19.0	16.0	30.0
Fort Calhoun Station, Unit 1	315392	177.87	16.0	16.0	13.0	16.0	14.0	15.0	14.0	16.0	11.0	12.9	13.0	21.0
Fort Calhoun Station, Unit 1	315455	170.67	12.0	16.0	15.0	16.0	14.0	14.0	12.0	17.0	11.0	11.2	14.0	18.5
Grand Gulf Nuclear Station, Unit 1	323887	216	12.0	16.0	16.0	14.0	19.0	21.0	13.0	15.0	18.0	15.0	18.0	39.0
Grand Gulf Nuclear Station, Unit 1	324067	216.35	16.0	17.0	17.0	13.0	19.0	18.0	13.0	17.0	16.0	12.0	19.0	39.4
H. B. Robinson Steam Electric Plant, Unit 2	713103	213.33	16.0	16.0	16.0	16.0	16.0	11.9	25.0	18.7	18.7	21.8	18.7	18.7
H. B. Robinson Steam Electric Plant, Unit 2	713379	230.67	16.0	16.0	16.0	16.0	16.0	14.4	26.0	21.3	21.3	24.9	21.3	21.3
Hope Creek, Unit 1	384243	198.67	17.3	17.3	17.3	17.3	17.3	17.3	18.3	17.0	15.0	16.0	15.0	13.3
Hope Creek, Unit 1	384249	185.67	15.3	15.3	15.3	15.3	15.3	15.3	18.8	17.0	13.0	17.0	15.0	12.8
Hope Creek, Unit 1	384251	178.67	15.3	15.3	15.3	15.3	15.3	15.3	15.8	14.0	14.0	15.0	14.0	13.8
Hope Creek, Unit 1	384680	202.67	17.3	17.3	17.3	17.3	17.3	17.3	18.3	19.0	15.0	17.0	16.0	13.3
Indian Point, Unit 2	390338	302.13	32.5	32.5	32.5	32.5	32.5	32.5	20.9	17.0	17.0	20.0	14.0	18.3
Indian Point, Unit 2	390342	212.38	32.5	28.1	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	16.8
Indian Point, Unit 2	390359	298	32.5	32.5	32.5	32.5	32.5	32.5	17.0	16.0	16.0	20.0	13.0	21.0
Indian Point, Unit 3	394291	173	12.0	13.0	15.0	15.0	14.0	13.0	14.3	15.0	15.0	14.8	16.0	16.0
Indian Point, Unit 3	394357	175	12.0	14.0	15.0	13.0	14.0	13.0	14.3	15.0	15.0	13.8	20.0	16.0
Indian Point, Unit 3	394359	171	12.0	19.0	14.0	15.0	14.0	12.0	14.3	15.0	15.0	13.8	14.0	13.0
James A. FitzPatrick Nuclear Power Plant, Unit 1	309388	206	15.0	15.0	15.0	15.0	14.5	18.4	18.4	28.3	15.0	15.0	13.0	23.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309390	203	15.0	15.0	15.0	15.0	13.5	16.4	17.4	28.3	15.0	15.0	14.0	23.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309392	220.5	15.0	15.0	15.0	15.0	14.5	18.7	17.7	29.0	13.0	27.0	14.0	26.7
James A. FitzPatrick Nuclear Power Plant, Unit 1	309446	211.5	15.0	15.0	15.0	15.0	14.5	20.7	17.7	29.0	13.0	17.0	14.0	25.7
Kewaunee Power Station, Unit 1	399159	167.05	13.8	14.0	13.0	17.0	13.0	12.0	15.0	13.0	13.0	11.0	14.0	18.3
Kewaunee Power Station, Unit 1	399176	164.76	13.6	14.0	13.0	15.0	13.0	13.0	12.0	13.0	13.0	12.0	15.0	18.2
LaSalle County Generating Station, Unit 1	402984	218.22	17.0	22.0	21.0	16.0	15.0	17.0	16.0	16.0	16.0	17.0	18.6	26.6
LaSalle County Generating Station, Unit 1	402986	177.89	16.7	19.0	15.0	13.0	13.0	14.0	13.0	13.0	13.0	14.0	14.0	20.2
LaSalle County Generating Station, Unit 2	408836	224.32	16.3	18.0	22.0	15.0	15.0	14.0	17.0	13.0	16.0	13.0	20.0	45.0
Limerick Generating Station, Unit 1	413910	180.88	16.5	16.5	16.5	16.5	16.5	15.3	12.0	15.0	12.0	14.0	13.0	17.1
Limerick Generating Station, Unit 1	413911	186.88	16.5	16.5	16.5	16.5	16.5	15.3	13.0	14.0	15.0	15.0	12.0	20.1
Limerick Generating Station, Unit 1	414093	183.88	16.5	16.5	16.5	16.5	16.5	14.3	13.0	15.0	14.0	14.0	14.0	17.1
Limerick Generating Station, Unit 1	414094	180.88	16.5	16.5	16.5	16.5	16.5	14.3	12.0	15.0	13.0	14.0	12.0	18.1
Limerick Generating Station, Unit 2	420673	181.88	16.5	16.5	16.5	16.5	16.5	14.3	13.0	12.0	16.0	14.0	15.0	15.1
Limerick Generating Station, Unit 2	420941	178.88	16.5	16.5	16.5	16.5	16.5	15.3	13.0	12.0	13.0	12.0	15.0	16.1
Limerick Generating Station, Unit 2	420943	179.88	16.5	16.5	16.5	16.5	16.5	15.3	13.0	12.0	15.0	13.0	14.0	15.1
Limerick Generating Station, Unit 2	420945	180.88	16.5	16.5	16.5	16.5	16.5	14.3	14.0	13.0	15.0	12.0	14.0	16.1
McGuire Nuclear Station, Unit 1	425897	233.74	18.7	20.0	24.0	13.0	19.0	22.0	13.0	22.0	19.0	18.0	18.7	26.4
McGuire Nuclear Station, Unit 1	426106	216.3	18.0	16.0	16.0	15.0	18.0	22.0	13.0	18.0	19.0	16.5	18.0	26.8
McGuire Nuclear Station, Unit 2	431267	202.81	16.7	19.0	17.0	13.0	16.0	17.0	18.0	14.0	17.0	15.5	16.7	23.0
McGuire Nuclear Station, Unit 2	431268	235.43	20.0	16.0	17.0	18.0	14.0	20.0	27.0	12.0	21.0	18.0	20.0	32.4
Millstone Nuclear Power Station, Unit 2	440377	205.42	12.0	15.4	16.6	16.6	16.6	16.6	16.6	16.6	16.6	19.3	13.0	29.5

EDG Test LR Demands

Millstone Nuclear Power Station, Unit 2	440379	201.69	16.6	16.5	16.6	16.6	16.6	16.6	16.6	16.6	16.6	18.3	15.0	19.0
Millstone Nuclear Power Station, Unit 3	444272	199.57	16.0	28.6	19.0	13.0	18.0	17.0	13.0	16.0	15.0	13.0	15.0	16.0
Millstone Nuclear Power Station, Unit 3	444340	204.58	16.4	24.1	21.0	13.0	21.0	17.0	14.0	16.0	18.0	14.0	15.0	15.1
Monticello Nuclear Generating Plant, Unit 1	449718	179	15.5	11.0	12.0	20.0	16.0	15.9	12.9	12.0	14.6	18.1	15.5	15.5
Monticello Nuclear Generating Plant, Unit 1	450139	169	14.5	13.0	12.0	14.0	16.0	14.6	12.1	12.0	14.9	16.9	14.5	14.5
Nine Mile Point Nuclear Station, Unit 1	453530	181.4	12.0	18.0	18.0	14.0	14.0	13.0	16.0	13.0	16.0	16.0	16.0	15.4
Nine Mile Point Nuclear Station, Unit 1	453794	174.8	12.0	13.0	11.0	17.0	13.0	13.0	16.0	14.0	18.0	14.0	18.0	15.8
Nine Mile Point Nuclear Station, Unit 2	456878	195.29	12.6	15.2	12.6	12.6	12.6	16.0	13.0	17.0	13.0	19.0	11.0	40.5
Nine Mile Point Nuclear Station, Unit 2	456879	175.65	12.6	13.2	12.6	9.5	12.6	18.0	13.0	16.0	12.0	14.0	13.0	29.1
North Anna Power Station, Unit 1	511898	177.67	14.7	14.7	20.0	11.0	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
North Anna Power Station, Unit 1	518352	177.33	14.7	14.7	16.0	14.7	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
North Anna Power Station, Unit 2	534562	173.67	14.7	14.7	13.0	14.0	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
North Anna Power Station, Unit 2	572985	177.67	14.7	14.7	17.0	14.0	14.7	14.7	14.7	14.7	14.7	14.7	12.2	17.1
Oyster Creek Nuclear Generating Station, Unit 1	590380	412.5	24.0	44.0	34.0	34.0	35.0	34.0	36.0	31.0	33.0	33.0	35.0	39.5
Oyster Creek Nuclear Generating Station, Unit 1	590381	400	24.0	36.0	33.0	28.0	34.0	32.0	33.0	36.0	31.0	37.0	32.0	44.0
Palisades Nuclear Plant, Unit 1	593097	293.33	30.0	30.0	30.0	30.0	30.0	20.0	20.0	20.0	20.0	20.0	20.0	23.3
Palisades Nuclear Plant, Unit 1	593098	293.33	30.0	30.0	30.0	30.0	30.0	20.0	20.0	20.0	20.0	20.0	20.0	23.3
Palo Verde Nuclear Generating Station, Unit 1	596679	209.01	16.7	17.0	10.0	13.0	14.0	20.0	14.0	15.0	28.0	15.5	16.7	29.2
Palo Verde Nuclear Generating Station, Unit 1	596680	257.19	16.3	19.0	14.0	13.0	13.0	19.0	13.0	18.0	24.0	15.3	16.3	76.3
Palo Verde Nuclear Generating Station, Unit 2	603103	209.01	16.7	15.0	13.0	13.0	14.0	18.0	20.0	15.0	19.0	15.5	16.7	33.2
Palo Verde Nuclear Generating Station, Unit 2	603104	200.19	16.3	14.0	13.0	13.0	15.0	18.0	16.0	13.0	21.0	15.3	16.3	29.3
Palo Verde Nuclear Generating Station, Unit 3	610313	206.71	16.7	16.0	14.0	14.0	18.0	13.0	17.0	18.0	15.0	16.5	16.7	31.9
Palo Verde Nuclear Generating Station, Unit 3	610315	207.5	16.3	18.0	14.0	15.0	18.0	13.0	19.0	18.0	13.0	15.3	16.3	31.6
Peach Bottom Atomic Power Station, Unit 2	615673	311.38	24.0	25.0	25.0	24.0	24.0	24.0	30.0	30.0	30.0	27.0	23.0	25.4
Peach Bottom Atomic Power Station, Unit 2	615674	303.38	24.0	25.0	24.0	24.0	24.0	24.0	29.0	33.0	31.0	23.0	18.0	24.4
Peach Bottom Atomic Power Station, Unit 2	615675	311.38	24.0	24.0	27.0	24.0	22.0	24.0	31.0	32.0	30.0	30.0	21.0	22.4
Peach Bottom Atomic Power Station, Unit 2	615676	305.38	24.0	25.0	25.0	24.0	19.0	24.0	32.0	31.0	30.0	28.0	18.0	25.4
Perry Nuclear Power Plant, Unit 1	626613	198.83	15.5	13.0	15.0	14.0	25.0	13.0	19.0	15.0	22.0	16.3	15.5	15.5
Perry Nuclear Power Plant, Unit 1	626615	242.13	15.5	17.0	20.0	17.0	25.0	30.0	23.0	16.0	29.3	18.3	15.5	15.5
Pilgrim Nuclear Power Station, Unit 1	632109	146	13.0	3.0	11.0	14.0	14.0	12.0	15.0	16.0	13.0	12.0	12.0	11.0
Pilgrim Nuclear Power Station, Unit 1	632139	172.75	15.0	6.8	15.0	11.0	13.0	14.0	16.0	13.0	14.0	12.0	21.0	22.0
Point Beach Nuclear Plant, Unit 1	635653	166.67	12.0	12.0	12.0	12.0	15.0	40.0	11.2	14.0	16.3	14.0	8.2	0.0
Point Beach Nuclear Plant, Unit 1	635704	144.61	12.0	12.0	12.0	12.0	14.0	15.0	10.1	15.3	17.9	15.3	8.9	0.0
Point Beach Nuclear Plant, Unit 1	635811	139.75	12.0	12.0	12.0	12.0	12.0	14.0	9.5	15.0	17.5	15.0	8.8	0.0
Point Beach Nuclear Plant, Unit 1	635812	140.39	12.0	12.0	12.0	12.0	14.0	12.0	11.4	14.7	17.1	14.7	8.6	0.0
Prairie Island Nuclear Generating Plant, Unit 1	641679	160.25	18.0	16.0	12.0	10.0	13.0	13.0	14.0	15.0	14.3	12.0	12.0	11.0
Prairie Island Nuclear Generating Plant, Unit 1	641686	153.25	13.0	14.0	13.0	12.0	14.0	13.0	13.0	14.0	12.3	12.0	12.0	11.0
Prairie Island Nuclear Generating Plant, Unit 2	645367	166	24.0	4.0	4.0	11.0	15.0	14.0	16.0	13.0	17.0	24.0	12.0	12.0
Prairie Island Nuclear Generating Plant, Unit 2	645606	161	12.0	4.0	4.0	18.0	15.0	18.0	14.0	13.0	16.0	23.0	12.0	12.0
Quad Cities Station, Unit 1	648766	300.21	22.1	22.1	22.1	22.1	22.1	22.1	21.1	29.0	26.0	28.0	29.0	34.5

EDG Test LR Demands

Quad Cities Station, Unit 1	648777	155	12.0	12.0	12.0	12.0	12.0	12.0	12.0	14.0	15.0	12.0	16.0	14.0
Quad Cities Station, Unit 2	653988	157	12.0	12.0	12.0	12.0	12.0	12.0	11.0	16.0	12.0	16.0	13.0	17.0
R. E. Ginna Nuclear Power Plant, Unit 1	319512	163.39	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.2	16.9
R. E. Ginna Nuclear Power Plant, Unit 1	319513	163.39	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.2	16.9
River Bend Station, Unit 1	656958	223.71	8.0	16.0	25.0	26.0	17.0	14.0	12.0	16.0	24.0	17.0	20.0	28.7
River Bend Station, Unit 1	707056	265.82	20.4	17.0	35.0	25.0	20.0	16.0	21.0	21.0	22.0	17.0	15.0	36.4
Salem, Unit 1	716195	242	24.0	24.0	24.0	24.0	24.0	18.0	18.0	18.0	18.0	15.5	14.0	20.5
Salem, Unit 1	716626	230.17	21.3	21.3	21.3	21.3	21.3	18.3	18.3	18.3	18.3	13.6	15.0	21.6
Salem, Unit 1	716627	226.5	22.0	22.0	22.0	22.0	22.0	17.0	17.0	17.0	17.0	14.3	14.0	20.3
Salem, Unit 2	720261	239.33	24.7	24.7	24.7	24.7	24.7	16.5	17.0	17.0	17.0	18.3	11.0	19.3
Salem, Unit 2	720262	239.25	24.0	24.0	24.0	24.0	24.0	17.3	18.0	18.0	18.0	16.5	12.0	19.5
Salem, Unit 2	720709	244.75	26.0	26.0	26.0	26.0	26.0	17.6	16.3	16.3	16.3	15.1	13.0	20.1
San Onofre Nuclear Generating Station, Unit 2	724718	238.67	12.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	26.7
San Onofre Nuclear Generating Station, Unit 2	724771	253.78	12.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	28.4
San Onofre Nuclear Generating Station, Unit 3	731367	232	12.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
San Onofre Nuclear Generating Station, Unit 3	731388	227.33	12.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	25.3
Seabrook Station, Unit 1	736429	200.57	16.5	16.5	16.5	16.5	16.5	17.0	20.0	14.0	16.0	17.0	14.0	20.1
Seabrook Station, Unit 1	736430	218.5	18.0	18.0	18.0	18.0	18.0	22.0	19.0	16.0	17.0	19.0	13.0	22.5
Sequoyah Nuclear Plant	926916	169.84	14.1	14.0	13.0	13.0	16.0	13.0	14.0	14.0	16.0	13.0	15.0	14.8
Sequoyah Nuclear Plant	926917	169.73	13.9	15.0	13.0	13.0	15.0	14.0	13.0	13.0	14.0	13.0	16.0	16.8
Sequoyah Nuclear Plant	926922	174.52	14.7	13.0	14.0	14.0	14.0	15.0	16.0	13.0	16.0	16.0	14.0	14.8
Sequoyah Nuclear Plant	926924	169.51	14.3	13.0	13.0	13.0	14.0	15.0	15.0	13.0	15.0	14.0	14.0	16.2
Shearon Harris Nuclear Power Plant, Unit 1	367900	178.08	10.7	10.7	14.7	17.0	22.0	11.0	21.0	14.0	19.0	14.0	12.0	12.0
Shearon Harris Nuclear Power Plant, Unit 1	367902	168.08	10.7	10.7	14.7	15.0	14.0	11.0	17.0	17.0	18.0	16.0	12.0	12.0
South Texas Project Electric Generating Station, Unit 1	749675	204.53	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	19.8	16.5	15.2
South Texas Project Electric Generating Station, Unit 1	749676	201.7	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.5	15.2
South Texas Project Electric Generating Station, Unit 1	750279	201.7	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.5	15.2
South Texas Project Electric Generating Station, Unit 2	756108	204.5	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	16.8	15.7
South Texas Project Electric Generating Station, Unit 2	756646	204.5	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	16.8	15.7
South Texas Project Electric Generating Station, Unit 2	756647	204.5	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	16.8	15.7
St. Lucie Nuclear Power Plant, Unit 1	760685	183	16.0	16.0	16.0	16.0	16.0	16.0	15.0	12.0	13.0	15.0	16.0	16.0
St. Lucie Nuclear Power Plant, Unit 1	760785	185	16.0	16.0	16.0	16.0	16.0	16.0	15.0	12.0	14.0	16.0	16.0	16.0
St. Lucie Nuclear Power Plant, Unit 2	765935	189.8	16.0	16.0	16.0	16.0	16.0	16.0	15.0	12.0	16.8	18.0	16.0	16.0
St. Lucie Nuclear Power Plant, Unit 2	765968	187.5	16.0	16.0	16.0	16.0	16.0	16.0	15.0	12.0	16.5	16.0	16.0	16.0
Surry Power Station, Unit 1	814319	190.33	16.0	16.0	16.0	16.0	16.0	16.0	16.3	14.0	16.0	21.0	14.0	13.0
Surry Power Station, Unit 1	820522	199.33	16.0	16.0	16.0	16.0	16.0	18.0	18.3	15.0	17.0	20.0	16.0	15.0
Surry Power Station, Unit 2	830214	192.33	16.0	16.0	16.0	16.0	16.0	16.0	16.3	15.0	17.0	18.0	15.0	15.0
Susquehanna Steam Electric Station, Unit 1	865544	201.89	15.4	13.0	17.0	16.0	17.0	14.0	17.0	15.0	14.0	16.0	17.0	30.5
Susquehanna Steam Electric Station, Unit 1	865545	197.39	15.4	17.0	15.0	13.0	17.0	15.0	18.0	15.0	20.0	13.0	19.0	20.0
Susquehanna Steam Electric Station, Unit 1	865592	191.49	15.4	18.0	14.0	13.0	16.0	15.0	17.0	14.0	15.0	18.0	15.0	21.1

EDG Test LR Demands

Susquehanna Steam Electric Station, Unit 1	865593	194.59	15.4	14.0	17.0	15.0	18.0	15.0	13.0	15.0	14.0	17.0	14.0	27.2
Susquehanna Steam Electric Station, Unit 1	865594	238.19	15.4	15.0	15.0	25.0	21.0	15.0	20.0	21.0	18.0	20.0	19.0	33.8
Three Mile Island Nuclear Station, Unit 1	868007	162.25	13.0	13.0	13.0	13.0	13.0	13.0	12.0	13.0	14.0	14.0	15.0	16.3
Three Mile Island Nuclear Station, Unit 1	868008	236.25	28.0	28.0	28.0	28.0	28.0	13.0	12.0	16.0	13.0	12.0	15.0	15.3
Turkey Point Nuclear Power Plant, Unit 3	871775	191	12.0	13.0	16.0	16.0	17.0	13.0	18.0	15.0	19.0	19.0	20.0	13.0
Turkey Point Nuclear Power Plant, Unit 3	871940	195	12.0	13.0	20.0	16.0	21.0	13.0	18.0	17.0	14.0	17.0	17.0	17.0
Turkey Point Nuclear Power Plant, Unit 4	875868	190	12.0	14.0	19.0	16.0	15.0	16.0	18.0	15.0	12.0	18.0	16.0	19.0
Turkey Point Nuclear Power Plant, Unit 4	875869	196	12.0	13.0	20.0	16.0	15.0	17.0	20.0	15.0	16.0	19.0	14.0	19.0
V. C. Summer Nuclear Station, Unit 1	769866	237.56	28.7	28.7	22.7	16.7	16.7	17.3	17.3	17.3	17.3	17.3	17.3	20.2
V. C. Summer Nuclear Station, Unit 1	769940	188.22	14.7	14.7	15.7	16.7	16.7	15.3	15.3	15.3	15.3	15.3	15.3	17.9
Vermont Yankee Nuclear Power Station, Unit 1	878423	190.08	13.3	17.0	17.0	12.0	15.0	13.0	16.0	13.0	16.0	12.0	15.0	30.8
Vermont Yankee Nuclear Power Station, Unit 1	878576	189.17	13.3	18.0	16.0	13.0	16.0	14.0	12.0	13.0	14.0	15.0	13.0	31.8
Vogtle Electric Generating Plant, Unit 1	882490	215.45	17.5	17.5	17.5	17.5	17.5	17.5	20.0	13.0	20.0	19.0	15.0	23.7
Vogtle Electric Generating Plant, Unit 1	883291	225.77	18.3	18.3	18.3	18.3	18.3	18.3	19.0	13.0	24.0	19.0	15.0	26.1
Vogtle Electric Generating Plant, Unit 2	887650	191.1	15.7	15.7	15.7	15.7	15.7	15.7	13.0	18.0	16.0	15.0	16.0	18.9
Vogtle Electric Generating Plant, Unit 2	887652	190.86	15.4	15.4	15.4	15.4	15.4	15.4	13.0	17.0	19.0	13.0	17.0	19.7
Waterford 3 Steam Electric Station, Unit 3	892650	195.94	16.0	14.0	17.0	14.0	13.0	19.0	16.0	13.0	14.0	19.0	14.0	26.9
Waterford 3 Steam Electric Station, Unit 3	892685	209.3	12.0	14.0	17.0	14.0	14.0	26.4	15.0	17.0	16.0	18.0	14.0	31.9
Watts Bar Nuclear Plant, Unit 1	898018	174	14.5	14.5	14.5	14.5	14.5	14.5	12.1	14.5	14.5	16.9	14.5	14.5
Watts Bar Nuclear Plant, Unit 1	898020	174	14.5	14.5	14.5	14.5	14.5	14.5	12.1	14.5	14.5	16.9	14.5	14.5
Watts Bar Nuclear Plant, Unit 1	898885	174	14.5	14.5	14.5	14.5	14.5	14.5	12.1	14.5	14.5	16.9	14.5	14.5
Watts Bar Nuclear Plant, Unit 1	898886	174	14.5	14.5	14.5	14.5	14.5	14.5	12.1	14.5	14.5	16.9	14.5	14.5
Wolf Creek Generating Station, Unit 1	903397	189.75	19.5	12.0	18.0	15.0	13.0	18.0	16.0	13.0	15.0	14.0	14.0	22.3
Wolf Creek Generating Station, Unit 1	903501	215.04	22.3	13.0	19.0	21.0	13.0	26.0	16.0	14.0	17.0	14.0	14.0	25.7
	Average	17.1	16.9	17.1	17.1	16.8	17.0	16.7	16.4	16.2	16.6	16.7	15.6	21.8
	Maximum	41.4	51.5	47.0	35.0	36.8	38.4	40.0	36.0	36.0	33.0	37.0	35.0	136.5
	Minimum	8.7	2.3	2.3	4.0	9.0	6.0	9.0	8.2	9.0	7.5	8.7	8.2	0.0

Run Hours per Demand

Unit_Nme	DeviceID	Total	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arkansas Nuclear One, Unit 1	92	2.2	1.9	1.6	6.8	4.5	4.0	2.2	1.4	1.5	2.0	1.3	2.0	1.4
Arkansas Nuclear One, Unit 1	28468	1.9	1.5	1.4	2.7	4.2	5.8	2.2	1.3	1.4	1.8	1.3	2.1	1.6
Arkansas Nuclear One, Unit 2	30727	2.9	20.1	20.1	2.6	2.3	2.2	2.8	1.9	3.9	3.1	1.8	3.2	2.0
Arkansas Nuclear One, Unit 2	54598	2.9	19.7	19.7	1.7	2.7	4.1	2.8	2.5	2.1	3.2	1.7	3.6	2.3
Beaver Valley Power Station, Unit 1	64497	1.8	2.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.7	2.7	2.0
Beaver Valley Power Station, Unit 1	64832	1.8	2.7	1.5	1.4	1.5	1.5	1.6	1.5	1.5	2.2	2.7	2.7	2.0
Beaver Valley Power Station, Unit 2	70252	1.9	2.8	1.5	1.5	1.5	1.5	1.5	1.8	1.5	2.2	2.8	2.8	2.4
Beaver Valley Power Station, Unit 2	71036	2.0	2.8	1.5	1.5	1.5	1.5	1.5	1.8	1.5	2.5	2.8	2.8	2.1
Braidwood Station, Unit 1	75429	4.4	4.5	4.5	4.6	3.9	3.9	4.5	4.6	6.8	3.4	5.1	3.8	3.9
Braidwood Station, Unit 1	75430	4.1	4.2	4.6	4.6	5.2	2.4	4.2	4.5	5.1	3.2	4.6	3.4	4.6
Braidwood Station, Unit 2	103804	3.2	3.4	3.3	4.7	1.7	1.5	3.4	5.1	3.1	5.1	3.7	4.4	2.7
Braidwood Station, Unit 2	103913	3.7	4.0	3.2	4.1	2.4	2.4	4.0	3.4	4.3	4.6	3.5	4.7	3.9
Browns Ferry Nuclear Plant, Unit 2	124217	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.5	1.7	1.7	1.1
Browns Ferry Nuclear Plant, Unit 2	124306	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.5	1.7	1.7	1.0
Browns Ferry Nuclear Plant, Unit 2	124307	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	2.0	2.2	2.2	1.4
Browns Ferry Nuclear Plant, Unit 2	920861	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.2	1.7	1.7	1.0
Browns Ferry Nuclear Plant, Unit 3	129112	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.6	1.8	1.8	1.1
Browns Ferry Nuclear Plant, Unit 3	129113	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.7	1.8	1.8	1.1
Browns Ferry Nuclear Plant, Unit 3	129115	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.8	2.0	2.0	1.2
Browns Ferry Nuclear Plant, Unit 3	129117	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.9	2.2	2.2	1.4
Brunswick Steam Electric Plant, Unit 2	138701	3.6	6.2	6.2	6.2	6.2	6.3	6.3	2.2	2.2	2.2	2.2	2.2	1.2
Brunswick Steam Electric Plant, Unit 2	138703	3.6	6.2	6.2	6.2	6.2	6.3	6.3	2.3	2.3	2.3	2.3	2.2	1.2
Brunswick Steam Electric Plant, Unit 2	138705	3.6	6.2	6.2	6.2	6.2	6.3	6.3	2.3	2.3	2.3	2.3	2.2	1.2
Brunswick Steam Electric Plant, Unit 2	138707	3.7	6.2	6.2	6.2	6.2	6.3	6.3	2.3	2.3	2.3	2.3	2.2	1.2
Byron Station, Unit 1	144445	3.5	3.0	3.0	3.0	3.0	3.0	3.0	4.2	4.6	4.3	4.1	3.5	4.6
Byron Station, Unit 1	144447	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.5	5.4	4.9	3.1	4.4	3.5
Byron Station, Unit 2	149279	3.6	3.0	3.0	3.0	3.0	3.0	3.0	3.9	3.5	6.4	4.3	3.9	5.8
Byron Station, Unit 2	149281	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.3	3.9	4.0	4.6	4.6	3.8
Callaway Nuclear Plant, Unit 1	154071	1.1	1.0	1.0	1.0	1.0	1.0	1.7	1.4	1.0	0.9	1.0	1.0	1.0
Callaway Nuclear Plant, Unit 1	154072	1.1	1.0	1.0	1.0	1.0	1.0	2.1	1.4	1.0	1.2	1.0	1.0	1.0
Calvert Cliffs Nuclear Power Plant, Unit 1	159126	1.8	1.8	2.2	1.6	1.6	1.5	1.8	1.6	1.6	1.8	1.9	1.6	1.3
Calvert Cliffs Nuclear Power Plant, Unit 1	159750	1.9	2.1	1.9	1.3	1.7	1.2	2.4	1.6	2.8	2.0	2.1	2.6	1.6
Calvert Cliffs Nuclear Power Plant, Unit 2	163078	1.5	1.5	1.6	2.1	1.4	2.0	1.8	1.8	1.4	1.7	2.0	1.0	1.0
Calvert Cliffs Nuclear Power Plant, Unit 2	163626	1.7	1.8	2.1	1.7	1.3	2.0	1.6	1.6	2.2	1.7	1.5	2.0	1.1
Catawba Nuclear Station, Unit 1	166779	3.6	3.0	2.1	5.5	3.1	4.9	4.5	2.1	3.3	3.7	4.0	4.5	3.7
Catawba Nuclear Station, Unit 1	166780	3.7	3.0	2.0	4.3	2.9	4.8	4.3	2.6	4.5	4.1	4.1	4.5	3.7
Catawba Nuclear Station, Unit 2	172652	3.6	3.3	5.4	2.5	3.5	4.2	2.8	3.3	3.6	2.7	4.1	4.5	3.7
Catawba Nuclear Station, Unit 2	173053	3.7	3.4	4.3	2.5	3.8	3.4	4.6	3.3	2.7	4.1	4.2	4.5	3.7
Clinton Power Station, Unit 1	178388	3.2	2.7	3.3	3.3	3.3	2.9	3.3	3.3	3.3	3.3	3.3	3.3	3.3

Run Hours per Demand

Clinton Power Station, Unit 1	178752	3.1	2.7	3.3	3.3	3.3	2.9	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Columbia Generating Station, Unit 2	185526	3.1	3.1	3.1	3.1	3.1	3.7	3.1	3.1	3.1	3.1	3.1	3.1	1.9
Columbia Generating Station, Unit 2	185770	2.4	2.4	2.4	2.4	2.4	3.3	2.4	2.4	2.4	2.4	2.4	2.4	1.4
Comanche Peak Steam Electric Station, Unit 1	190618	2.9	2.8	3.3	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.1	2.6
Comanche Peak Steam Electric Station, Unit 1	191043	2.8	2.7	3.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	4.4	2.7
Comanche Peak Steam Electric Station, Unit 2	196783	2.9	2.7	2.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	4.4	2.7	3.9
Comanche Peak Steam Electric Station, Unit 2	197074	2.9	2.7	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	4.0	2.7	4.0
Cooper Nuclear Station, Unit 1	246629	4.7	5.1	5.1	5.1	5.1	5.1	5.1	5.6	5.6	6.1	3.5	3.9	3.1
Cooper Nuclear Station, Unit 1	250005	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.8	4.8	5.0	5.3	4.2	2.6
Crystal River Unit 3, Unit 3	262755	2.9	4.3	4.6	4.3	3.2	3.8	2.2	2.8	2.0	2.3	2.4	2.3	1.9
Crystal River Unit 3, Unit 3	262756	3.0	5.9	4.3	3.7	3.5	3.1	2.3	2.3	2.7	2.1	2.5	2.6	1.9
Davis-Besse Nuclear Power Station, Unit 1	268257	2.2	2.3	1.5	2.6	3.3	1.3	1.7	4.5	2.4	5.1	2.1	2.4	1.3
Davis-Besse Nuclear Power Station, Unit 1	269404	2.4	2.3	1.5	2.2	3.6	1.4	2.0	3.8	2.0	8.4	1.7	2.4	1.5
Diablo Canyon Power Plant, Unit 1	272071	1.8	1.8	1.8	2.3	1.8	1.8	1.7	1.5	1.5	1.5	1.5	1.5	1.5
Diablo Canyon Power Plant, Unit 1	272072	1.4	2.0	2.0	1.9	2.0	2.0	1.4	0.9	0.9	0.9	0.9	0.9	0.9
Diablo Canyon Power Plant, Unit 1	272113	1.8	2.0	2.0	1.4	2.0	2.0	1.9	1.6	1.6	1.6	1.6	1.6	1.6
Diablo Canyon Power Plant, Unit 2	276584	1.9	2.1	2.1	1.6	2.1	2.1	2.1	1.8	1.8	1.8	1.8	1.8	1.8
Diablo Canyon Power Plant, Unit 2	276585	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Diablo Canyon Power Plant, Unit 2	276858	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2.1	2.1	2.1	2.1
Donald C. Cook Nuclear Plant, Unit 1	201637	2.8	2.4	2.5	2.3	2.4	2.4	3.1	3.1	3.1	3.1	3.1	3.1	2.5
Donald C. Cook Nuclear Plant, Unit 1	201638	2.5	2.4	1.3	1.6	2.4	2.4	3.1	3.1	3.1	3.1	3.0	3.1	2.5
Donald C. Cook Nuclear Plant, Unit 2	202801	3.4	2.4	2.5	1.9	2.4	2.4	3.1	3.1	3.1	3.1	8.1	3.1	2.5
Donald C. Cook Nuclear Plant, Unit 2	202802	3.6	2.4	2.5	3.1	2.4	2.4	3.1	3.1	3.1	3.1	7.6	3.1	2.5
Dresden Station, Unit 2	281253	2.9	3.9	3.9	3.3	3.4	3.9	3.9	2.7	1.5	3.3	1.6	2.6	0.8
Dresden Station, Unit 2	281254	4.1	8.1	4.5	3.2	6.6	8.1	8.1	4.3	2.0	3.3	1.6	2.8	0.5
Dresden Station, Unit 3	285123	2.3	1.4	5.5	1.5	2.3	1.4	1.4	1.5	4.5	1.7	2.3	2.9	0.9
Duane Arnold Energy Center, Unit 1	292556	3.0	2.9	2.0	2.6	4.2	5.0	2.9	2.9	2.9	2.9	3.1	3.1	2.6
Duane Arnold Energy Center, Unit 1	293925	2.9	2.8	2.4	1.3	5.4	4.0	2.8	2.8	2.8	2.8	3.2	3.3	2.8
E. I. Hatch Nuclear Plant, Unit 1	373369	1.8	1.1	1.1	2.4	2.3	0.9	2.3	1.2	3.7	1.1	1.3	3.1	1.0
E. I. Hatch Nuclear Plant, Unit 1	373380	1.9	0.9	1.1	2.8	2.7	1.2	2.8	1.1	2.0	1.1	2.7	1.5	2.3
E. I. Hatch Nuclear Plant, Unit 1	373820	1.9	1.1	1.2	2.4	2.4	1.1	2.4	1.1	2.3	1.7	2.6	1.9	2.1
E. I. Hatch Nuclear Plant, Unit 2	378663	1.8	1.4	1.4	1.1	2.1	2.0	1.2	1.1	2.9	1.2	3.0	1.4	2.0
E. I. Hatch Nuclear Plant, Unit 2	378777	1.6	1.3	1.0	1.2	2.2	2.1	1.1	1.2	2.3	1.1	2.7	1.8	1.8
Farley Nuclear Plant, Unit 1	294265	1.7	1.8	1.0	2.0	1.8	1.3	2.1	2.0	1.4	1.9	1.9	1.8	1.8
Farley Nuclear Plant, Unit 1	294266	1.6	1.9	1.6	1.6	1.0	1.3	2.1	2.1	1.5	1.3	1.5	1.9	1.9
Farley Nuclear Plant, Unit 1	294267	2.5	2.5	3.3	2.2	1.7	3.2	2.9	1.5	2.8	2.3	2.5	2.5	2.5
Farley Nuclear Plant, Unit 1	294268	1.6	1.8	1.1	2.3	1.8	1.1	2.1	2.2	1.2	1.4	1.5	1.8	1.8
Farley Nuclear Plant, Unit 2	299053	1.8	1.9	1.2	2.0	2.0	1.2	2.0	2.3	1.3	2.4	1.4	1.9	1.9
Fermi 2, Unit 2	305131	3.1	2.8	3.6	3.8	2.7	3.7	3.8	1.9	3.3	4.3	2.5	4.2	1.2
Fermi 2, Unit 2	305133	3.3	3.2	4.0	2.0	4.0	3.3	3.8	2.4	3.6	3.4	2.7	4.1	2.6

Run Hours per Demand

Fermi 2, Unit 2	305200	2.9	3.0	2.4	2.4	3.7	2.3	3.2	2.4	1.8	5.0	2.3	4.8	2.2
Fermi 2, Unit 2	305202	3.0	3.5	4.3	3.6	3.3	3.1	3.4	2.1	4.0	3.7	2.6	3.0	1.1
Fort Calhoun Station, Unit 1	315392	1.4	1.1	1.9	3.3	0.9	1.1	1.6	1.2	1.1	1.4	1.6	1.4	1.0
Fort Calhoun Station, Unit 1	315455	1.5	1.3	1.9	3.2	1.0	2.4	1.1	1.5	1.2	1.5	1.3	1.4	1.1
Grand Gulf Nuclear Station, Unit 1	323887	2.3	1.9	1.7	2.9	2.9	2.7	2.2	2.0	1.1	2.0	2.7	2.5	2.8
Grand Gulf Nuclear Station, Unit 1	324067	2.3	2.0	1.5	1.5	1.7	2.9	2.0	1.9	3.8	1.5	3.1	3.9	1.6
H. B. Robinson Steam Electric Plant, Unit 2	713103	4.3	5.0	5.0	5.0	5.0	5.0	3.8	3.9	4.0	4.0	4.0	4.0	4.0
H. B. Robinson Steam Electric Plant, Unit 2	713379	4.1	5.0	5.0	5.0	5.0	5.0	3.4	4.0	3.5	3.5	3.5	3.5	3.5
Hope Creek, Unit 1	384243	4.4	5.3	5.3	5.3	5.3	5.3	5.3	4.4	3.2	3.0	2.1	4.3	3.2
Hope Creek, Unit 1	384249	3.4	3.9	3.9	3.9	3.9	3.9	3.9	3.6	3.1	3.0	1.8	3.4	2.8
Hope Creek, Unit 1	384251	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.0	4.5	2.1	3.3	3.4	2.2
Hope Creek, Unit 1	384680	3.5	3.7	3.7	3.7	3.7	3.7	3.7	3.3	2.3	4.8	2.0	4.5	2.7
Indian Point, Unit 2	390338	2.4	2.9	2.9	2.9	2.9	2.9	2.9	2.3	2.2	2.2	2.2	1.6	1.2
Indian Point, Unit 2	390342	2.4	3.3	3.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.6	1.6
Indian Point, Unit 2	390359	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.3	2.3	1.9	1.8	1.8
Indian Point, Unit 3	394291	1.5	1.0	1.3	1.4	1.3	1.8	1.4	1.6	1.7	1.7	1.3	1.6	1.5
Indian Point, Unit 3	394357	1.6	1.0	1.2	1.5	1.4	2.3	1.4	1.9	2.0	2.0	1.5	1.7	1.3
Indian Point, Unit 3	394359	1.5	1.0	1.3	1.2	1.5	2.2	1.0	1.7	1.7	1.7	1.4	1.9	1.5
James A. FitzPatrick Nuclear Power Plant, Unit 1	309388	2.6	0.3	0.3	0.3	3.8	7.7	7.0	17.2	1.1	1.8	2.1	1.7	1.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309390	3.1	0.3	0.3	0.3	3.0	16.4	7.2	13.8	1.3	2.7	2.1	1.6	1.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309392	3.8	0.3	0.3	0.3	3.6	15.6	16.4	19.4	1.2	1.9	1.9	1.6	1.5
James A. FitzPatrick Nuclear Power Plant, Unit 1	309446	2.7	0.3	0.3	0.3	3.5	9.2	10.1	12.9	1.2	1.7	2.1	1.6	1.6
Kewaunee Power Station, Unit 1	399159	2.7	2.5	2.1	6.0	5.3	2.5	2.1	2.5	2.7	2.4	1.5	2.3	1.5
Kewaunee Power Station, Unit 1	399176	2.8	2.7	1.5	1.6	10.1	2.3	1.9	2.4	2.4	2.3	2.4	2.8	1.6
LaSalle County Generating Station, Unit 1	402984	2.1	1.9	2.5	2.0	1.5	2.4	1.7	2.9	1.9	2.8	1.4	1.9	1.5
LaSalle County Generating Station, Unit 1	402986	2.0	1.9	1.5	2.1	1.4	2.8	1.1	3.7	1.9	3.3	1.7	2.3	1.9
LaSalle County Generating Station, Unit 2	408836	2.1	1.8	2.9	2.4	2.8	1.5	2.9	1.4	1.9	2.8	1.6	1.8	1.7
Limerick Generating Station, Unit 1	413910	2.3	1.1	1.1	1.1	1.1	1.1	3.8	2.8	4.1	2.3	4.0	3.0	3.1
Limerick Generating Station, Unit 1	413911	2.2	1.1	1.1	1.1	1.1	1.1	2.7	2.5	4.2	2.0	3.7	2.9	3.2
Limerick Generating Station, Unit 1	414093	2.4	1.1	1.1	1.1	1.1	1.1	3.3	5.0	2.9	3.6	3.0	4.8	1.9
Limerick Generating Station, Unit 1	414094	2.3	1.1	1.1	1.1	1.1	1.1	2.3	3.0	4.1	2.8	3.9	3.2	3.1
Limerick Generating Station, Unit 2	420673	2.2	1.1	1.1	1.1	1.1	1.1	2.1	5.0	3.0	3.3	2.3	4.0	2.1
Limerick Generating Station, Unit 2	420941	2.4	1.1	1.1	1.1	1.1	1.1	2.5	8.9	3.3	3.4	2.7	4.3	2.2
Limerick Generating Station, Unit 2	420943	2.3	1.1	1.1	1.1	1.1	1.1	2.4	3.3	4.7	2.6	3.7	2.7	3.5
Limerick Generating Station, Unit 2	420945	2.4	1.1	1.1	1.1	1.1	1.1	2.0	3.4	4.3	2.8	4.8	3.0	3.2
McGuire Nuclear Station, Unit 1	425897	3.2	3.4	4.1	2.0	3.1	2.9	2.6	4.5	3.8	4.0	3.5	3.4	3.0
McGuire Nuclear Station, Unit 1	426106	3.1	3.4	3.5	2.5	3.2	2.6	2.8	3.3	3.0	4.2	3.4	3.4	3.0
McGuire Nuclear Station, Unit 2	431267	3.4	3.4	4.7	3.0	3.4	2.7	3.1	3.2	3.5	4.3	3.5	3.4	3.0
McGuire Nuclear Station, Unit 2	431268	3.3	3.4	3.8	3.7	2.1	3.7	3.6	3.0	3.8	4.3	3.4	3.4	2.8
Millstone Nuclear Power Station, Unit 2	440377	4.5	3.4	5.2	4.6	4.2	7.6	5.2	4.9	5.6	3.8	4.5	4.1	3.3

Run Hours per Demand

Millstone Nuclear Power Station, Unit 2	440379	5.6	5.3	5.6	5.6	5.5	6.6	5.3	6.0	6.4	5.3	5.2	5.7	5.1
Millstone Nuclear Power Station, Unit 3	444272	3.8	3.7	3.5	5.5	1.5	4.1	3.8	5.6	3.7	2.7	4.4	3.4	3.8
Millstone Nuclear Power Station, Unit 3	444340	4.1	4.0	4.4	5.6	1.5	4.9	3.5	5.5	3.8	4.4	3.8	3.6	4.5
Monticello Nuclear Generating Plant, Unit 1	449718	2.3	2.6	2.0	2.4	1.9	1.7	2.1	2.6	2.4	2.5	2.6	2.6	2.6
Monticello Nuclear Generating Plant, Unit 1	450139	2.0	2.2	1.4	2.1	1.6	1.7	2.3	2.2	1.9	2.0	2.2	2.2	2.2
Nine Mile Point Nuclear Station, Unit 1	453530	1.2	1.3	1.0	1.1	1.4	1.2	1.3	1.6	1.6	1.2	2.0	1.0	0.8
Nine Mile Point Nuclear Station, Unit 1	453794	1.3	1.3	1.2	1.4	2.1	1.3	1.2	1.7	1.3	1.1	1.4	1.1	1.0
Nine Mile Point Nuclear Station, Unit 2	456878	4.0	4.0	2.4	4.0	5.4	4.0	4.9	5.0	4.9	4.4	4.4	3.9	3.4
Nine Mile Point Nuclear Station, Unit 2	456879	3.9	3.7	2.5	3.7	3.7	3.7	5.1	4.9	4.3	5.0	2.9	4.8	3.6
North Anna Power Station, Unit 1	511898	2.6	2.8	2.8	2.0	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
North Anna Power Station, Unit 1	518352	2.7	2.8	3.1	2.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
North Anna Power Station, Unit 2	534562	2.8	2.8	2.8	3.1	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
North Anna Power Station, Unit 2	572985	2.7	2.8	2.8	2.5	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
Oyster Creek Nuclear Generating Station, Unit 1	590380	1.1	1.0	1.4	1.3	1.1	1.0	0.8	0.9	1.3	1.3	1.4	1.3	1.0
Oyster Creek Nuclear Generating Station, Unit 1	590381	1.3	1.0	1.5	1.2	1.3	1.1	0.9	1.1	1.3	2.0	1.3	1.3	1.2
Palisades Nuclear Plant, Unit 1	593097	4.2	3.9	3.9	3.9	3.9	3.9	5.0	5.0	5.0	5.0	5.0	4.1	2.5
Palisades Nuclear Plant, Unit 1	593098	4.2	3.9	3.9	3.9	3.9	3.9	5.0	5.0	5.0	5.0	5.0	4.1	2.5
Palo Verde Nuclear Generating Station, Unit 1	596679	5.1	5.4	4.4	5.0	4.7	6.6	6.1	4.7	5.9	3.9	5.3	5.4	4.5
Palo Verde Nuclear Generating Station, Unit 1	596680	5.0	5.4	4.1	6.0	4.6	7.3	5.3	4.9	5.4	4.6	5.4	5.4	3.5
Palo Verde Nuclear Generating Station, Unit 2	603103	5.1	5.4	4.2	4.1	6.1	5.6	5.6	5.1	5.2	5.2	5.5	5.4	4.3
Palo Verde Nuclear Generating Station, Unit 2	603104	5.1	5.4	3.6	4.6	6.4	4.8	6.4	5.6	5.2	4.9	5.4	5.4	4.2
Palo Verde Nuclear Generating Station, Unit 3	610313	5.0	5.4	3.3	5.1	8.0	4.7	4.8	5.1	5.8	5.1	5.4	5.4	4.5
Palo Verde Nuclear Generating Station, Unit 3	610315	4.9	5.4	3.3	4.6	5.7	5.3	4.9	5.1	5.2	5.2	5.3	5.4	4.5
Peach Bottom Atomic Power Station, Unit 2	615673	2.1	2.0	1.7	1.7	2.0	2.0	2.0	2.4	3.3	2.3	2.6	3.2	1.2
Peach Bottom Atomic Power Station, Unit 2	615674	2.2	2.0	2.0	1.9	2.0	2.0	2.0	2.9	2.4	2.4	3.1	3.3	1.2
Peach Bottom Atomic Power Station, Unit 2	615675	2.2	2.0	1.9	1.9	2.0	1.5	2.0	2.7	4.5	2.3	3.6	2.4	1.2
Peach Bottom Atomic Power Station, Unit 2	615676	2.4	2.0	1.8	1.7	2.1	2.0	2.0	3.0	3.7	3.9	3.0	3.5	1.3
Perry Nuclear Power Plant, Unit 1	626613	1.5	1.0	0.7	1.5	1.6	1.2	1.3	0.8	1.6	2.6	1.9	2.2	2.2
Perry Nuclear Power Plant, Unit 1	626615	1.5	1.0	0.6	1.4	0.8	1.1	1.5	1.1	1.8	2.3	2.1	2.2	2.2
Pilgrim Nuclear Power Station, Unit 1	632109	1.6	2.0	0.9	1.6	0.9	1.8	2.5	1.7	1.8	1.3	1.5	1.3	1.8
Pilgrim Nuclear Power Station, Unit 1	632139	1.6	1.8	1.4	1.7	1.2	1.7	1.2	1.9	1.6	1.8	1.6	1.9	1.0
Point Beach Nuclear Plant, Unit 1	635653	3.6	2.9	2.9	2.9	2.9	2.9	2.4	4.0	5.1	5.1	5.1	5.1	#DIV/0!
Point Beach Nuclear Plant, Unit 1	635704	3.3	3.7	3.7	3.7	3.7	3.1	2.9	2.5	3.3	3.3	3.3	3.3	#DIV/0!
Point Beach Nuclear Plant, Unit 1	635811	4.1	6.3	6.3	6.3	6.3	5.3	2.7	2.5	2.7	2.7	2.7	2.7	#DIV/0!
Point Beach Nuclear Plant, Unit 1	635812	4.1	4.5	4.5	4.5	4.5	3.7	2.4	3.3	4.5	4.5	4.5	4.5	#DIV/0!
Prairie Island Nuclear Generating Plant, Unit 1	641679	3.8	3.0	2.4	4.8	5.7	3.6	6.1	2.6	4.4	2.8	4.0	4.0	4.0
Prairie Island Nuclear Generating Plant, Unit 1	641686	4.1	3.9	4.0	4.5	5.4	3.2	4.5	4.4	2.4	5.0	4.0	4.0	4.0
Prairie Island Nuclear Generating Plant, Unit 2	645367	4.1	4.2	8.1	5.3	3.6	3.6	2.7	4.3	3.9	4.0	4.0	4.0	4.0
Prairie Island Nuclear Generating Plant, Unit 2	645606	4.0	4.2	4.1	5.7	3.2	5.3	2.3	3.8	4.4	3.1	4.0	4.0	4.0
Quad Cities Station, Unit 1	648766	1.3	0.8	0.8	0.8	0.8	0.8	0.8	1.4	3.6	1.9	2.0	3.1	1.7

Run Hours per Demand

Quad Cities Station, Unit 1	648777	1.7	0.9	0.9	0.9	0.9	0.9	0.9	1.6	2.4	3.5	2.3	3.5	2.0
Quad Cities Station, Unit 2	653988	1.3	0.5	0.5	0.5	0.5	0.5	0.5	1.2	2.3	3.5	2.2	2.3	2.6
R. E. Ginna Nuclear Power Plant, Unit 1	319512	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5
R. E. Ginna Nuclear Power Plant, Unit 1	319513	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5
River Bend Station, Unit 1	656958	2.2	0.9	1.1	1.2	2.9	4.3	1.3	1.5	1.7	2.7	3.0	3.3	1.8
River Bend Station, Unit 1	707056	2.3	2.0	2.8	1.8	2.5	3.2	1.5	2.2	2.4	1.9	1.4	3.3	2.4
Salem, Unit 1	716195	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.6	2.4	1.0
Salem, Unit 1	716626	2.1	2.4	2.4	2.4	2.4	2.4	1.8	1.8	1.8	1.8	1.7	2.1	1.9
Salem, Unit 1	716627	1.7	1.2	1.2	1.2	1.2	1.2	2.1	2.1	2.1	2.1	1.6	2.6	2.0
Salem, Unit 2	720261	1.7	1.6	1.6	1.6	1.6	1.6	2.1	2.2	2.2	2.2	1.3	1.3	0.8
Salem, Unit 2	720262	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.9	1.9	1.9	2.7	3.0	0.8
Salem, Unit 2	720709	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.5	4.6	0.9
San Onofre Nuclear Generating Station, Unit 2	724718	2.4	5.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.5
San Onofre Nuclear Generating Station, Unit 2	724771	2.1	5.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.3
San Onofre Nuclear Generating Station, Unit 3	731367	2.2	5.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
San Onofre Nuclear Generating Station, Unit 3	731388	2.3	5.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.4
Seabrook Station, Unit 1	736429	3.4	3.2	3.2	3.2	3.2	3.2	5.9	3.9	4.3	3.5	2.8	2.1	2.5
Seabrook Station, Unit 1	736430	3.5	3.3	3.3	3.3	3.3	3.3	5.4	4.4	4.0	3.7	1.9	4.0	2.4
Sequoyah Nuclear Plant	926916	2.7	2.8	1.9	0.7	1.9	4.5	1.8	3.4	3.0	4.1	2.6	3.0	2.3
Sequoyah Nuclear Plant	926917	2.3	2.5	1.7	0.7	1.9	2.2	1.6	3.3	2.6	4.1	2.1	3.1	2.0
Sequoyah Nuclear Plant	926922	2.3	2.6	0.6	1.7	2.5	1.2	2.9	3.6	1.8	3.4	2.7	3.3	1.1
Sequoyah Nuclear Plant	926924	2.5	2.4	0.8	1.9	2.1	3.7	2.6	3.2	1.6	3.6	2.9	3.7	1.2
Shearon Harris Nuclear Power Plant, Unit 1	367900	2.8	0.3	0.3	2.3	5.9	2.7	4.8	4.8	2.8	5.1	1.6	1.4	1.4
Shearon Harris Nuclear Power Plant, Unit 1	367902	2.6	0.3	0.3	2.5	4.0	4.3	4.6	5.0	3.4	5.2	1.4	1.3	1.3
South Texas Project Electric Generating Station, Unit 1	749675	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	4.6
South Texas Project Electric Generating Station, Unit 1	749676	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	4.6
South Texas Project Electric Generating Station, Unit 1	750279	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	4.6
South Texas Project Electric Generating Station, Unit 2	756108	1.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.9	4.6
South Texas Project Electric Generating Station, Unit 2	756646	1.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.9	4.6
South Texas Project Electric Generating Station, Unit 2	756647	1.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.9	4.6
St. Lucie Nuclear Power Plant, Unit 1	760685	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.1	2.8	2.8
St. Lucie Nuclear Power Plant, Unit 1	760785	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.3	1.8	2.3	2.3
St. Lucie Nuclear Power Plant, Unit 2	765935	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.2	2.5	1.9	2.8	2.8
St. Lucie Nuclear Power Plant, Unit 2	765968	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.1	1.7	2.3	2.3
Surry Power Station, Unit 1	814319	2.5	2.6	2.6	2.6	2.6	2.6	3.0	2.2	2.6	2.5	2.3	2.5	2.4

Run Hours per Demand

Surry Power Station, Unit 1	820522	3.0	3.0	3.0	3.0	3.0	3.0	2.6	4.5	3.0	2.8	2.8	2.6	3.1
Surry Power Station, Unit 2	830214	3.0	3.3	3.3	3.3	3.3	3.3	3.0	2.8	3.7	2.5	2.2	2.5	2.8
Susquehanna Steam Electric Station, Unit 1	865544	4.2	4.4	3.8	10.3	4.4	3.8	3.2	3.5	3.8	4.8	4.2	4.7	3.0
Susquehanna Steam Electric Station, Unit 1	865545	4.1	4.4	5.2	5.2	3.9	6.0	3.4	3.5	4.2	3.2	4.2	4.1	3.8
Susquehanna Steam Electric Station, Unit 1	865592	4.1	4.4	7.7	4.2	3.5	5.6	3.3	3.5	4.6	3.9	3.2	4.2	3.6
Susquehanna Steam Electric Station, Unit 1	865593	4.2	4.4	4.5	5.9	4.0	5.6	3.2	3.5	4.3	3.6	4.3	4.3	4.1
Susquehanna Steam Electric Station, Unit 1	865594	4.7	3.7	4.1	7.3	6.6	5.5	7.2	3.1	4.4	3.9	4.4	4.3	4.0
Three Mile Island Nuclear Station, Unit 1	868007	1.4	1.0	1.0	1.0	1.0	1.0	0.7	2.9	2.4	1.7	2.1	1.4	1.4
Three Mile Island Nuclear Station, Unit 1	868008	1.4	1.0	1.0	1.0	1.0	1.0	0.7	2.3	1.7	1.8	1.8	1.8	1.4
Turkey Point Nuclear Power Plant, Unit 3	871775	2.2	2.0	1.6	0.9	0.3	1.1	3.3	2.6	2.5	3.5	2.9	2.2	3.0
Turkey Point Nuclear Power Plant, Unit 3	871940	2.3	2.0	1.3	0.8	0.5	1.0	3.1	3.5	2.3	3.6	3.8	2.0	3.2
Turkey Point Nuclear Power Plant, Unit 4	875868	2.0	2.0	1.3	1.7	0.4	0.8	2.8	2.2	3.1	3.6	2.1	1.6	3.5
Turkey Point Nuclear Power Plant, Unit 4	875869	2.1	2.0	1.2	2.5	0.4	0.8	2.5	3.1	3.1	3.4	1.9	1.6	2.9
V. C. Summer Nuclear Station, Unit 1	769866	1.9	2.6	2.6	2.5	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.3
V. C. Summer Nuclear Station, Unit 1	769940	2.3	2.6	2.6	2.5	2.4	2.4	2.2	2.2	2.2	2.2	2.2	2.2	1.7
Vermont Yankee Nuclear Power Station, Unit 1	878423	2.9	3.2	3.9	3.6	3.1	3.1	2.2	2.0	4.0	2.4	2.4	2.6	2.7
Vermont Yankee Nuclear Power Station, Unit 1	878576	2.8	3.2	3.7	3.6	3.0	3.7	2.1	2.8	3.2	2.6	2.1	3.1	2.0
Vogtle Electric Generating Plant, Unit 1	882490	2.6	2.6	2.6	2.6	2.6	2.6	2.6	4.2	1.9	3.2	1.7	3.6	1.2
Vogtle Electric Generating Plant, Unit 1	883291	2.7	2.7	2.7	2.7	2.7	2.7	2.7	4.3	2.0	2.9	1.6	4.9	1.1
Vogtle Electric Generating Plant, Unit 2	887650	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.9	3.8	2.0	3.6	1.7	2.3
Vogtle Electric Generating Plant, Unit 2	887652	2.5	2.6	2.6	2.6	2.6	2.6	2.6	1.9	4.7	1.6	2.0	2.1	2.4
Waterford 3 Steam Electric Station, Unit 3	892650	5.0	10.0	4.4	5.7	3.2	5.6	4.6	3.8	4.2	5.0	4.2	4.4	3.7
Waterford 3 Steam Electric Station, Unit 3	892685	5.5	25.0	4.9	5.9	3.7	5.9	5.1	4.2	3.5	6.5	4.7	3.7	3.7
Watts Bar Nuclear Plant, Unit 1	898018	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Watts Bar Nuclear Plant, Unit 1	898020	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Watts Bar Nuclear Plant, Unit 1	898885	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Watts Bar Nuclear Plant, Unit 1	898886	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Wolf Creek Generating Station, Unit 1	903397	2.2	2.1	1.6	2.4	2.1	1.6	2.1	1.7	1.9	3.0	3.4	2.1	2.5
Wolf Creek Generating Station, Unit 1	903501	2.5	2.1	1.1	1.9	1.5	1.1	2.1	3.4	2.0	8.4	3.4	2.0	2.1
	Average	0.2	2.9	2.7	2.7	2.7	2.9	2.9	3.0	2.8	2.9	2.7	2.8	#DIV/0!
	Maximum	0.5	25.0	20.1	10.3	10.1	16.4	16.4	19.4	6.8	8.4	8.1	5.7	#DIV/0!
	Minimum	0.1	0.3	0.3	0.3	0.3	0.5	0.5	0.8	0.9	0.9	0.9	0.9	#DIV/0!

Run Hours per LR Demand

Unit_Nme	DeviceID	Total	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arkansas Nuclear One, Unit 1	92	3.0	3.6	2.7	3.9	1.9	3.6	3.6	2.2	2.2	3.5	1.9	3.2	2.2
Arkansas Nuclear One, Unit 1	28468	2.8	3.2	2.7	2.3	1.9	3.2	3.6	1.9	2.4	3.3	1.9	3.8	2.3
Arkansas Nuclear One, Unit 2	30727	2.8	2.3	2.3	2.9	3.0	1.8	3.7	2.0	5.5	3.3	2.1	3.4	2.0
Arkansas Nuclear One, Unit 2	54598	3.2	19.7	19.7	1.9	3.4	4.1	3.4	2.6	2.3	3.4	2.0	3.8	2.3
Beaver Valley Power Station, Unit 1	64497	1.9	2.7	1.9	1.5	1.7	1.5	1.5	1.5	1.9	2.2	2.7	2.7	1.6
Beaver Valley Power Station, Unit 1	64832	1.9	2.7	1.9	1.4	1.7	1.6	1.6	1.5	1.6	2.2	2.7	2.7	1.4
Beaver Valley Power Station, Unit 2	70252	2.0	2.8	1.6	1.6	1.5	1.6	1.6	1.8	1.5	2.2	2.8	2.8	2.0
Beaver Valley Power Station, Unit 2	71036	2.0	2.8	1.7	1.6	1.6	1.5	1.5	1.8	1.5	2.5	2.8	2.8	1.9
Braidwood Station, Unit 1	75429	5.4	5.7	5.8	3.6	5.7	6.4	5.7	6.5	8.2	5.5	6.1	4.6	3.1
Braidwood Station, Unit 1	75430	5.5	6.0	6.8	4.1	6.4	7.3	6.0	5.9	6.4	5.1	5.7	5.2	3.5
Braidwood Station, Unit 2	103804	4.7	5.0	3.8	5.9	3.1	5.6	5.0	5.8	5.7	5.7	4.7	5.2	2.9
Braidwood Station, Unit 2	103913	4.6	5.1	3.8	5.3	4.0	4.5	5.1	4.1	7.2	5.9	4.7	4.9	3.0
Browns Ferry Nuclear Plant, Unit 2	124217	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.8	1.8	2.1	2.1	1.3
Browns Ferry Nuclear Plant, Unit 2	124306	2.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9	1.8	2.2	2.2	1.3
Browns Ferry Nuclear Plant, Unit 2	124307	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.3	2.6	2.6	1.6
Browns Ferry Nuclear Plant, Unit 2	920861	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.8	2.0	2.0	1.2
Browns Ferry Nuclear Plant, Unit 3	129112	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.8	1.8	2.1	2.1	1.3
Browns Ferry Nuclear Plant, Unit 3	129113	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.8	1.8	2.1	2.1	1.3
Browns Ferry Nuclear Plant, Unit 3	129115	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.0	2.0	2.3	2.3	1.4
Browns Ferry Nuclear Plant, Unit 3	129117	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.2	2.2	2.6	2.6	1.6
Brunswick Steam Electric Plant, Unit 2	138701	4.4	6.7	6.7	6.7	6.7	6.8	6.8	2.8	2.8	2.8	2.8	2.8	1.8
Brunswick Steam Electric Plant, Unit 2	138703	4.4	6.7	6.7	6.7	6.7	6.8	6.8	2.8	2.8	2.8	2.8	2.8	1.8
Brunswick Steam Electric Plant, Unit 2	138705	4.4	6.7	6.7	6.7	6.7	6.8	6.8	2.8	2.8	2.8	2.8	2.9	1.8
Brunswick Steam Electric Plant, Unit 2	138707	4.4	6.7	6.7	6.7	6.7	6.8	6.8	2.9	2.9	2.9	2.9	2.9	1.8
Byron Station, Unit 1	144445	4.1	3.6	3.6	3.6	3.6	3.6	3.6	4.9	5.0	5.1	3.4	4.6	5.2
Byron Station, Unit 1	144447	4.1	3.6	3.6	3.6	3.6	3.6	3.6	4.0	6.2	5.5	4.0	5.1	3.7
Byron Station, Unit 2	149279	4.2	3.6	3.6	3.6	3.6	3.6	3.6	4.3	4.0	7.0	5.5	3.3	6.2
Byron Station, Unit 2	149281	4.2	3.6	3.6	3.6	3.6	3.6	3.6	4.2	4.6	4.3	5.6	5.1	5.7
Callaway Nuclear Plant, Unit 1	154071	1.2	1.0	1.0	1.0	1.0	1.0	2.9	1.5	1.6	1.2	1.0	1.0	1.0
Callaway Nuclear Plant, Unit 1	154072	1.2	1.0	1.0	1.0	1.0	1.0	3.1	1.4	1.6	1.6	1.0	1.0	1.0
Calvert Cliffs Nuclear Power Plant, Unit 1	159126	1.9	2.0	2.4	1.4	1.8	1.7	2.2	1.9	1.7	1.8	2.3	1.7	1.0
Calvert Cliffs Nuclear Power Plant, Unit 1	159750	2.2	2.5	2.1	1.9	2.1	2.0	2.9	2.2	3.3	2.0	2.5	3.1	1.3
Calvert Cliffs Nuclear Power Plant, Unit 2	163078	1.8	2.0	2.1	2.2	1.6	2.4	1.9	2.1	1.6	2.0	2.2	1.8	0.9
Calvert Cliffs Nuclear Power Plant, Unit 2	163626	2.0	2.1	2.6	2.4	1.5	2.5	1.9	2.6	2.2	2.0	1.7	2.2	0.7
Catawba Nuclear Station, Unit 1	166779	4.0	4.0	2.1	5.5	3.1	4.9	5.1	3.0	4.0	4.0	4.0	4.5	3.3
Catawba Nuclear Station, Unit 1	166780	4.1	4.1	2.2	5.0	2.9	5.6	4.6	3.0	4.8	5.0	4.1	4.5	3.3
Catawba Nuclear Station, Unit 2	172652	4.0	4.0	5.4	2.9	4.3	4.2	3.4	3.9	4.3	2.8	4.1	4.5	3.6
Catawba Nuclear Station, Unit 2	173053	3.9	4.0	5.0	2.7	3.8	3.6	5.2	3.9	3.2	4.5	4.5	4.5	2.5
Clinton Power Station, Unit 1	178388	3.7	2.8	4.0	4.0	4.0	3.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Run Hours per LR Demand

Clinton Power Station, Unit 1	178752	3.7	2.8	4.1	4.1	4.1	3.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Columbia Generating Station, Unit 2	185526	3.1	3.2	3.2	3.2	3.2	3.7	3.2	3.2	3.2	3.2	3.2	3.2	1.9
Columbia Generating Station, Unit 2	185770	2.5	2.5	2.5	2.5	2.5	3.7	2.5	2.5	2.5	2.5	2.5	2.5	1.5
Comanche Peak Steam Electric Station, Unit 1	190618	3.0	2.9	3.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	4.1	2.8
Comanche Peak Steam Electric Station, Unit 1	191043	3.1	2.9	3.7	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	4.4	2.8
Comanche Peak Steam Electric Station, Unit 2	196783	3.0	2.8	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.7	2.7	4.4
Comanche Peak Steam Electric Station, Unit 2	197074	3.0	2.8	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.2	2.7	4.2
Cooper Nuclear Station, Unit 1	246629	5.3	5.6	5.6	5.6	5.6	5.6	5.6	6.1	5.6	6.1	4.9	5.6	3.2
Cooper Nuclear Station, Unit 1	250005	4.7	4.7	4.7	4.7	4.7	4.7	4.7	5.2	5.2	5.0	5.7	5.5	3.0
Crystal River Unit 3, Unit 3	262755	3.0	6.9	5.2	4.1	3.2	3.8	3.4	3.6	2.7	3.1	2.7	2.7	0.9
Crystal River Unit 3, Unit 3	262756	2.7	6.6	4.3	4.2	3.5	3.8	2.7	2.3	3.2	2.4	2.7	2.9	0.7
Davis-Besse Nuclear Power Station, Unit 1	268257	2.3	2.5	1.9	2.6	2.1	2.2	1.9	4.5	2.4	3.2	2.7	2.4	1.0
Davis-Besse Nuclear Power Station, Unit 1	269404	2.6	2.6	1.6	2.0	2.4	3.3	2.3	3.8	2.0	3.5	3.0	2.8	1.4
Diablo Canyon Power Plant, Unit 1	272071	3.3	3.9	3.9	4.9	3.9	3.9	3.3	2.5	2.5	2.5	2.5	2.5	2.5
Diablo Canyon Power Plant, Unit 1	272072	2.9	3.7	3.7	3.7	3.7	3.7	2.9	2.2	2.2	2.2	2.2	2.2	2.2
Diablo Canyon Power Plant, Unit 1	272113	3.0	4.2	4.2	3.4	4.2	4.2	3.1	2.1	2.1	2.1	2.1	2.1	2.1
Diablo Canyon Power Plant, Unit 2	276584	3.8	3.9	3.9	2.3	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Diablo Canyon Power Plant, Unit 2	276585	3.6	3.8	3.8	3.8	3.8	3.8	3.8	3.4	3.4	3.4	3.4	3.4	3.4
Diablo Canyon Power Plant, Unit 2	276858	3.5	3.8	3.8	2.7	3.8	3.8	3.8	3.3	3.3	3.3	3.3	3.3	3.3
Donald C. Cook Nuclear Plant, Unit 1	201637	3.2	2.6	2.7	2.4	2.6	2.6	3.7	3.7	3.7	3.7	3.4	3.7	2.9
Donald C. Cook Nuclear Plant, Unit 1	201638	2.9	2.6	1.4	1.9	2.6	2.6	3.7	3.7	3.7	3.7	3.5	3.7	2.9
Donald C. Cook Nuclear Plant, Unit 2	202801	3.9	2.6	2.7	2.0	2.6	2.6	3.7	3.7	3.7	3.7	9.1	3.7	2.9
Donald C. Cook Nuclear Plant, Unit 2	202802	4.2	2.6	2.7	3.2	2.6	2.6	3.7	3.7	3.7	3.7	9.4	3.7	2.9
Dresden Station, Unit 2	281253	2.2	3.5	4.3	3.3	3.2	3.5	3.5	2.6	1.7	3.5	1.6	3.2	0.2
Dresden Station, Unit 2	281254	1.9	3.6	3.2	1.7	3.0	3.6	3.6	2.6	1.1	1.9	1.0	1.8	0.1
Dresden Station, Unit 3	285123	2.5	1.5	5.5	1.5	2.9	1.5	1.5	1.6	5.0	1.7	3.7	3.6	0.7
Duane Arnold Energy Center, Unit 1	292556	3.0	3.4	1.2	2.6	3.2	3.5	3.4	3.4	3.4	3.4	3.6	3.6	2.4
Duane Arnold Energy Center, Unit 1	293925	3.2	3.4	1.3	2.6	3.6	3.4	3.4	3.4	3.4	3.4	3.7	3.9	2.9
E. I. Hatch Nuclear Plant, Unit 1	373369	1.9	1.1	1.1	2.5	2.9	1.1	2.3	1.2	3.9	1.2	1.3	3.3	1.0
E. I. Hatch Nuclear Plant, Unit 1	373380	2.0	1.9	1.1	2.8	3.2	1.2	2.8	1.1	2.1	1.1	2.7	1.5	2.1
E. I. Hatch Nuclear Plant, Unit 1	373820	1.8	0.6	1.2	2.4	2.6	1.2	2.4	1.1	2.4	1.7	2.6	1.9	2.0
E. I. Hatch Nuclear Plant, Unit 2	378663	1.7	1.4	1.4	1.1	1.9	2.1	1.2	1.1	2.9	1.2	3.2	1.4	1.3
E. I. Hatch Nuclear Plant, Unit 2	378777	1.7	1.4	1.1	1.2	2.6	2.2	1.1	1.2	2.4	1.1	2.8	1.8	1.3
Farley Nuclear Plant, Unit 1	294265	2.6	2.4	1.7	2.5	3.4	1.9	3.3	3.5	2.2	3.2	2.3	2.4	2.4
Farley Nuclear Plant, Unit 1	294266	2.6	2.7	2.0	2.5	2.1	2.3	3.3	4.1	2.4	2.4	2.6	2.7	2.7
Farley Nuclear Plant, Unit 1	294267	3.9	3.9	5.0	3.8	2.2	5.8	4.4	2.5	4.7	3.5	3.9	3.9	3.9
Farley Nuclear Plant, Unit 1	294268	2.4	2.5	1.7	3.0	2.9	1.4	3.2	3.1	2.2	2.1	2.4	2.5	2.5
Farley Nuclear Plant, Unit 2	299053	2.5	2.6	1.6	2.7	3.1	1.6	2.7	3.5	2.1	3.0	2.4	2.6	2.6
Fermi 2, Unit 2	305131	3.2	3.0	3.6	3.8	2.7	3.8	3.8	2.7	4.5	5.7	2.8	5.2	0.7
Fermi 2, Unit 2	305133	3.5	3.2	4.0	2.0	4.0	3.5	4.1	2.5	4.1	5.2	3.0	5.8	1.7

Run Hours per LR Demand

Fermi 2, Unit 2	305200	3.3	3.0	2.7	2.4	3.7	3.7	4.2	2.7	3.7	5.7	3.2	6.4	1.2
Fermi 2, Unit 2	305202	3.5	3.8	4.5	3.6	3.3	3.8	3.7	2.9	4.2	6.1	3.1	4.4	0.9
Fort Calhoun Station, Unit 1	315392	2.1	1.7	3.1	4.3	2.1	2.2	1.6	1.9	1.7	2.1	1.8	2.1	1.4
Fort Calhoun Station, Unit 1	315455	2.3	1.7	2.9	3.6	2.0	3.7	1.6	1.9	1.7	2.0	2.0	2.8	1.5
Grand Gulf Nuclear Station, Unit 1	323887	2.8	1.9	2.9	5.9	3.9	4.6	3.0	2.0	1.5	2.5	3.3	2.7	1.3
Grand Gulf Nuclear Station, Unit 1	324067	2.7	2.0	2.6	2.7	2.1	5.0	3.2	2.0	5.2	1.7	3.9	3.9	0.7
H. B. Robinson Steam Electric Plant, Unit 2	713103	4.3	5.0	5.0	5.0	5.0	5.0	3.8	3.9	4.0	4.0	4.0	4.0	4.0
H. B. Robinson Steam Electric Plant, Unit 2	713379	4.1	5.0	5.0	5.0	5.0	5.0	3.4	4.0	3.5	3.5	3.5	3.5	3.5
Hope Creek, Unit 1	384243	4.7	5.5	5.5	5.5	5.5	5.5	5.5	4.9	3.4	3.6	2.2	5.5	3.3
Hope Creek, Unit 1	384249	3.6	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.7	4.1	2.1	3.8	2.8
Hope Creek, Unit 1	384251	3.2	3.1	3.1	3.1	3.1	3.1	3.1	2.3	5.1	2.2	3.9	3.9	2.4
Hope Creek, Unit 1	384680	3.6	3.7	3.7	3.7	3.7	3.7	3.7	4.0	2.2	5.1	2.2	5.0	2.7
Indian Point, Unit 2	390338	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.9	2.2	2.2	2.5	1.7	1.6
Indian Point, Unit 2	390342	2.1	1.5	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.9	1.7	1.6
Indian Point, Unit 2	390359	1.8	1.5	1.5	1.5	1.5	1.5	1.5	2.1	2.3	2.3	2.6	1.8	2.2
Indian Point, Unit 3	394291	1.6	1.0	1.5	1.7	1.5	2.2	1.5	1.6	1.7	1.7	1.7	2.0	1.5
Indian Point, Unit 3	394357	1.8	1.0	1.4	1.8	1.4	2.4	1.5	1.9	2.0	2.0	1.9	2.0	1.3
Indian Point, Unit 3	394359	1.7	1.0	1.6	1.5	1.5	2.6	1.8	1.7	1.7	1.7	1.8	2.2	1.6
James A. FitzPatrick Nuclear Power Plant, Unit 1	309388	4.7	1.0	1.0	0.9	10.8	12.7	7.4	16.3	1.0	1.8	2.1	1.7	1.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309390	5.7	1.0	1.0	0.9	7.9	35.2	7.7	13.0	1.1	2.7	2.1	1.6	1.4
James A. FitzPatrick Nuclear Power Plant, Unit 1	309392	6.7	1.0	1.0	0.9	10.6	28.0	19.4	18.8	1.1	1.9	1.9	1.6	1.5
James A. FitzPatrick Nuclear Power Plant, Unit 1	309446	4.7	1.0	1.0	0.9	10.2	13.4	10.8	12.5	1.1	1.7	2.1	1.6	1.5
Kewaunee Power Station, Unit 1	399159	3.5	3.4	2.7	6.5	6.2	3.3	2.8	3.9	3.1	2.8	3.0	2.8	1.6
Kewaunee Power Station, Unit 1	399176	3.6	3.5	2.4	2.4	12.1	2.8	2.7	3.2	3.1	3.0	3.0	3.0	1.5
LaSalle County Generating Station, Unit 1	402984	2.3	2.3	2.9	2.7	1.6	3.7	2.0	3.2	1.9	3.3	1.4	1.9	1.2
LaSalle County Generating Station, Unit 1	402986	2.6	2.4	1.8	3.4	1.8	4.0	2.1	4.3	2.7	3.8	1.9	2.4	1.7
LaSalle County Generating Station, Unit 2	408836	2.2	2.1	3.3	3.0	3.2	2.2	3.7	1.6	2.0	3.1	1.6	1.8	0.7
Limerick Generating Station, Unit 1	413910	2.3	1.1	1.1	1.1	1.1	1.1	2.1	2.8	4.4	2.9	4.8	3.0	3.6
Limerick Generating Station, Unit 1	413911	2.3	1.1	1.1	1.1	1.1	1.1	2.2	2.9	4.5	2.4	4.2	2.9	3.5
Limerick Generating Station, Unit 1	414093	2.4	1.1	1.1	1.1	1.1	1.1	1.9	4.6	2.9	4.9	3.2	5.1	2.2
Limerick Generating Station, Unit 1	414094	2.4	1.1	1.1	1.1	1.1	1.1	2.0	3.0	4.3	3.2	4.7	3.2	3.8
Limerick Generating Station, Unit 2	420673	2.3	1.1	1.1	1.1	1.1	1.1	1.8	4.6	3.0	4.5	2.7	4.3	2.1
Limerick Generating Station, Unit 2	420941	2.4	1.1	1.1	1.1	1.1	1.1	2.1	5.5	3.3	5.0	3.3	4.5	2.2
Limerick Generating Station, Unit 2	420943	2.3	1.1	1.1	1.1	1.1	1.1	2.0	2.8	5.1	2.9	4.6	2.7	3.7
Limerick Generating Station, Unit 2	420945	2.5	1.1	1.1	1.1	1.1	1.1	1.9	2.9	4.6	3.3	6.8	3.0	3.4
McGuire Nuclear Station, Unit 1	425897	4.2	4.1	6.6	2.7	3.5	5.4	5.3	4.5	4.3	4.0	4.1	4.1	2.7
McGuire Nuclear Station, Unit 1	426106	4.2	4.3	5.9	4.1	3.6	4.8	4.7	3.5	4.5	4.2	4.1	4.3	2.6
McGuire Nuclear Station, Unit 2	431267	4.5	4.6	5.5	4.2	6.8	3.4	5.4	4.8	3.5	4.6	4.5	4.6	3.1
McGuire Nuclear Station, Unit 2	431268	3.9	3.8	5.2	5.4	4.4	3.7	4.5	3.2	3.8	4.3	3.8	3.8	2.2
Millstone Nuclear Power Station, Unit 2	440377	4.9	7.1	5.5	4.5	5.4	5.1	8.1	4.7	4.7	4.3	4.6	5.3	2.3

Run Hours per LR Demand

Millstone Nuclear Power Station, Unit 2	440379	5.4	5.4	5.7	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.8	6.5	5.1
Millstone Nuclear Power Station, Unit 3	444272	3.6	3.8	1.9	4.1	1.7	3.2	3.6	5.6	4.6	2.9	4.7	4.3	4.6
Millstone Nuclear Power Station, Unit 3	444340	3.9	4.0	2.4	3.5	1.7	3.5	3.3	5.5	4.6	4.6	4.3	4.6	5.1
Monticello Nuclear Generating Plant, Unit 1	449718	2.4	2.6	2.2	2.4	2.2	1.7	2.5	2.6	2.6	2.5	2.6	2.6	2.6
Monticello Nuclear Generating Plant, Unit 1	450139	2.1	2.2	1.8	2.1	2.0	1.7	2.3	2.2	2.2	2.0	2.2	2.2	2.2
Nine Mile Point Nuclear Station, Unit 1	453530	1.3	1.3	1.2	1.3	1.4	1.2	1.3	1.6	1.6	1.4	1.5	1.1	1.0
Nine Mile Point Nuclear Station, Unit 1	453794	1.4	1.3	1.2	1.5	2.1	1.4	1.3	1.7	1.3	1.3	1.2	1.1	1.0
Nine Mile Point Nuclear Station, Unit 2	456878	4.5	4.7	5.1	4.7	4.7	4.7	5.6	5.0	5.4	4.4	5.5	5.0	2.5
Nine Mile Point Nuclear Station, Unit 2	456879	4.6	4.3	4.8	4.3	4.3	4.3	5.6	4.9	5.1	5.0	4.5	6.3	3.2
North Anna Power Station, Unit 1	511898	2.7	2.8	2.8	2.0	3.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
North Anna Power Station, Unit 1	518352	2.7	2.8	2.8	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
North Anna Power Station, Unit 2	534562	2.8	2.8	2.8	3.1	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
North Anna Power Station, Unit 2	572985	2.7	2.8	2.8	2.4	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.2
Oyster Creek Nuclear Generating Station, Unit 1	590380	1.3	1.0	1.4	1.3	1.3	1.2	1.2	1.2	1.6	1.4	1.5	1.5	1.1
Oyster Creek Nuclear Generating Station, Unit 1	590381	1.4	1.0	1.4	1.2	1.5	1.3	1.2	1.4	1.5	2.3	1.4	1.5	1.2
Palisades Nuclear Plant, Unit 1	593097	4.2	3.9	3.9	3.9	3.9	3.9	5.0	5.0	5.0	5.0	5.0	4.1	2.5
Palisades Nuclear Plant, Unit 1	593098	4.2	3.9	3.9	3.9	3.9	3.9	5.0	5.0	5.0	5.0	5.0	4.1	2.5
Palo Verde Nuclear Generating Station, Unit 1	596679	4.9	5.4	5.4	5.5	4.7	6.6	6.1	4.7	5.9	3.9	5.3	5.4	2.8
Palo Verde Nuclear Generating Station, Unit 1	596680	4.1	5.4	5.7	6.4	4.6	7.3	5.3	4.9	5.4	4.6	5.4	5.4	1.1
Palo Verde Nuclear Generating Station, Unit 2	603103	5.0	5.4	4.4	7.3	6.1	5.6	5.6	5.1	5.2	5.2	5.5	5.4	2.5
Palo Verde Nuclear Generating Station, Unit 2	603104	5.1	5.4	4.4	7.4	6.4	4.8	6.4	5.6	5.2	4.9	5.4	5.4	2.7
Palo Verde Nuclear Generating Station, Unit 3	610313	5.1	5.4	6.8	4.7	8.0	4.7	4.8	5.1	5.8	5.1	5.4	5.4	2.6
Palo Verde Nuclear Generating Station, Unit 3	610315	4.8	5.4	5.2	5.0	5.7	5.3	4.9	5.1	5.2	5.2	5.3	5.4	2.5
Peach Bottom Atomic Power Station, Unit 2	615673	3.5	5.0	2.5	3.1	5.0	5.0	5.0	3.1	3.3	2.4	2.7	3.5	1.7
Peach Bottom Atomic Power Station, Unit 2	615674	3.4	5.0	2.5	3.1	3.8	5.0	5.0	3.8	2.5	2.5	3.5	3.5	1.7
Peach Bottom Atomic Power Station, Unit 2	615675	3.6	5.0	2.5	3.1	5.0	4.2	5.0	3.5	4.5	2.4	3.7	2.4	1.7
Peach Bottom Atomic Power Station, Unit 2	615676	3.7	5.0	2.5	3.1	2.8	6.3	5.0	3.9	3.8	4.3	3.2	3.7	1.7
Perry Nuclear Power Plant, Unit 1	626613	1.9	1.0	0.8	2.2	1.6	1.6	1.9	1.7	2.2	2.9	2.2	2.2	2.2
Perry Nuclear Power Plant, Unit 1	626615	1.7	1.0	0.7	2.0	1.1	1.0	1.9	1.3	2.0	2.6	2.1	2.2	2.2
Pilgrim Nuclear Power Station, Unit 1	632109	2.1	2.5	0.9	1.6	1.0	2.2	3.0	1.9	2.2	2.2	2.4	2.2	2.1
Pilgrim Nuclear Power Station, Unit 1	632139	2.0	2.2	1.6	1.7	1.2	2.0	1.7	2.1	1.9	2.0	2.7	2.8	1.6
Point Beach Nuclear Plant, Unit 1	635653	3.7	2.9	2.9	2.9	2.9	2.9	2.4	4.1	5.5	5.5	5.5	5.5	#DIV/0!
Point Beach Nuclear Plant, Unit 1	635704	3.4	3.7	3.7	3.7	3.7	3.1	2.9	3.3	3.5	3.5	3.5	3.5	#DIV/0!
Point Beach Nuclear Plant, Unit 1	635811	4.3	6.3	6.3	6.3	6.3	5.3	3.3	2.7	3.0	3.0	3.0	3.0	#DIV/0!
Point Beach Nuclear Plant, Unit 1	635812	4.3	4.5	4.5	4.5	4.5	3.7	2.6	4.1	4.7	4.7	4.7	4.7	#DIV/0!
Prairie Island Nuclear Generating Plant, Unit 1	641679	3.8	3.0	2.4	4.8	5.7	3.6	6.1	2.6	4.4	2.8	4.0	4.0	4.0
Prairie Island Nuclear Generating Plant, Unit 1	641686	4.1	3.9	4.0	4.5	5.4	3.2	4.5	4.4	2.4	5.0	4.0	4.0	4.0
Prairie Island Nuclear Generating Plant, Unit 2	645367	3.8	2.1	12.2	14.6	5.3	3.6	2.9	3.8	4.8	3.3	2.0	4.0	3.7
Prairie Island Nuclear Generating Plant, Unit 2	645606	4.1	4.2	12.2	19.9	3.2	6.4	1.8	4.4	4.4	2.5	2.1	4.0	3.7
Quad Cities Station, Unit 1	648766	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.8	2.3	1.6	1.5	2.4	1.5

Run Hours per LR Demand

Quad Cities Station, Unit 1	648777	2.2	1.2	1.2	1.2	1.2	1.2	1.2	2.2	2.9	3.9	2.9	4.2	2.2
Quad Cities Station, Unit 2	653988	2.2	1.2	1.2	1.2	1.2	1.2	1.2	2.1	2.4	4.7	2.8	2.9	3.4
R. E. Ginna Nuclear Power Plant, Unit 1	319512	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7
R. E. Ginna Nuclear Power Plant, Unit 1	319513	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7
River Bend Station, Unit 1	656958	2.8	1.4	1.8	1.4	3.4	4.3	1.3	1.7	2.0	4.9	3.3	4.1	2.1
River Bend Station, Unit 1	707056	2.7	0.9	4.3	2.7	2.8	3.7	1.6	2.4	2.4	3.7	1.9	4.1	2.6
Salem, Unit 1	716195	2.3	2.1	2.1	2.1	2.1	2.1	2.6	2.6	2.6	2.6	3.6	3.7	1.1
Salem, Unit 1	716626	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.0	3.4	2.2
Salem, Unit 1	716627	2.1	1.3	1.3	1.3	1.3	1.3	3.0	3.0	3.0	3.0	2.0	3.5	2.1
Salem, Unit 2	720261	1.9	1.8	1.8	1.8	1.8	1.8	2.6	2.7	2.7	2.7	1.6	1.7	0.9
Salem, Unit 2	720262	2.2	2.0	2.0	2.0	2.0	2.0	2.7	2.4	2.4	2.4	3.4	3.5	0.9
Salem, Unit 2	720709	2.3	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	3.7	5.3	1.0
San Onofre Nuclear Generating Station, Unit 2	724718	2.5	5.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.6
San Onofre Nuclear Generating Station, Unit 2	724771	2.2	5.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.3
San Onofre Nuclear Generating Station, Unit 3	731367	2.3	5.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
San Onofre Nuclear Generating Station, Unit 3	731388	2.4	5.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.5
Seabrook Station, Unit 1	736429	4.0	3.9	3.9	3.9	3.9	3.9	6.2	4.7	4.3	4.2	3.7	2.4	3.0
Seabrook Station, Unit 1	736430	3.8	3.7	3.7	3.7	3.7	3.7	5.7	4.6	4.0	4.4	2.4	4.0	2.6
Sequoyah Nuclear Plant	926916	3.4	3.5	2.5	0.7	3.0	5.6	2.3	4.3	3.6	4.3	3.3	4.0	3.2
Sequoyah Nuclear Plant	926917	3.1	3.3	2.2	0.7	2.7	2.6	2.1	4.9	3.9	4.7	2.7	4.0	2.9
Sequoyah Nuclear Plant	926922	3.0	3.3	0.6	2.2	4.3	1.3	4.1	4.3	1.8	4.5	3.4	4.0	1.9
Sequoyah Nuclear Plant	926924	3.1	3.3	0.8	2.6	3.2	3.7	3.8	3.9	2.0	4.3	4.0	4.2	1.6
Shearon Harris Nuclear Power Plant, Unit 1	367900	3.4	0.5	0.5	2.5	5.9	3.2	5.0	4.6	3.8	5.1	2.2	2.0	2.0
Shearon Harris Nuclear Power Plant, Unit 1	367902	3.4	0.5	0.5	3.3	4.0	4.3	4.8	5.3	4.0	5.2	2.0	2.0	2.0
South Texas Project Electric Generating Station, Unit 1	749675	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	5.0
South Texas Project Electric Generating Station, Unit 1	749676	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	5.0
South Texas Project Electric Generating Station, Unit 1	750279	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	5.0
South Texas Project Electric Generating Station, Unit 2	756108	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	4.8
South Texas Project Electric Generating Station, Unit 2	756646	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	4.8
South Texas Project Electric Generating Station, Unit 2	756647	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.0	4.8
St. Lucie Nuclear Power Plant, Unit 1	760685	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.5	3.1	3.0	3.5	3.5
St. Lucie Nuclear Power Plant, Unit 1	760785	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.6	2.4	2.9	2.9
St. Lucie Nuclear Power Plant, Unit 2	765935	3.3	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.5	2.3	2.5	3.5	3.5
St. Lucie Nuclear Power Plant, Unit 2	765968	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.9	2.1	2.4	2.9	2.9
Surry Power Station, Unit 1	814319	2.9	3.1	3.1	3.1	3.1	3.1	3.0	3.2	3.7	2.4	2.4	2.7	2.4
Surry Power Station, Unit 1	820522	3.3	3.2	3.2	3.2	3.2	3.2	4.1	4.0	3.6	2.6	3.0	2.7	3.3
Surry Power Station, Unit 2	830214	3.4	3.8	3.8	3.8	3.8	3.8	3.1	3.4	3.9	2.8	2.6	2.8	3.3
Susquehanna Steam Electric Station, Unit 1	865544	4.0	4.4	4.5	4.8	4.2	3.0	3.6	4.8	4.0	6.2	4.2	5.3	1.6
Susquehanna Steam Electric Station, Unit 1	865545	4.2	4.4	3.8	5.1	4.3	4.8	3.7	4.4	4.2	4.2	4.2	4.5	2.5
Susquehanna Steam Electric Station, Unit 1	865592	4.3	4.4	4.6	4.6	4.1	4.8	3.6	4.7	4.9	5.2	3.4	5.4	2.4

Run Hours per LR Demand

Susquehanna Steam Electric Station, Unit 1	865593	4.2	4.4	4.0	4.7	4.1	4.2	3.5	4.5	5.1	4.3	4.8	4.3	2.8
Susquehanna Steam Electric Station, Unit 1	865594	4.1	3.7	4.2	6.1	3.6	3.6	6.7	3.3	4.9	4.1	4.9	4.3	2.6
Three Mile Island Nuclear Station, Unit 1	868007	1.6	1.0	1.0	1.0	1.0	1.0	1.0	2.9	2.4	1.7	2.1	1.9	1.8
Three Mile Island Nuclear Station, Unit 1	868008	1.0	0.5	0.5	0.5	0.5	0.5	1.0	2.3	1.7	1.8	1.8	1.8	1.5
Turkey Point Nuclear Power Plant, Unit 3	871775	2.6	2.0	1.7	0.9	0.4	1.5	4.1	4.4	2.6	3.5	3.6	2.1	4.1
Turkey Point Nuclear Power Plant, Unit 3	871940	2.6	2.0	1.5	0.8	0.4	1.2	3.8	4.5	2.5	4.1	4.9	2.1	4.1
Turkey Point Nuclear Power Plant, Unit 4	875868	2.4	2.0	1.4	2.0	0.6	1.0	3.5	2.5	3.7	3.9	2.4	1.9	4.0
Turkey Point Nuclear Power Plant, Unit 4	875869	2.5	2.0	1.4	2.2	0.6	1.1	3.4	3.5	3.9	3.8	2.3	2.3	3.3
V. C. Summer Nuclear Station, Unit 1	769866	2.3	2.6	2.6	2.5	2.4	2.4	2.2	2.2	2.2	2.2	2.2	2.2	1.8
V. C. Summer Nuclear Station, Unit 1	769940	2.4	2.6	2.6	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.9
Vermont Yankee Nuclear Power Station, Unit 1	878423	2.8	3.2	3.0	3.0	3.4	2.8	2.7	3.0	4.0	2.6	2.6	3.1	1.6
Vermont Yankee Nuclear Power Station, Unit 1	878576	2.7	3.2	2.8	3.0	3.1	3.0	2.1	3.0	4.0	2.8	2.5	3.1	1.6
Vogtle Electric Generating Plant, Unit 1	882490	2.6	2.7	2.7	2.7	2.7	2.7	2.7	4.2	1.9	3.2	1.7	3.6	1.2
Vogtle Electric Generating Plant, Unit 1	883291	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.3	2.0	2.9	1.7	4.9	1.1
Vogtle Electric Generating Plant, Unit 2	887650	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.9	4.8	2.0	4.6	1.8	2.5
Vogtle Electric Generating Plant, Unit 2	887652	2.6	2.7	2.7	2.7	2.7	2.7	2.7	1.9	4.7	1.7	2.0	2.1	2.5
Waterford 3 Steam Electric Station, Unit 3	892650	6.0	12.5	5.4	8.0	3.7	10.8	4.9	4.0	6.2	6.4	4.7	6.0	2.6
Waterford 3 Steam Electric Station, Unit 3	892685	5.8	16.7	5.6	8.0	3.4	8.8	3.1	4.5	5.0	9.4	4.7	4.8	2.9
Watts Bar Nuclear Plant, Unit 1	898018	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Watts Bar Nuclear Plant, Unit 1	898020	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Watts Bar Nuclear Plant, Unit 1	898885	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Watts Bar Nuclear Plant, Unit 1	898886	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Wolf Creek Generating Station, Unit 1	903397	2.6	2.6	1.9	2.9	3.2	1.6	3.2	1.9	2.5	3.6	3.6	2.2	2.0
Wolf Creek Generating Station, Unit 1	903501	3.1	2.7	1.6	3.1	1.7	1.3	2.7	3.6	2.2	9.9	3.9	2.3	2.0
	Average	0.3	3.2	3.0	3.1	3.1	3.5	3.3	3.3	3.2	3.2	3.1	3.2	#DIV/0!
	Maximum	0.6	19.7	19.7	19.9	12.1	35.2	19.4	18.8	8.2	9.9	9.4	6.5	#DIV/0!
	Minimum	0.1	0.5	0.5	0.5	0.4	0.5	1.0	1.0	1.0	1.0	1.0	1.0	#DIV/0!

Run Hours minus LR Hours

Unit_Nme	DeviceID	Total	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arkansas Nuclear One, Unit 1	92	439.4	67.0	38.1	77.2	12.8	43.7	41.1	17.2	22.8	47.8	12.7	42.4	16.7
Arkansas Nuclear One, Unit 1	28468	387.6	60.8	34.2	34.8	12.0	44.3	43.4	17.8	20.5	43.6	11.5	46.8	17.8
Arkansas Nuclear One, Unit 2	30727	381.2	23.7	23.7	32.7	33.3	19.8	43.0	18.1	67.3	41.0	21.6	38.4	18.6
Arkansas Nuclear One, Unit 2	54598	413.9	43.2	43.2	16.9	45.2	25.0	50.9	37.6	22.6	43.6	21.9	36.8	27.0
Beaver Valley Power Station, Unit 1	64497	159.2	21.3	13.5	7.0	10.5	7.5	6.5	8.0	14.0	16.2	21.3	21.3	12.1
Beaver Valley Power Station, Unit 1	64832	152.7	21.3	13.5	6.5	11.0	8.5	8.5	7.5	9.0	15.2	21.3	21.3	9.1
Beaver Valley Power Station, Unit 2	70252	160.8	22.7	8.0	9.0	8.0	8.5	9.0	11.7	6.5	15.8	22.7	22.7	16.3
Beaver Valley Power Station, Unit 2	71036	167.9	23.3	10.0	8.5	8.5	6.5	7.0	11.3	7.0	23.7	23.3	23.3	15.4
Braidwood Station, Unit 1	75429	869.0	78.1	79.0	43.1	77.1	66.7	78.1	77.4	108.0	57.9	81.6	68.4	53.5
Braidwood Station, Unit 1	75430	846.3	73.5	85.6	45.4	80.5	69.7	73.5	78.1	86.9	49.0	75.5	62.6	66.0
Braidwood Station, Unit 2	103804	719.8	63.2	44.3	78.0	33.2	54.1	63.2	67.8	56.4	80.0	55.7	67.8	56.3
Braidwood Station, Unit 2	103913	736.3	69.1	47.4	73.2	50.9	44.2	69.1	43.1	74.4	83.8	54.9	66.9	59.6
Browns Ferry Nuclear Plant, Unit 2	124217	177.4	16.3	16.3	16.3	16.3	16.3	16.3	16.3	12.2	12.2	16.3	16.3	5.9
Browns Ferry Nuclear Plant, Unit 2	124306	183.8	16.9	16.9	16.9	16.9	16.9	16.9	16.9	12.7	12.7	16.9	16.9	6.7
Browns Ferry Nuclear Plant, Unit 2	124307	267.0	24.2	24.2	24.2	24.2	24.2	24.2	24.2	18.2	18.2	24.2	24.2	12.5
Browns Ferry Nuclear Plant, Unit 2	920861	156.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	10.8	10.8	14.5	14.5	4.6
Browns Ferry Nuclear Plant, Unit 3	129112	173.1	15.9	15.9	15.9	15.9	15.9	15.9	15.9	12.0	12.0	15.9	15.9	5.8
Browns Ferry Nuclear Plant, Unit 3	129113	178.2	16.4	16.4	16.4	16.4	16.4	16.4	16.4	12.3	12.3	16.4	16.4	6.0
Browns Ferry Nuclear Plant, Unit 3	129115	241.2	22.0	22.0	22.0	22.0	22.0	22.0	22.0	16.5	16.5	22.0	22.0	9.9
Browns Ferry Nuclear Plant, Unit 3	129117	274.2	24.9	24.9	24.9	24.9	24.9	24.9	24.9	18.7	18.7	24.9	24.9	12.8
Brunswick Steam Electric Plant, Unit 2	138701	598.2	72.7	72.7	72.7	72.7	73.0	73.0	28.8	28.8	28.8	28.8	29.2	17.1
Brunswick Steam Electric Plant, Unit 2	138703	600.1	72.7	72.7	72.7	72.7	73.0	73.0	29.2	29.2	29.2	29.2	29.5	17.1
Brunswick Steam Electric Plant, Unit 2	138705	602.0	72.7	72.7	72.7	72.7	73.0	73.0	29.6	29.6	29.6	29.6	29.8	17.1
Brunswick Steam Electric Plant, Unit 2	138707	607.7	72.7	72.7	72.7	72.7	73.0	73.0	30.8	30.8	30.8	30.8	30.7	17.1
Byron Station, Unit 1	144445	699.2	52.0	52.0	52.0	52.0	52.0	52.0	70.5	48.2	69.3	49.3	78.7	71.1
Byron Station, Unit 1	144447	676.5	52.0	52.0	52.0	52.0	52.0	52.0	47.6	67.5	71.5	60.4	74.0	43.5
Byron Station, Unit 2	149279	670.7	52.0	52.0	52.0	52.0	52.0	52.0	45.1	45.0	71.8	77.0	46.9	73.0
Byron Station, Unit 2	149281	676.2	52.0	52.0	52.0	52.0	52.0	52.0	40.1	64.2	39.9	83.6	70.5	65.7
Callaway Nuclear Plant, Unit 1	154071	43.4	0.0	0.0	0.0	0.0	0.0	26.0	6.0	8.4	3.0	0.0	0.0	0.0
Callaway Nuclear Plant, Unit 1	154072	50.7	0.0	0.0	0.0	0.0	0.0	27.0	6.0	8.4	9.3	0.0	0.0	0.0
Calvert Cliffs Nuclear Power Plant, Unit 1	159126	195.1	16.8	65.7	6.5	14.3	10.4	17.8	11.9	9.2	11.2	21.1	10.4	-0.2
Calvert Cliffs Nuclear Power Plant, Unit 1	159750	248.2	24.0	20.2	14.7	20.7	15.5	26.9	17.9	29.7	13.1	20.3	36.9	8.3
Calvert Cliffs Nuclear Power Plant, Unit 2	163078	174.3	15.4	24.7	19.6	7.3	26.9	15.9	16.3	10.4	12.3	15.7	13.2	-3.4
Calvert Cliffs Nuclear Power Plant, Unit 2	163626	198.4	16.6	28.5	21.0	7.9	20.8	13.7	31.1	20.9	23.7	7.9	15.7	-9.4
Catawba Nuclear Station, Unit 1	166779	572.6	50.0	13.5	90.9	27.2	50.2	61.6	40.5	51.7	44.9	47.4	52.0	42.7
Catawba Nuclear Station, Unit 1	166780	565.9	51.3	14.2	71.6	23.3	55.6	57.7	38.9	56.8	52.2	49.6	52.0	42.7
Catawba Nuclear Station, Unit 2	172652	611.3	50.0	66.4	26.7	88.5	57.1	33.6	66.6	52.1	30.9	43.4	52.0	44.1
Catawba Nuclear Station, Unit 2	173053	547.6	50.0	51.4	22.1	52.3	39.2	59.1	54.7	35.5	44.9	49.6	52.0	36.9
Clinton Power Station, Unit 1	178388	550.0	91.9	42.5	42.5	42.5	26.2	42.5	42.5	42.5	42.5	49.6	42.5	42.5

Run Hours minus LR Hours

Clinton Power Station, Unit 1	178752	556.4	90.4	43.3	43.3	43.3	26.1	43.3	43.3	43.3	43.3	50.5	43.3	43.3
Columbia Generating Station, Unit 2	185526	379.1	31.5	31.5	31.5	31.5	47.2	31.5	31.5	31.5	31.5	31.5	31.5	16.5
Columbia Generating Station, Unit 2	185770	262.3	21.0	21.0	21.0	21.0	43.6	21.0	21.0	21.0	21.0	21.0	21.0	8.7
Comanche Peak Steam Electric Station, Unit 1	190618	521.1	43.3	61.0	43.3	43.3	43.3	43.3	43.3	43.3	43.3	36.1	46.8	30.4
Comanche Peak Steam Electric Station, Unit 1	191043	515.8	45.3	42.5	45.3	45.3	45.3	45.3	45.3	45.3	45.3	34.6	47.2	28.9
Comanche Peak Steam Electric Station, Unit 2	196783	492.2	41.3	24.2	41.3	41.3	41.3	41.3	41.3	41.3	41.3	51.3	22.6	63.5
Comanche Peak Steam Electric Station, Unit 2	197074	469.3	39.3	25.1	39.3	39.3	39.3	39.3	39.3	39.3	39.3	51.3	22.0	56.3
Cooper Nuclear Station, Unit 1	246629	853.6	73.0	73.0	73.0	73.0	73.0	73.0	76.5	63.8	76.2	69.6	77.8	51.6
Cooper Nuclear Station, Unit 1	250005	803.1	72.5	72.5	72.5	72.5	72.5	72.5	74.7	62.5	60.0	65.8	58.6	46.5
Crystal River Unit 3, Unit 3	262755	377.6	47.4	62.4	45.8	30.8	38.9	33.0	28.1	22.6	26.7	20.3	26.7	-5.1
Crystal River Unit 3, Unit 3	262756	357.0	45.1	66.5	44.4	35.4	38.5	20.0	21.4	35.2	19.3	20.6	29.2	-18.7
Davis-Besse Nuclear Power Station, Unit 1	268257	249.2	22.6	15.7	22.3	16.1	15.5	12.6	46.1	18.5	28.0	32.5	18.3	1.1
Davis-Besse Nuclear Power Station, Unit 1	269404	275.6	23.7	8.2	11.8	21.2	27.1	15.7	47.5	13.3	48.2	27.9	21.9	9.0
Diablo Canyon Power Plant, Unit 1	272071	465.4	55.3	55.3	73.9	55.3	55.3	38.6	18.3	21.9	25.6	21.9	21.9	21.9
Diablo Canyon Power Plant, Unit 1	272072	403.2	46.7	46.7	57.6	46.7	46.7	33.8	17.4	20.9	24.3	20.9	20.9	20.9
Diablo Canyon Power Plant, Unit 1	272113	366.4	46.7	46.7	58.1	46.7	46.7	30.9	12.6	15.1	17.7	15.1	15.1	15.1
Diablo Canyon Power Plant, Unit 2	276584	549.9	48.7	48.7	18.6	48.7	48.7	48.7	40.0	48.0	56.0	48.0	48.0	48.0
Diablo Canyon Power Plant, Unit 2	276585	513.7	47.3	47.3	47.3	47.3	47.3	47.3	31.9	38.3	44.7	38.3	38.3	38.3
Diablo Canyon Power Plant, Unit 2	276858	496.9	44.7	44.7	26.7	44.7	44.7	44.7	34.3	41.1	48.0	41.1	41.1	41.1
Donald C. Cook Nuclear Plant, Unit 1	201637	350.2	21.3	21.7	20.0	21.3	21.3	36.7	36.7	36.7	36.7	30.9	36.7	30.3
Donald C. Cook Nuclear Plant, Unit 1	201638	334.0	21.3	10.7	16.0	21.3	21.3	36.7	36.7	36.7	36.7	29.7	36.7	30.3
Donald C. Cook Nuclear Plant, Unit 2	202801	519.2	21.3	21.7	17.7	21.3	21.3	36.7	36.7	36.7	36.7	202.3	36.7	30.3
Donald C. Cook Nuclear Plant, Unit 2	202802	541.6	21.3	21.7	24.0	21.3	21.3	36.7	36.7	36.7	36.7	218.3	36.7	30.3
Dresden Station, Unit 2	281253	292.9	41.0	59.9	29.8	32.6	41.0	41.0	24.4	8.5	35.4	7.7	32.3	-60.6
Dresden Station, Unit 2	281254	461.0	98.7	88.4	19.9	73.6	98.7	98.7	48.2	2.7	27.5	0.7	21.6	-117.7
Dresden Station, Unit 3	285123	303.9	8.7	76.8	7.3	40.5	8.7	8.7	8.4	72.4	8.4	40.3	31.2	-7.4
Duane Arnold Energy Center, Unit 1	292556	348.0	33.1	4.5	15.9	28.9	32.4	33.1	33.1	33.1	33.1	36.1	37.1	27.5
Duane Arnold Energy Center, Unit 1	293925	374.0	34.9	3.5	15.5	31.3	31.8	34.9	34.9	34.9	34.9	40.5	42.4	34.4
E. I. Hatch Nuclear Plant, Unit 1	373369	193.6	1.8	1.1	30.0	28.9	1.5	27.7	2.5	56.0	3.0	3.9	37.3	0.0
E. I. Hatch Nuclear Plant, Unit 1	373380	198.0	7.8	0.7	18.3	35.6	3.8	42.1	0.9	24.5	1.6	27.3	6.9	28.5
E. I. Hatch Nuclear Plant, Unit 1	373820	177.4	-11.1	2.7	30.5	26.3	2.6	26.2	0.8	25.5	10.0	28.1	11.4	24.2
E. I. Hatch Nuclear Plant, Unit 2	378663	148.3	7.7	7.4	0.7	21.7	22.6	2.1	1.0	30.8	3.4	32.9	6.6	11.5
E. I. Hatch Nuclear Plant, Unit 2	378777	150.8	7.7	2.4	2.5	30.0	24.3	1.5	4.2	24.9	0.9	29.2	13.3	10.0
Farley Nuclear Plant, Unit 1	294265	375.9	31.3	12.0	35.0	39.0	18.0	45.0	48.0	18.0	40.2	26.9	31.3	31.3
Farley Nuclear Plant, Unit 1	294266	370.3	31.5	29.0	44.0	16.0	20.0	44.0	47.2	24.0	18.5	33.0	31.5	31.5
Farley Nuclear Plant, Unit 1	294267	305.1	25.4	32.0	36.0	11.0	29.0	31.0	12.4	33.0	19.1	25.4	25.4	25.4
Farley Nuclear Plant, Unit 1	294268	297.0	22.4	13.0	32.0	39.0	14.0	40.0	31.0	13.0	19.0	28.9	22.4	22.4
Farley Nuclear Plant, Unit 2	299053	316.3	26.5	11.0	32.0	36.0	14.0	32.0	35.0	14.0	39.0	23.7	26.5	26.5
Fermi 2, Unit 2	305131	518.4	28.0	59.1	39.1	43.9	54.1	41.8	30.7	49.6	70.1	42.1	70.6	-10.7
Fermi 2, Unit 2	305133	526.7	28.0	48.8	13.9	62.1	47.4	40.5	24.5	43.8	79.7	39.8	77.5	20.6

Run Hours minus LR Hours

Fermi 2, Unit 2	305200	510.2	30.0	29.8	12.2	62.7	51.1	44.3	28.3	37.9	69.9	53.8	81.4	8.9
Fermi 2, Unit 2	305202	543.9	36.0	59.6	42.2	43.6	62.2	39.9	36.1	45.4	87.0	40.3	53.9	-2.3
Fort Calhoun Station, Unit 1	315392	200.1	11.2	34.0	42.9	18.1	17.1	9.1	12.8	10.4	11.8	10.5	14.6	7.6
Fort Calhoun Station, Unit 1	315455	219.9	8.8	30.8	38.7	15.3	37.4	8.0	11.0	12.7	11.1	11.4	25.0	9.8
Grand Gulf Nuclear Station, Unit 1	323887	392.7	10.8	29.9	78.7	40.6	68.1	41.2	12.6	7.1	26.3	34.0	29.8	13.6
Grand Gulf Nuclear Station, Unit 1	324067	375.0	16.0	27.2	28.3	14.0	76.7	40.4	13.5	70.7	10.7	34.2	55.0	-11.8
H. B. Robinson Steam Electric Plant, Unit 2	713103	711.2	64.0	64.0	64.0	64.0	64.0	33.8	71.5	55.3	55.3	64.6	55.3	55.3
H. B. Robinson Steam Electric Plant, Unit 2	713379	714.2	64.0	64.0	64.0	64.0	64.0	34.7	78.7	54.3	54.3	63.4	54.3	54.3
Hope Creek, Unit 1	384243	735.6	77.7	77.7	77.7	77.7	77.7	77.7	72.1	40.5	39.4	19.1	67.6	30.5
Hope Creek, Unit 1	384249	485.2	43.9	43.9	43.9	43.9	43.9	43.9	52.6	45.1	40.6	18.0	42.3	23.1
Hope Creek, Unit 1	384251	388.5	31.5	31.5	31.5	31.5	31.5	31.5	20.9	58.0	16.8	44.2	40.0	19.7
Hope Creek, Unit 1	384680	528.4	47.1	47.1	47.1	47.1	47.1	47.1	54.5	21.9	61.6	20.2	64.5	22.9
Indian Point, Unit 2	390338	206.8	16.3	16.3	16.3	16.3	16.3	16.3	19.1	20.0	20.0	29.5	10.1	10.6
Indian Point, Unit 2	390342	230.5	16.3	17.4	21.0	21.0	21.0	21.0	21.0	21.0	21.0	29.0	10.7	10.1
Indian Point, Unit 2	390359	225.4	16.3	16.3	16.3	16.3	16.3	16.3	18.3	21.0	21.0	32.5	10.2	25.0
Indian Point, Unit 3	394291	111.5	0.0	6.5	10.5	7.7	17.0	6.4	9.1	10.0	10.0	10.0	16.3	8.1
Indian Point, Unit 3	394357	131.3	0.0	6.3	12.7	5.1	20.3	6.6	13.4	15.0	15.0	11.8	20.2	4.9
Indian Point, Unit 3	394359	124.0	0.0	11.2	6.8	7.7	23.0	9.8	9.7	10.0	10.0	10.4	17.2	8.1
James A. FitzPatrick Nuclear Power Plant, Unit 1	309388	762.8	0.0	0.0	-1.9	147.7	170.2	118.4	281.4	0.7	11.8	16.2	8.7	9.7
James A. FitzPatrick Nuclear Power Plant, Unit 1	309390	944.9	0.0	0.0	-1.9	103.5	461.2	109.5	209.4	3.5	25.9	16.3	8.7	8.9
James A. FitzPatrick Nuclear Power Plant, Unit 1	309392	1251.5	0.0	0.0	-1.7	143.5	391.5	344.1	314.3	3.1	12.0	23.3	7.8	13.6
James A. FitzPatrick Nuclear Power Plant, Unit 1	309446	775.7	0.0	0.0	-1.7	137.5	179.3	203.1	203.4	3.4	9.6	19.0	8.3	13.8
Kewaunee Power Station, Unit 1	399159	418.9	32.5	23.8	71.3	88.3	29.5	21.5	43.1	27.5	23.6	21.6	25.8	10.6
Kewaunee Power Station, Unit 1	399176	426.4	33.5	19.4	18.4	166.3	23.8	22.0	26.1	27.4	26.3	24.6	29.6	8.8
LaSalle County Generating Station, Unit 1	402984	284.4	21.8	42.3	35.1	9.8	40.8	16.5	35.8	15.0	36.4	7.5	17.0	6.4
LaSalle County Generating Station, Unit 1	402986	285.7	23.2	14.9	36.4	10.4	39.6	15.5	42.6	21.5	36.3	12.6	19.0	13.8
LaSalle County Generating Station, Unit 2	408836	259.7	18.7	42.2	44.0	32.5	18.2	38.2	10.1	12.9	33.6	8.0	16.8	-15.5
Limerick Generating Station, Unit 1	413910	241.9	1.3	1.3	1.3	1.3	1.3	16.4	21.9	51.4	22.2	53.4	25.9	44.5
Limerick Generating Station, Unit 1	413911	242.7	1.3	1.3	1.3	1.3	1.3	18.6	24.8	49.3	21.6	48.7	23.3	50.0
Limerick Generating Station, Unit 1	414093	258.2	1.3	1.3	1.3	1.3	1.3	13.3	47.4	27.8	54.9	30.8	57.8	19.8
Limerick Generating Station, Unit 1	414094	253.5	1.3	1.3	1.3	1.3	1.3	14.8	24.6	50.0	28.6	51.8	26.4	51.1
Limerick Generating Station, Unit 2	420673	234.0	1.3	1.3	1.3	1.3	1.3	11.9	47.1	23.7	55.6	23.4	49.7	16.3
Limerick Generating Station, Unit 2	420941	258.6	1.3	1.3	1.3	1.3	1.3	16.1	58.0	27.2	51.4	27.8	53.0	18.8
Limerick Generating Station, Unit 2	420943	232.9	1.3	1.3	1.3	1.3	1.3	14.5	23.2	48.7	29.1	46.2	23.5	41.5
Limerick Generating Station, Unit 2	420945	263.5	1.3	1.3	1.3	1.3	1.3	12.7	26.8	46.6	34.9	69.5	28.7	38.2
McGuire Nuclear Station, Unit 1	425897	754.0	58.0	112.1	39.7	32.9	84.5	95.4	46.1	72.0	56.2	55.3	58.0	43.9
McGuire Nuclear Station, Unit 1	426106	686.7	58.7	78.2	50.2	38.9	68.8	81.5	32.5	63.0	61.6	51.1	58.7	43.5
McGuire Nuclear Station, Unit 2	431267	715.6	60.0	85.5	55.2	75.2	38.1	74.7	68.0	35.4	61.3	54.9	60.0	47.3
McGuire Nuclear Station, Unit 2	431268	673.5	56.7	67.7	74.3	61.0	38.3	70.7	58.6	33.2	68.9	49.6	56.7	37.8
Millstone Nuclear Power Station, Unit 2	440377	803.7	72.8	69.4	57.7	73.3	68.2	118.2	62.1	61.7	54.9	69.9	56.5	38.8

Run Hours minus LR Hours

Millstone Nuclear Power Station, Unit 2	440379	896.7	73.4	78.1	73.4	73.4	73.4	73.4	73.4	73.4	73.4	70.4	82.5	78.7
Millstone Nuclear Power Station, Unit 3	444272	522.6	44.1	24.8	59.1	8.7	40.1	44.4	60.2	58.2	28.1	48.6	49.0	57.3
Millstone Nuclear Power Station, Unit 3	444340	584.9	48.6	34.0	52.8	8.5	53.5	39.2	63.7	57.1	65.3	46.8	53.8	61.5
Monticello Nuclear Generating Plant, Unit 1	449718	252.6	24.5	13.2	17.1	24.7	10.5	23.7	20.4	19.3	21.6	28.6	24.5	24.5
Monticello Nuclear Generating Plant, Unit 1	450139	183.4	17.0	9.8	13.5	13.6	11.8	19.5	14.2	14.8	15.5	19.8	17.0	17.0
Nine Mile Point Nuclear Station, Unit 1	453530	56.1	3.0	2.8	4.7	5.4	3.5	4.5	8.8	8.1	6.4	7.6	1.8	-0.4
Nine Mile Point Nuclear Station, Unit 1	453794	64.5	3.0	2.3	5.3	19.0	5.6	4.4	10.6	4.2	4.7	3.2	2.3	0.0
Nine Mile Point Nuclear Station, Unit 2	456878	680.4	46.3	62.3	46.3	46.3	46.3	72.9	51.5	75.3	44.4	85.8	43.7	59.4
Nine Mile Point Nuclear Station, Unit 2	456879	634.6	41.3	50.3	41.3	31.0	41.3	83.3	50.9	65.3	47.5	49.1	68.6	64.8
North Anna Power Station, Unit 1	511898	300.2	26.0	26.0	20.7	29.7	26.0	26.0	26.0	26.0	26.0	26.0	21.7	20.2
North Anna Power Station, Unit 1	518352	300.5	26.0	26.0	24.7	26.0	26.0	26.0	26.0	26.0	26.0	26.0	21.7	20.2
North Anna Power Station, Unit 2	534562	304.2	26.0	26.0	27.7	26.7	26.0	26.0	26.0	26.0	26.0	26.0	21.7	20.2
North Anna Power Station, Unit 2	572985	300.2	26.0	26.0	23.7	26.7	26.0	26.0	26.0	26.0	26.0	26.0	21.7	20.2
Oyster Creek Nuclear Generating Station, Unit 1	590380	127.4	0.0	16.5	10.4	10.8	7.6	6.4	8.0	18.7	13.4	17.2	15.8	2.7
Oyster Creek Nuclear Generating Station, Unit 1	590381	159.4	0.0	15.1	7.8	15.0	9.9	6.1	12.9	16.5	38.9	14.3	16.3	6.7
Palisades Nuclear Plant, Unit 1	593097	927.3	86.0	86.0	86.0	86.0	86.0	80.0	80.0	80.0	80.0	80.0	62.0	35.3
Palisades Nuclear Plant, Unit 1	593098	927.3	86.0	86.0	86.0	86.0	86.0	80.0	80.0	80.0	80.0	80.0	62.0	35.3
Palo Verde Nuclear Generating Station, Unit 1	596679	823.5	73.7	74.4	45.4	47.7	78.9	102.9	52.1	73.9	80.3	67.0	73.7	53.6
Palo Verde Nuclear Generating Station, Unit 1	596680	804.5	71.3	88.5	75.3	47.1	82.4	82.3	50.4	79.0	85.8	67.1	71.3	4.0
Palo Verde Nuclear Generating Station, Unit 2	603103	837.8	73.7	51.6	82.0	66.4	63.8	83.0	81.2	63.7	79.7	69.5	73.7	49.6
Palo Verde Nuclear Generating Station, Unit 2	603104	824.5	71.3	47.3	82.9	70.0	56.4	97.0	73.0	55.2	81.3	67.9	71.3	51.0
Palo Verde Nuclear Generating Station, Unit 3	610313	849.2	73.7	93.4	52.1	98.0	67.0	50.0	69.4	86.9	61.1	73.0	73.7	50.9
Palo Verde Nuclear Generating Station, Unit 3	610315	795.2	71.3	76.3	55.5	70.1	78.1	51.1	77.7	75.8	54.1	65.3	71.3	48.7
Peach Bottom Atomic Power Station, Unit 2	615673	771.6	96.0	37.5	52.5	96.0	96.0	96.0	64.1	69.4	42.3	47.0	57.2	17.5
Peach Bottom Atomic Power Station, Unit 2	615674	739.8	96.0	38.0	51.0	67.0	96.0	96.0	81.8	48.4	46.7	56.8	44.3	17.8
Peach Bottom Atomic Power Station, Unit 2	615675	808.2	96.0	36.0	55.5	96.0	70.0	96.0	78.0	110.7	43.4	81.9	29.2	15.5
Peach Bottom Atomic Power Station, Unit 2	615676	833.5	96.0	38.0	52.5	43.5	101.0	96.0	92.2	86.8	98.2	61.9	49.0	18.3
Perry Nuclear Power Plant, Unit 1	626613	181.7	0.0	-2.8	18.5	7.9	16.1	12.3	13.1	17.9	41.4	19.3	19.0	19.0
Perry Nuclear Power Plant, Unit 1	626615	171.8	0.0	-4.5	19.3	1.3	0.7	28.1	5.9	15.7	47.6	19.7	19.0	19.0
Pilgrim Nuclear Power Station, Unit 1	632109	158.0	20.1	-0.3	6.8	0.0	16.3	23.5	13.4	19.5	15.7	16.5	14.5	12.1
Pilgrim Nuclear Power Station, Unit 1	632139	174.1	18.3	4.3	10.7	2.0	12.4	10.5	17.3	12.0	14.7	20.8	38.6	12.6
Point Beach Nuclear Plant, Unit 1	635653	442.2	22.5	22.5	22.5	22.5	28.3	55.5	34.7	62.3	72.7	62.3	36.4	0.0
Point Beach Nuclear Plant, Unit 1	635704	354.2	32.2	32.2	32.2	32.2	29.0	28.6	22.9	38.7	45.1	38.7	22.6	0.0
Point Beach Nuclear Plant, Unit 1	635811	464.9	63.3	63.3	63.3	63.3	51.9	32.7	15.8	29.7	34.6	29.7	17.3	0.0
Point Beach Nuclear Plant, Unit 1	635812	460.9	41.9	41.9	41.9	41.9	37.3	19.3	35.4	53.7	62.6	53.7	31.3	0.0
Prairie Island Nuclear Generating Plant, Unit 1	641679	454.3	36.7	21.8	45.6	46.6	33.5	66.3	22.8	50.3	25.8	35.9	35.9	32.9
Prairie Island Nuclear Generating Plant, Unit 1	641686	472.0	37.6	42.4	45.4	52.7	31.4	45.6	43.7	19.7	48.6	35.9	35.9	32.9
Prairie Island Nuclear Generating Plant, Unit 2	645367	463.2	26.6	44.6	54.6	47.4	38.5	27.0	44.3	49.2	39.2	23.9	35.9	31.9
Prairie Island Nuclear Generating Plant, Unit 2	645606	503.1	38.6	44.6	75.7	40.2	80.4	14.8	47.0	44.5	24.5	24.9	35.9	31.9
Quad Cities Station, Unit 1	648766	157.3	3.2	3.2	3.2	3.2	3.2	3.2	16.1	38.6	14.9	12.8	40.3	15.6

Run Hours minus LR Hours

Quad Cities Station, Unit 1	648777	190.5	2.5	2.5	2.5	2.5	2.5	2.5	13.9	26.6	44.1	22.5	51.4	16.9
Quad Cities Station, Unit 2	653988	188.0	2.5	2.5	2.5	2.5	2.5	2.5	11.6	23.1	44.3	28.7	24.6	40.5
R. E. Ginna Nuclear Power Plant, Unit 1	319512	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-4.7
R. E. Ginna Nuclear Power Plant, Unit 1	319513	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-4.7
River Bend Station, Unit 1	656958	400.7	3.4	13.1	10.4	62.2	56.1	4.3	8.3	15.6	93.5	39.3	62.3	32.2
River Bend Station, Unit 1	707056	458.6	-2.7	55.6	61.2	45.0	54.6	9.3	28.7	29.6	59.1	14.7	47.0	56.5
Salem, Unit 1	716195	326.0	25.8	25.8	25.8	25.8	25.8	29.5	29.5	29.5	29.5	40.3	37.9	1.0
Salem, Unit 1	716626	330.2	29.2	29.2	29.2	29.2	29.2	27.1	27.1	27.1	27.1	14.0	36.3	25.3
Salem, Unit 1	716627	242.9	6.9	6.9	6.9	6.9	6.9	33.8	33.8	33.8	33.8	14.8	35.3	23.2
Salem, Unit 2	720261	226.2	19.3	19.3	19.3	19.3	19.3	25.7	29.5	29.5	29.5	10.7	7.8	-2.7
Salem, Unit 2	720262	292.0	23.5	23.5	23.5	23.5	23.5	28.6	25.9	25.9	25.9	40.2	30.2	-2.2
Salem, Unit 2	720709	321.5	25.1	25.1	25.1	25.1	25.1	25.5	24.4	24.4	24.4	40.4	56.4	0.2
San Onofre Nuclear Generating Station, Unit 2	724718	363.0	48.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	15.0
San Onofre Nuclear Generating Station, Unit 2	724771	304.9	52.0	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	9.6
San Onofre Nuclear Generating Station, Unit 3	731367	305.0	52.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
San Onofre Nuclear Generating Station, Unit 3	731388	320.2	48.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	12.2
Seabrook Station, Unit 1	736429	602.9	47.2	47.2	47.2	47.2	47.2	89.1	74.5	46.8	51.3	45.4	20.0	39.7
Seabrook Station, Unit 1	736430	621.9	48.3	48.3	48.3	48.3	48.3	103.3	68.6	48.7	57.6	27.4	39.5	35.3
Sequoyah Nuclear Plant	926916	412.5	35.7	20.4	-4.1	25.4	73.5	17.1	46.4	36.4	52.9	30.5	45.2	33.0
Sequoyah Nuclear Plant	926917	348.7	32.7	17.5	-4.1	21.8	24.1	15.0	50.4	38.3	51.2	22.5	48.3	31.1
Sequoyah Nuclear Plant	926922	352.6	33.4	-5.8	16.7	45.5	4.4	46.6	52.1	10.7	56.4	38.3	41.7	12.6
Sequoyah Nuclear Plant	926924	360.4	32.6	-2.9	20.6	28.7	37.2	42.1	42.8	13.1	50.1	42.0	44.5	9.7
Shearon Harris Nuclear Power Plant, Unit 1	367900	421.9	-5.4	-5.4	22.1	83.5	48.6	44.5	75.7	39.2	78.5	16.5	12.0	12.0
Shearon Harris Nuclear Power Plant, Unit 1	367902	396.7	-5.4	-5.4	34.2	45.7	46.2	42.3	73.0	51.0	75.5	15.5	12.0	12.0
South Texas Project Electric Generating Station, Unit 1	749675	96.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	16.5	60.2
South Texas Project Electric Generating Station, Unit 1	749676	96.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	16.5	60.2
South Texas Project Electric Generating Station, Unit 1	750279	96.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	16.5	60.2
South Texas Project Electric Generating Station, Unit 2	756108	93.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	16.2	59.7
South Texas Project Electric Generating Station, Unit 2	756646	93.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	16.2	59.7
South Texas Project Electric Generating Station, Unit 2	756647	93.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	16.2	59.7
St. Lucie Nuclear Power Plant, Unit 1	760685	437.4	39.5	39.5	39.5	39.5	39.5	39.5	34.8	29.6	27.0	29.6	39.5	39.5
St. Lucie Nuclear Power Plant, Unit 1	760785	338.8	30.5	30.5	30.5	30.5	30.5	30.5	27.6	22.9	22.2	21.9	30.5	30.5
St. Lucie Nuclear Power Plant, Unit 2	765935	431.2	39.5	39.5	39.5	39.5	39.5	39.5	35.1	29.6	22.5	27.6	39.5	39.5
St. Lucie Nuclear Power Plant, Unit 2	765968	334.1	30.5	30.5	30.5	30.5	30.5	30.5	27.6	22.9	17.5	21.9	30.5	30.5
Surry Power Station, Unit 1	814319	367.9	33.6	33.6	33.6	33.6	33.6	32.5	36.1	37.5	21.8	30.3	23.9	17.6
Surry Power Station, Unit 1	820522	457.7	36.0	36.0	36.0	36.0	36.0	55.0	55.5	39.6	27.2	39.2	27.4	34.0
Surry Power Station, Unit 2	830214	463.8	45.3	45.3	45.3	45.3	45.3	34.2	38.5	43.7	30.9	28.4	26.8	34.7
Susquehanna Steam Electric Station, Unit 1	865544	608.5	52.0	46.0	64.2	51.4	34.1	36.0	64.6	45.6	72.6	50.7	73.1	18.1
Susquehanna Steam Electric Station, Unit 1	865545	622.7	52.0	48.3	61.0	43.5	64.8	41.0	62.1	48.4	64.0	41.4	66.4	29.9
Susquehanna Steam Electric Station, Unit 1	865592	625.5	52.0	64.3	50.0	40.1	60.3	39.0	62.8	55.1	63.6	43.7	65.7	28.8

Run Hours minus LR Hours

Susquehanna Steam Electric Station, Unit 1	865593	613.2	52.0	42.6	62.4	45.8	57.6	37.7	46.1	62.0	46.6	63.9	46.4	50.1
Susquehanna Steam Electric Station, Unit 1	865594	744.6	41.2	47.5	76.8	64.6	53.7	85.2	46.0	80.9	56.4	77.1	61.9	53.4
Three Mile Island Nuclear Station, Unit 1	868007	91.3	0.0	0.0	0.0	0.0	0.0	0.0	23.3	17.9	9.2	15.0	12.9	13.0
Three Mile Island Nuclear Station, Unit 1	868008	-8.7	-15.0	-15.0	-15.0	-15.0	-15.0	0.0	15.0	11.1	10.5	9.8	12.2	7.8
Turkey Point Nuclear Power Plant, Unit 3	871775	302.6	12.0	9.4	-2.0	-10.0	8.7	39.7	60.8	24.7	47.6	48.8	22.1	40.8
Turkey Point Nuclear Power Plant, Unit 3	871940	315.4	12.0	6.0	-5.0	-10.0	4.0	36.5	63.4	26.3	44.1	66.1	19.3	52.7
Turkey Point Nuclear Power Plant, Unit 4	875868	268.2	12.0	5.2	19.5	-7.0	0.1	39.6	26.4	40.8	34.3	26.0	13.8	57.4
Turkey Point Nuclear Power Plant, Unit 4	875869	298.8	12.0	5.2	23.0	-7.0	1.0	40.9	50.3	43.1	45.1	23.8	18.6	42.8
V. C. Summer Nuclear Station, Unit 1	769866	314.6	44.7	44.7	34.0	23.3	23.3	21.5	21.5	21.5	21.5	21.5	21.5	15.4
V. C. Summer Nuclear Station, Unit 1	769940	267.6	24.0	24.0	23.7	23.3	23.3	22.1	22.1	22.1	22.1	22.1	22.1	16.5
Vermont Yankee Nuclear Power Station, Unit 1	878423	339.3	29.7	34.5	33.5	28.2	26.4	21.8	32.3	38.4	25.6	19.7	31.6	17.7
Vermont Yankee Nuclear Power Station, Unit 1	878576	326.9	29.7	31.9	31.7	27.6	32.7	16.0	24.4	38.4	25.6	22.4	27.5	19.0
Vogtle Electric Generating Plant, Unit 1	882490	352.1	28.9	28.9	28.9	28.9	28.9	28.9	64.8	12.1	43.0	14.0	39.3	5.6
Vogtle Electric Generating Plant, Unit 1	883291	396.5	33.3	33.3	33.3	33.3	33.3	33.3	62.8	12.6	46.5	13.8	57.8	3.3
Vogtle Electric Generating Plant, Unit 2	887650	377.7	31.0	31.0	31.0	31.0	31.0	31.0	12.2	68.3	15.7	53.4	13.4	28.8
Vogtle Electric Generating Plant, Unit 2	887652	305.6	26.1	26.1	26.1	26.1	26.1	26.1	12.1	62.2	13.8	13.1	18.3	29.6
Waterford 3 Steam Electric Station, Unit 3	892650	975.7	184.0	61.2	119.4	37.1	127.4	73.2	48.0	67.0	76.0	69.5	70.3	42.5
Waterford 3 Steam Electric Station, Unit 3	892685	1004.6	188.0	64.2	118.3	34.2	109.6	54.6	52.0	68.0	134.0	67.1	53.1	61.6
Watts Bar Nuclear Plant, Unit 1	898018	294.0	24.5	24.5	24.5	24.5	24.5	24.5	20.4	24.5	24.5	28.6	24.5	24.5
Watts Bar Nuclear Plant, Unit 1	898020	294.0	24.5	24.5	24.5	24.5	24.5	24.5	20.4	24.5	24.5	28.6	24.5	24.5
Watts Bar Nuclear Plant, Unit 1	898885	294.0	24.5	24.5	24.5	24.5	24.5	24.5	20.4	24.5	24.5	28.6	24.5	24.5
Watts Bar Nuclear Plant, Unit 1	898886	294.0	24.5	24.5	24.5	24.5	24.5	24.5	20.4	24.5	24.5	28.6	24.5	24.5
Wolf Creek Generating Station, Unit 1	903397	306.7	31.3	10.2	34.6	33.2	8.0	40.3	14.4	19.4	39.5	36.7	16.8	22.2
Wolf Creek Generating Station, Unit 1	903501	443.7	38.2	8.1	39.3	14.6	4.0	44.0	42.4	17.4	151.5	40.1	18.0	26.1
	Average	34.3	33.8	30.9	32.4	34.6	39.0	39.0	38.1	34.2	36.7	34.7	34.3	24.2
	Maximum	104.3	188.0	112.1	119.4	166.3	461.2	344.1	314.3	110.7	151.5	218.3	82.5	78.7
	Minimum	-0.7	-15.0	-15.0	-15.0	-15.0	-15.0	0.0	0.0	0.0	0.0	0.0	0.0	-117.7

NEI 99-02 Revision 5 Excerpt: Unplanned Power Changes Per 7,000 Critical Hours

Definition of Terms

Unplanned change in reactor power, for the purposes of this indicator, is a change in reactor power that (1) was initiated less than 72 hours following the discovery of an off-normal condition that required or resulted in a power change of greater than 20% full power to resolve and (2) has not been excluded from counting per the guidance below. Unplanned changes in reactor power also include uncontrolled excursions of greater than 20% of full power that occur in response to changes in reactor or plant conditions and are not an expected part of a planned evolution or test.

Clarifying Notes

The value of 7,000 hours is used because it represents one year of reactor operation at about an 80% availability factor.

If there are fewer than 2,400 critical hours in the previous four quarters the indicator value is displayed as N/A because rate indicators can produce misleadingly high values when the denominator is small. The data elements (unplanned power changes and critical hours) are still reported.

The 72 hour period between discovery of an off-normal condition and the corresponding change in power level is based on the typical time to assess the plant condition, and prepare, review, and approve the necessary work orders, procedures, and necessary safety reviews, to effect a repair. The key element to be used in determining whether a power change should be counted as part of this indicator is the 72-hour period and not the extent of the planning that is performed between the discovery of the condition and initiation of the power change.

Given the above, it is incumbent upon licensees to provide objective evidence that identifies when the off-normal condition was discovered and when the power change of more than 20% was initiated. Such objective evidence may include logs, troubleshooting plans, meeting minutes, corrective action program documents, or similar type documentation.

Examples of occurrences that would be counted against this indicator include:

- Power reductions that exceed 20% of full power and are not part of a planned and documented evolution or test. Such power changes may include those conducted in response to equipment failures or personnel errors or those conducted to perform maintenance.
- Runbacks and power oscillations greater than 20 % of full power. A power oscillation that results in an unplanned power decrease of greater than 20% followed by an unplanned power increase of 20% should be counted as two separate PI events, unless the power restoration is implemented using approved procedures. For example, an operator mistakenly opens a breaker causing a recirculation flow decrease and a decrease in power of greater than 20%. The operator, hearing an alarm, suspects it was caused by his action and closes the breaker resulting in a power increase of greater than 20%. Both transients would count since they were the result of two separate errors (or unplanned/non-proceduralized action).
- Unplanned downpowers of greater than 20% of full power for ALARA reasons

Examples of occurrences that are <u>not</u> counted include the following:

- Planned power reductions (anticipated and contingency) that exceed 20% of full power and are initiated in response to an off-normal condition discovered at least 72 hours before initiation of the power change.
- Unanticipated equipment problems that are encountered and repaired during a planned power reduction greater than 20% that alone could have required a power reduction of 20% or more to repair.
- Apparent power changes that are determined to be caused by instrument problems.
- If conditions arise that would normally require unit shutdown, and an NOED is granted that allows continued operation before power is reduced greater than 20%, an unplanned power change is not reported because no actual change in power greater than 20% of full power occurred. However, a comment should be made that the NRC had granted an NOED during the quarter, which, if not granted, may have resulted in an unplanned power change.
- Anticipatory power reductions intended to reduce the impact of external events such as hurricanes or range fires threatening offsite power transmission lines, and power changes requested by the steam load dispatches.
- Power changes to make rod pattern adjustments
- Power changes directed by the load dispatcher under normal operating conditions due to load demand, for economic reasons, for grid stability, or for nuclear plant safety concerns.

NEI 99-02 Revision 5 Excerpt: Unplanned Power Changes Per 7,000 Critical Hours

Anticipated power changes greater than 20% in response to expected environmental problems (such as accumulation of marine debris, biological contaminants, or frazil icing) which are proceduralized but cannot be predicted greater than 72 hours in advance may not need to be counted unless they are reactive to the sudden discovery of off-normal conditions. However, unique environmental conditions which have not been previously experienced and could not have been anticipated and mitigated by procedure or plant modification, may not count, even if they are reactive. The licensee is expected to take reasonable steps to prevent intrusion of marine or other biological growth from causing power reductions. Intrusion events that can be anticipated as part of a maintenance activity or as part of a predictable cyclic behavior would normally be counted unless the down power was planned 72 hours in advance. The circumstances of each situation are different and should be identified to the NRC in a FAQ so that a determination can be made concerning whether the power change should be counted.

Licensees should use the power indication that is used to control the plant to determine if a change of greater than 20% of full power has occurred.

If a condition is identified that is slowly degrading and the licensee prepares plans to reduce power when the condition reaches a predefined limit, and 72 hours have elapsed since the condition was first identified, the power change does not count. If however, the condition suddenly degrades beyond the predefined limits and requires rapid response, this situation would count. If the licensee has previously identified a slowly degraded off-normal condition but has not prepared plans recognizing the potential need to reduce power when the condition reaches predefined limits, then a sudden degradation of that condition requiring rapid response would constitute a new off-normal condition and therefore, a new time of discovery.

Off -normal conditions that begin with one or more power reductions and end with an unplanned reactor trip are counted in the unplanned reactor scram indicator only. However, if the cause of the downpower(s) and the scram are different, an unplanned power change and an unplanned scram must both be counted. For example, an unplanned power reduction is made to take the turbine generator off line while remaining critical to repair a component. However, when the generator is taken off line, vacuum drops rapidly due to a separate problem and a scram occurs. In this case, both an unplanned power change and an unplanned scram would be counted. If an off-normal condition occurs above 20% power, and the plant is shutdown by a planned reactor trip using normal operating procedures, only an unplanned power change is counted.

Effective date of FAQs

Currently page E-3, line 37 says:

The NRC Website will identify the date of original posting for FAQs and responses. Unless otherwise directed in an FAQ response, FAQs are to be applied to the data submittal for the quarter in which the FAQ was posted and beyond. For example, an FAQ with a posting date of 3/31/2000 would apply to 1st quarter 2000 PI data, submitted in April 2000 and subsequent data submittals. However, an FAQ with a posting date of 4/1/2000 would apply on a forward fit basis to 2nd quarter 2000 PI data submitted in July 2000. Licensees are encouraged to check the NRC Web site frequently, particularly at the end of the reporting period, for FAQs that may have applicability for their sites.

Propose changing to:

For the licensee that submitted the FAQ, the FAQ is effective when the event occurred. Unless otherwise directed in an FAQ response, for other licensees, FAQs are to be applied to the data submittal for the quarter following the one in which the FAQ was posted and beyond. For example, an FAQ with a posting date of 9/30/2009 would apply to 4th quarter 2009 PI data, submitted in January 2010 and subsequent data submittals. However, an FAQ with a posting date of 10/1/2009 would apply on a forward fit basis to first quarter 2010 PI data submitted in April 2010. Licensees are encouraged to check the NRC Web site frequently, particularly at the end of the reporting period, for FAQs that may have applicability for their sites.

Temp No.	PI	Topic	Status	Plant / Co.
09-04	IE04	Loss of FW after scram	Discussed	Brunswick
09-05	IE03	Outside Licensee Control	Introduced	ANO
09-06	EP01	Offsite Call Simulation	Introduced	DAEC
09-07	MSPI	Changes to Planned Unavailability Baseline	Discussed	Generic (Heffner)

FAQ

Plant: Brunswick Unit 1
Date of Event: 11/26/2008
Submittal date: 01/30/2009
Licensee Contact: Lee Grzeck Tel/email: 910-457-2487 / lee.grzeck@pgnmail.com
NRC Contact: Phil O'Bryan Tel/email: 910-457-2831 / philip.o'bryan@pgnmail.com

Performance Indicator: IE04 - Unplanned Scram with Complications
Site-Specific FAQ (Appendix D)? No
FAQ requested to become effective when approved.

QUESTION

NEI 99-02 Guidance needing interpretation:

Page 21-22, "Was Main Feedwater not available or not recoverable using approved plant procedures?"

If operating prior to the scram, did Main Feedwater cease to operate and was it unable to be restarted during the reactor scram response?[1] The consideration for this question is whether Main Feedwater could be used to feed the reactor vessel if necessary.[2] The qualifier of "not recoverable using approved plant procedures" will allow a licensee to answer "No" to this question if there is no physical equipment restraint to prevent the Operations staff from starting the necessary equipment, aligning the required systems, or satisfying required logic circuitry using plant procedures approved for use that were in place prior to the scram occurring.

The Operations staff must be able to start and operate the required equipment using normal alignments and approved normal and off-normal operating procedures. Manual operation of controllers/equipment, even if normally automatic, is allowed if addressed by procedure. Situations that require maintenance activities or non-proceduralized operating alignments will not satisfy this question. Additionally, the restoration of Main Feedwater must be capable of being restored to provide feedwater to the reactor vessel in a reasonable period of time. Operations should be able to start a Main Feedwater pump and start feeding the reactor vessel with the Main Feedwater system within 30 minutes.[3] During startup conditions where Main Feedwater was not placed in service prior to the scram, the question would not be considered, and should be skipped.

Event or circumstances requiring guidance interpretation:

On 11/26/2008, at 1200 hours (EST), Unit 1 scrammed when a Group 1 primary containment isolation occurred, resulting in an automatic actuation of the Reactor Protection system. Investigation determined that a pressure-load gate amplifier circuit board in the Electro-Hydraulic Control (EHC) system operated erroneously. The Main Steam (MS) isolation valves (MSIVs) closed on the Group 1 isolation. As designed and described in Brunswick operating procedures, following a Group 1 isolation with the MSIVs closed, Reactor Core Isolation Cooling (RCIC) was used to effectively maintain reactor water level. At approximately 1241 hours, IAW 1OP-25 (MS System Operating Procedure), low condenser vacuum switches are placed in bypass to support resetting the Group 1 isolation. A few steps later, the Main Steam supply valve 1-MS-V28 is closed by the Operator in preparation for re-opening the MSIVs (this valve provides main steam to the Reactor Feed Pumps). Note that during the approximately 40 minutes of the initial scram response the 1-MS-V28 valve remained open and available. At 1511, Operations reopened the MSIVs, per 1OP-25. A few steps later, an attempt was made to open the Main Steam supply valve 1-MS-V28 from the Control Room, but the valve did not open. An attempt was made to manually open the valve, however, the valve was thermally bound and would not open. Main Feedwater was not needed for reactor water level control, as RCIC was being effectively utilized for level control. Engineering was contacted to provide torque values to be used to open the valve. After shift turnover, and early in the next shift (after 1800 hours), the Operators attempted to manually open the 1-MS-V28 valve with the use of the provided torque values, however they found the valve was no longer thermally bound closed and opened it by hand.

Questions requiring interpretation:

[1] - The first line of the guidance states "did Main Feedwater cease to operate and was it unable to be restarted during the reactor scram response?"

Main Feedwater (FW) ceased to operate upon the Group 1 isolation (MS lines, MS drain lines, Recirc sample valves). Immediately following the scram, an expected reactor vessel coolant level shrink occurred. As a result of the low water level, primary containment Group 2 (DW equipment and floor drains, TIPs, RHR discharge to RW, and RHR process sample valves) and Group 6 (CAC/CAD, CAM, and Post-Accident Sampling system) isolation signals were received. All required isolations occurred properly as a result of the reactor low water level isolation signals. All control rods fully inserted on the scram and all safety-related systems responded as designed. No Safety Relief Valves (SRVs) lifted during the scram. Per established procedures, the RCIC system was manually started to restore reactor water level to the normal band (note that RCIC is used for both level and pressure control).

Normal operating procedure following a Group 1 isolation (with MSIVs closed) is to use RCIC for feeding the reactor vessel. It wasn't until approximately three hours and fifteen minutes after the scram occurred that Operations began the system alignment to get MS, and thus FW, back. At that point, the reactor scram response was essentially complete and recovery actions were in progress. The failure of the 1-MS-V28 valve to initially open at a later time and allow the restart of FW did not impact Operator response during the initial transient. No additional procedures were entered beyond the normal scram response procedure.

[2] - From the second sentence in the guidance, "The consideration for this question is whether Main Feedwater could be used to feed the reactor vessel if necessary."

Per design, Main Feedwater ceased to operate once the Group 1 isolation occurred, and per procedure, RCIC was successfully used to maintain reactor water level. Main Feedwater was not required as part of the normal scram response procedure. This scram presented no significant challenges to the Operations personnel during the reactor scram response, and normal operating procedures were used.

[3] - Guidance states that "Main Feedwater must be capable of being restored to provide feedwater to the reactor vessel in a reasonable period of time. Operations should be able to start a Main Feedwater pump and start feeding the reactor vessel with the Main Feedwater system within 30 minutes."

During the first 41 minutes (approximate) of the initial reactor scram response, valve 1-MS-V28 remained open, and thus not subject to the thermal binding conditions encountered approximately three hours later. As noted above, it wasn't until approximately three hours and fifteen minutes after the scram occurred that Operations began the system alignment to get MS, and thus FW, back. There was no attempt to use Main Feedwater "during the reactor scram response," as RCIC was providing adequate feed to the reactor vessel. As previously described, this is the preferred method of reactor water inventory control following a Group 1 isolation.

In summary, Main Feedwater was capable of being restored to feed the reactor vessel in a reasonable amount of time. It is believed that within the first 30 minutes following the scram, with valve 1-MS-V28 still open, Main Feedwater was available as a source to provide reactor vessel level if needed. However, the timeline of events discussed above does not allow Brunswick to quantify that timeframe as prescribed in NEI 99-02. Thus, the NEI 99-02 guidance requires clarification as to what constitutes the "reactor scram response," and at what point are the entry conditions for the indicator exited.

NRC Senior Resident Inspector position:

"For this event specifically, I think the question boils down to – could main feed have been restored had RCIC and HPCI not functioned correctly? For the first 40 minutes after the scram when the steam isolation valve to main feed was open, would the same sequence of events occurred if operators tried to restore main feed , i.e. would the valve have been shut during restoration and subjected to the same conditions that caused the thermal binding? If not, then you probably have a good argument for no complications. If the valve would have been subjected to the same conditions that caused the thermal binding, then I think it should be classified as a scram with complications."

The NRC Senior Resident Inspector also does not agree with the proposed rewording of the guidance. For the proposed change to Page 21 (see the Response on the following page), "it would not capture those events that are of higher safety significance because main feed is not available, even if it was not required to be used," and "30 minutes is a completely arbitrary number." Similarly for the proposed change to page 22, even if the main feed steam supply is temporarily isolated, the PI should capture those events where main feed couldn't be restored in a relatively short time. "It might be different if the equipment was designed such that restoration was not possible, but in this case main feed should have been available and it was not." For our situation, he asked what would've happened if RCIC quit operating after an hour or hour and a half, i.e., at some time following 1241 when 1-MS-V28 was closed. The activity to restart Feedwater at that point should still be considered part of the scram response.

Potentially relevant existing FAQ numbers: None.

RESPONSE

Proposed Resolution of FAQ:

Provide clarification to the guidance as to what timeframe constitutes the reactor scram response. Consider rewording of the guidance as noted below.

Proposed rewording of guidance:

NEI 99-02, Page 21:

> Was Main Feedwater not available or not recoverable using approved plant procedures? If operating prior to the scram, did Main Feedwater cease to operate and was it unable to be restarted during the reactor scram response? The consideration for this question is whether Main Feedwater could be used to feed the reactor vessel if necessary. When considering the availability of Main Feedwater, it should be able to be restarted within the first 30 minutes following the scram.

NEI 99-02, Page 22:

> Operations should be able to start a Main Feedwater pump and start feeding the reactor vessel with the Main Feedwater System within 30 minutes of the initial scram transient. During startup conditions where Main Feedwater was not placed in service prior to the scram, the question would not be considered, and should be skipped.

FAQ 09-05

Plant: Arkansas Nuclear One

Date of Event: N/A – Generic Issue

Submittal Date: August 01, 2009

Licensee Contact: Steve Coffman, Entergy Tel: 479-858-5560 email: scoffma@entergy.com

NRC Contact: ____________________ Tel:____________ email: ___________________

Performance Indicator: **Unplanned Power Changes Per 7000 Critical Hours**

Site-Specific FAQ (Appendix D)? No

FAQ requested to become effective when approved.

Question Section:

This FAQ seeks clarification to the Unplanned Power Changes Per 7000 Critical Hours Performance Indicator guidance. There has been industry discussion as to whether or not activity and equipment in an local electrical switchyard at a nuclear facility is under the direct control of the nuclear plant management and within the scope of this Performance Indicator. Revision 5 of NEI 99-02 page 15 lines 8-10 state: ***"Power changes directed by the load dispatcher...for grid stability, or for nuclear plant safety concerns arising from external events outside control of the nuclear unit are not included in this indicator. However, power reductions due to equipment failures that are under the control of the nuclear unit are included in this indicator."***

In many cases, the Nuclear Operating Company does not own, or operate the equipment in the station switchyard, and switchyard maintenance is not performed under the Nuclear Operating Company procedures, but is performed by the Transmission Company employees under the control of the system dispatcher. In these cases, transients caused by equipment malfunctions or personnel errors should be considered outside the control of the nuclear unit for the purposes and scope of this performance indicator.

NEI 99-02 does not specifically define "outside the control of the nuclear unit." However, this terminology could be interpreted consistently with other industry uses of the same terminology. The IEEE 762 definition of "outside the control of plant management" is incorporated into the North American Electric Reliability Corporation's (NERC) Generation Availability Data System (GADS) reporting.

From the NERC-GADS reporting guidance, Unit Boundaries and Problems Outside Plant Control:
"Based on research by the IEEE 762 committee, the boundary between the GENCO (generating company)and TRANSCO (transmission company) is as follows: A generating unit includes all equipment up to (in preferred order) (1) the high-voltage terminals of the generator step-up (GSU) transformer and the station service transformers; (2) the GSU transformer (load) side of the generator-voltage circuit breakers; or (3) at such equipment boundary as may be reasonable considering the design and configuration of the generating unit."

NRC REG Guide 1.16 (Monitoring the Effectiveness of Maintenance at Nuclear Power Reactors) provides guidance when interpreting the definition of "outside the control of plant management, as it pertains to the Maintenance Rule. Under the Regulatory Position Section 3 (Inclusion of Electrical Distribution Equipment), RG 1.16 states: "Maintenance activities that occur in the switchyard can directly affect plant operations; as a result, electrical distribution equipment **out to the first inter-tie with the offsite distribution system** (i.e., equipment in the switchyard) should be considered for inclusion as defined in 10 CFR 50.65(b)." In many cases, the first inter-ties to the offsite distribution system are the Main Generator Output Breakers in the switchyard.

<u>Proposed FAQ Response:</u>

To clarify the physical boundary for "outside the control of nuclear plant management," the following statement will be added to NEI 99-02, page 15, after line 12:

11 However, power reductions due to equipment failures that are under the control of the nuclear
12 unit are included in this indicator**. For the purposes of this performance indicator, switchyard electrical distribution equipment and maintenance beyond the first inter-tie with the offsite distribution system is not considered "under the control of the nuclear unit" when the equipment is not owned by the nuclear operating company, and the maintenance is being performed by personnel other than nuclear operating company employees. Transients caused by work activities performed by nuclear operating company employees in the switchyard <u>are</u> considered within the scope of this indicator.**

References:

<u>NEI 99-02 Revision 5 Page 14</u>
38 Anticipatory power reductions intended to reduce the impact of external events such as
39 hurricanes or range fires threatening offsite power transmission lines, and power changes
40 requested by the system load dispatchers, are excluded.

<u>NEI 99-02 Revision 5 Page 15</u>
8 Power changes directed by the load dispatcher under normal operating conditions due to load
9 demand, for economic reasons, for grid stability, or for nuclear plant safety concerns arising
10 from external events outside the control of the nuclear unit are not included in this indicator.
11 However, power reductions due to equipment failures that are under the control of the nuclear
12 unit are included in this indicator.

<u>Reg Guide 1.16 Monitoring the Effectiveness of Maintenance at Nuclear Power Plants.</u>

C. Regulatory Position

3. INCLUSION OF ELECTRICAL DISTRIBUTION EQUIPMENT

The monitoring efforts under the maintenance rule, as defined in 10 CFR 50.65(b), encompass those SSCs that directly and significantly affect plant operations, regardless of what organization actually performs the maintenance activities. Maintenance activities that occur in the switchyard can directly affect plant operations; as a result, electrical distribution equipment out to the first inter-tie with the offsite distribution system (i.e., equipment in the switchyard) should be considered for inclusion as defined in 10 CFR 50.65(b).

<u>NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL-Generation Availability Reporting Guidance:</u>

UNIT BOUNDARIES AND PROBLEMS OUTSIDE PLANT CONTROL

A number of generating companies have been deregulated over the last several years. As a result, part of the GADS database contains deregulated units and part regulated units. As more and more electric utilities divide into generating companies (GENCO), transmission companies (TRANSCO) and distribution companies (DISCO), GADS must also make changes to accommodate the needs. To do so, we must determine where the GENCO responsibilities end and the TRANSCO take over. Based on research by the **IEEE 762** committee, the boundary between the GENCO and TRANSCO is as follows: **"**A generating unit includes all equipment up to (in preferred order) (1) the high-voltage terminals of the generator step-up (GSU) transformer and the station service transformers; (2) the GSU transformer (load) side of the generator-voltage circuit breakers; or (3) at such equipment boundary as may be reasonable considering the design and configuration of the generating unit.” Not all plants have the high-voltage terminals of the generator step-up (GSU) transformer and the station service transformers as shown in (1) above. Therefore, the boundaries are shown in preferred order based on unit design. If (1) is not applicable, then (2); if not (2) then (3).

NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL-Generation Availability Reporting Guidance Appendix K: Outside of Plant Management Control.

“The [**IEEE 762**] standard sets a boundary on the generator side of the power station (see Figure D-1, below) for the determination of equipment "outside management control"

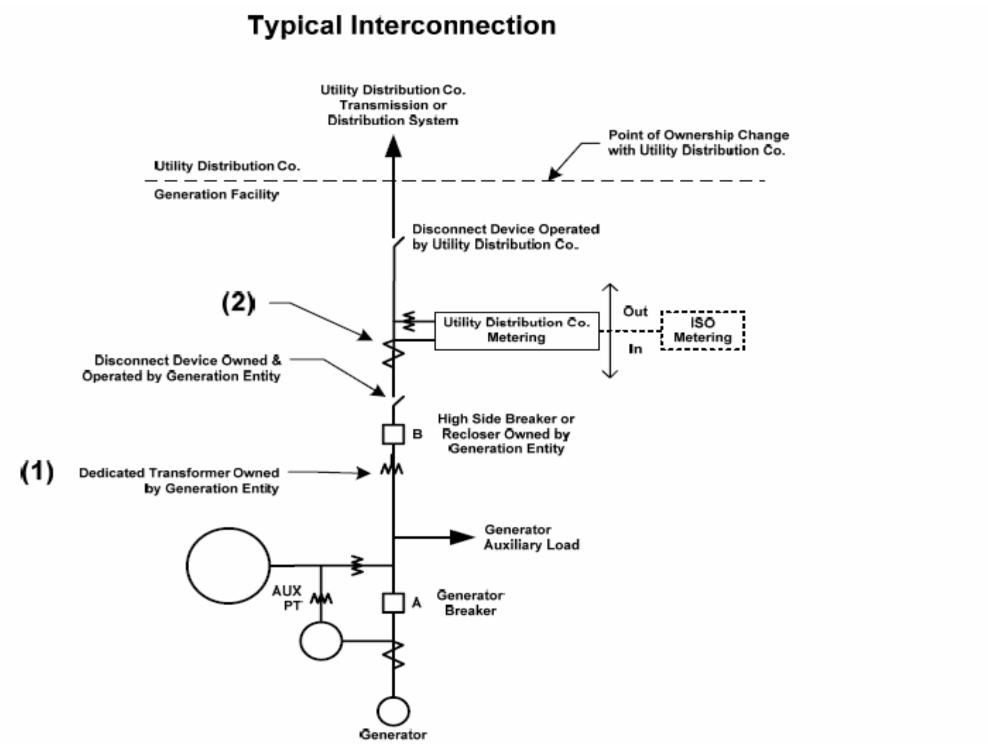

Figure D-1. The Physical Boundary of Outside Management Control

Appendix K – Outside Plant Management Control

Page K-2, 1/2008 GADS DATA REPORTING INSTRUCTIONS

“As shown in Figure D-1, a generating unit includes all equipment up to (in preferred order) (1) the high-voltage terminals of the generator step-up (GSU) transformer and the station service transformers; (2) the GSU transformer (load) side of the generator-voltage circuit breakers; or (3) at such equipment boundary as may be reasonable considering the design and configuration of the generating unit.

Plant: Duane Arnold Energy Center
Date of Event: 6/24/09
Submittal Date: 7/21/09
Licensee Contact: Mike Davis, Bob Murrell
Tel/email: 319-851-7032/ michael.davis@nexteraenergy.com
319-851-7900/ robert.murrell@nexteraenergy.com
NRC Contact: Randy Baker Tel/email: 319-851-7210

Performance Indicator: **Drill and Exercise Performance**

Site-Specific FAQ (Appendix D)? No

FAQ requested to become effective when approved.

Question Section

NEI 99-02 Guidance needing interpretation (include page and line citation):

NEI 99-02, Rev. 5 page 45, lines 39 – 42:

> *Performance statistics from operating shift simulator training evaluations may be included in this indicator only when the scope requires classification. Classification, PAR notifications and PARs may be included in this indicator if they are performed to the point of filling out the appropriate forms and demonstrating sufficient knowledge to perform the actual notification.*

NEI 99-02, Rev. 5 page 46, lines 13 – 15:

> *Simulation of notification to offsite agencies is allowed. It is not expected that State/local agencies be available to support all drills conducted by licensees. The drill should reasonably simulate the contact and the participants should demonstrate their ability to use the equipment.*

Event or circumstances requiring guidance interpretation:

In accordance with Duane Arnold Energy Center (DAEC) procedures for making offsite notifications of emergency events, the Shift Technical Advisor (Key Communicator) fills out the notification form, gains approval from the Shift Manager (Key Decision Maker/Emergency Director), and hands the form off to the Security Shift Supervisor (not filling an NRC Participation PI key position). The Security Shift Supervisor then contacts offsite authorities using a telephone system (one call notifies all county and state authorities).

During licensed operator continuing training simulator evaluations, Security personnel are sometimes not available to participate. In these cases, the simulator instructor/evaluator role-plays as the Security Shift Supervisor. When this occurs, the instructor does not pick up the phone and simulate making a call to offsite authorities.

The NRC resident has challenged counting these as successful DEP opportunities because there is no demonstration of using the phone equipment.

NEI 99-02, Rev. 5 seems to differentiate the extent of demonstrating notification between operations simulator evaluations and drills. This is also discussed in a previous FAQ 202.

What extent of simulation is required to “demonstrate sufficient knowledge to perform actual notification”? Should “demonstration of their ability to use the equipment” be applied to operations simulator evaluations?

In the simulator evaluations in question, the simulator scenario was developed to have the instructor role-play as the Shift Security Supervisor and did not require any participant to demonstrate use of the phone if security personnel were not available. If these instances do not meet the intent for demonstrating sufficient knowledge of performing notifications and there were no errors made by the participants, should these opportunities be counted in the performance indicator as failures?

If licensee and NRC resident/region do not agree on the facts and circumstances explain

The NRC has concluded that the opportunities are failures due to not demonstrating the use of phone equipment.

Potentially relevant existing FAQ numbers

FAQ 202 dated 8/30/2000

<u>Response Section</u>

Proposed Resolution of FAQ

During operator simulator training, personnel filling a non-key position for making a phone call to offsite agencies may not be available. In these instances where the Shift Manager (Emergency Director) and the Shift Communicator do not perform the notification phone call, it is acceptable to demonstrate the notification process up to the point of filling out the appropriate forms and providing the completed notification forms to a person role-playing as the phone-talker. By doing this, the key personnel are demonstrating knowledge of the notification process and simulating turnover to appropriate personnel assigned to complete the phone call(s). Additional time may need to be added to the notification time in order to simulate use of the notification equipment.

For those drills or simulator training scenarios that, after the fact, are determined not to sufficiently demonstrate classification, declaration, or notification due to limited extent of play; they should not be counted for the DEP indicator. They should not be counted as failed opportunities, since this does not reflect performance of the emergency response personnel, but a programmatic deficiency.

If appropriate, provide proposed rewording of guidance for inclusion in next revision.

NEI 99-02, Rev. 5 page 45, lines 39 – 42:

Current wording is italicized, proposed additions are underlined.

Performance statistics from operating shift simulator training evaluations may be included in this indicator only when the scope requires classification. Classification, PAR notifications and PARs may be included in this indicator if they are performed to the point of filling out the appropriate forms and demonstrating sufficient knowledge to perform the actual notification. It is recognized that key control room positions may not perform the actual communication with offsite agencies as part of the notification process. Personnel filling non-key positions for contacting offsite agencies (phone-talker) may not be available during simulator training. Therefore, "demonstrating sufficient knowledge" includes demonstrating knowledge of the notification process and interface with persons (actual or evaluator role-playing) assigned to contact offsite agencies using equipment (phone-talker).

Proposed wording to be added to the end of the Drill/Exercise Performance section, page 48, line 10.

Programmatic deficiencies such as insufficient extent of play or scenario problems that result in inadequate demonstration of classification, declaration, or notification should not be counted in the indicator as successes or failures. These types of issues do not reflect ERO member performance.