Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

Dominion

JUN 25 2001

Docket No. 50-336
B18421

RE: 10 CFR 55.45(b)(5)(ii)

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Nuclear Power Station, Unit No. 2
Four-Year Simulator Certification Report

Pursuant to the provisions of 10 CFR 55.45(b)(5)(ii), Dominion Nuclear Connecticut, Inc. (DNC) hereby submits the third quadrennial plant-referenced simulator report for Millstone Unit No. 2. Information supporting this submittal and the continued certification of the Millstone Unit No. 2 Simulator is contained in Attachments 1, 2, and 3.

Section 10 CFR 55.45(b)(5)(ii) requires that licensees submit, "every four years on the anniversary of the certification, a report to the Commission which identifies any uncorrected performance test failures." Millstone Unit No. 2 submitted its last four-year Simulator Certification Report in June 1997.[1] Failures identified within the four-year reporting period are discussed in Attachment 1.

Section 10 CFR 55.45(b)(5)(vi) requires "a description of performance testing completed for the simulation facility" and "a schedule for the conduct of approximately 25 percent of the performance tests per year for the subsequent four years." In November 2000, the Millstone Nuclear Power Station submitted a letter[2] to the Nuclear Regulatory Commission reporting our transition to the 1998 version of ANSI/ANS 3.5.[3]

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(1) J. K. Thayer to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Four Year Simulator Certification Report," dated June 30, 1997, (B16569).

(2) R. G. Lizotte to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit Nos. 2 and 3, Simulator Adherence to the 1998 Standard of ANSI/ANS 3.5," dated November 30, 2000, (B18256).

(3) ANSI/ANS-3.5, "Nuclear Power Plant Simulators for Use in Operating Training and Examination," April 1998.

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Draft Regulatory Guide DG-1080,[4] which endorses ANSI/ANS-3.5-1998, allows the licensee to "reference the licensed operator training schedules of the accredited training program as adequate submittal of a schedule for conduct of approximately 25 percent per year of the performance tests." The Millstone Unit No. 2 four-year testing program was accordingly revised to conform to the updated standard. The revised schedule began with the training year January 2000 to December 2000. A description of completed performance testing for the four-year reporting period, July 1997 to June 2001, is provided in Attachment 2. The simulator testing schedule for the next four-year reporting period, July 2001 to June 2005, is provided in Attachment 3.

There are no regulatory commitments contained within this letter.

Should you have any questions regarding this submittal, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

J. Alan Price, Vice President
Nuclear Technical Services - Millstone

Attachments (3)

cc: H. J. Miller, Region I Administrator
R. J. Conte, Chief, Operational Safety Branch, Region I
J. T. Harrison, NRC Project Manager, Millstone Unit No. 2
S. R. Jones, Senior Resident Inspector, Millstone Unit No. 2

(4) Draft Regulatory Guide DG-1080 (Proposed Revision 3 of Regulatory Guide 1.149), "Nuclear Power Plant Simulation Facilities for Use in Operator Training and License Examinations," August 1999.

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Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Quadrennial Certification Report Summary

Millstone Unit No. 2 Simulator Quadrennial Certification Report Summary

1. Uncorrected Performance Test Failures

There was one failure of a scheduled performance based test. During the performance of RC03, Cold Leg Rupture, the Containment Radiation Monitor response was not of a sufficient magnitude. This malfunction and test are currently being evaluated. Resolution of Discrepancy Report 1998-2-0096, generated as a result of this failure, will be completed no later than August 31, 2001.

2. Performance Testing, 1997 to 2001

Millstone Unit No. 2 submitted its last required Simulator Certification Report in June 1997.[1] Included within that submittal was the schedule to be used by Millstone Unit No. 2 to maintain its Simulator Certification in accordance with 10 CFR 55.45(b)(5)(vi). The schedule, with one exception, was completed as described during the years 1997 to 1998, 1998 to 1999, and 1999 to 2000. The single deviation was a schedule modification to allow a more equitable distribution of the major malfunction tests in each year.

In November 2000, the Millstone Nuclear Power Station submitted a letter[2] to the Nuclear Regulatory Commisson reporting our transition to the 1998 version of ANSI/ANS 3.5.[3] ANSI/ANS-3.5-1998 allows utilities to credit validated scenario based testing and operator training for simulator performance testing. The four-year testing program was then revised to conform to the updated standard. The revised four-year testing cycle included the training year 2000 to 2001.

A description of the completed testing for 1997 through 2001 is provided in Attachment 2.

3. Performance Test Schedule, 2001 to 2005

In accordance with the provisions of ANSI/ANS-3.5-1998, and Draft Regulatory Guide DG-1080[4] which endorses ANSI/ANS-3.5-1998, the simulator testing schedule for Millstone Unit No. 2 for the period July 2001 to June 2005 is provided in Attachment 3.

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(1) J. K. Thayer to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Four Year Simulator Certification Report," dated June 30, 1997, (B16569).

(2) R. G. Lizotte to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit Nos. 2 and 3, Simulator Adherence to the 1998 Standard of ANSI/ANS 3.5," dated November 30, 2000, (B18256).

(3) ANSI/ANS-3.5, "Nuclear Power Plant Simulators for Use in Operating Training and Examination," April 1998.

(4) Draft Regulatory Guide DG-1080 (Proposed Revision 3 of Regulatory Guide 1.149), "Nuclear Power Plant Simulation Facilities for Use in Operator Training and License Examinations," August 1999.

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Attachment 2

Millstone Nuclear Power Station, Unit No. 2

Completed Performance Based Testing
July 1997 to June 2001

DESCRIPTION OF PERFORMANCE TESTING
JULY 1997 - JUNE 2001

1. Testing Goals, Methodology and Assumptions

The Millstone simulator certification program, goals, methodologies and assumptions were established to ensure an efficient, effective, and comprehensive approach to testing. Certain elements of this testing philosophy are worthy of mention here:

- Testing should be conducted for normal, abnormal, and emergency conditions.
- The simulator response, as verified by testing during normal, abnormal, and emergency conditions, shall meet the following criteria necessary to support the contents of the training curriculum:
  - Correct diagnosis of events by the operator is possible,
  - Capabilities exist for the operator to intervene and mitigate events,
  - Actions or inaction taken by the operators shall result in similar response as in the reference plant,
  - Alarms and automatic system actuations shall occur such that operator diagnosis and response is not adversely affected.
- Any discrepancies found during testing that violate these criteria shall be documented by generating a Trouble Report (TR), to be dispositioned in accordance with the Nuclear Simulator Engineering Manual (NSEM).
- The Millstone Unit No. 2 Simulator is certified to the requirements of ANSI/ANS 3.5[1] (1985), but refers to the guidance contained in ANSI/ANS 3.5 (1993) for clarification of certain areas for simulator certification.
- Simulator controls used in training (e.g., switches, annunciators, meters, controllers, recorders, lights, keylocks, pushbuttons) should be tested.
- Personnel used for performance and operability testing are presently (or previously) SRO qualified on Millstone Unit No. 2.
- In the absence of finite data, a combination of operating experience, engineering judgement and analytical results shall be used to test the simulator response to major malfunctions, such as Large Loss of Coolant Accident or Steam Line Break.
- Testing shall be conducted whenever a modification is made to the simulator that affects simulator fidelity relative to the reference unit or its functional operation as a simulator.
- Modifications to the simulator design shall be validated through testing prior to use in training or examination.

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[1] ANSI/ANS-3.5, "Nuclear Power Plant Simulators for Use in Operating Training and Examination."

2. Normal Operations and Surveillance Testing

The normal evolutions and surveillances required by ANSI/ANS 3.5 (1985), Sections 3.1.1(1), (2), (3), (4), (5), (6), (7), (8) and (10) were performed using controlled copies of Millstone Unit No. 2 operating and surveillance procedures. ANSI/ANS 3.5 Section 3.1.1(9) was completed in December 2000 upon completion of the addition of the cycle 14 core using a separate Reactor Core test. NSEM 4.10, "Normal Operations Verification," contains generic guidance used to write and perform the Millstone Unit No. 2 Simulator Normal Operations and Surveillance Tests.

The malfunction and normal operations testing schedule was modified to equalize the testing required to be accomplished during each year.

The Millstone Unit No. 2 Simulator was scheduled to be tested over the four-year reporting period in the following sequence:

- Simulator initialized at 100% power:
  - Power decreased to approximately 20% power,
  - Electrical power transferred and plant shutdown continued,
  - Reactor shutdown completed.
- Plant cooldown commenced:
  - Shutdown Cooling System (SDC) prepared for operation and SDC initiated,
  - Cooldown continued to less than 200°F using SDC and Reactor Coolant Pumps (RCPs),
  - Secured RCPs,
  - Continued Reactor Coolant System (RCS) cooldown using Shutdown Cooling.
- With the plant less than 200°F on SDC, (RCPs secured):
  - Raised RCS pressure,
  - Started RCPs,
  - Commenced RCS heatup,
  - Secured Shutdown Cooling,
  - Completed Plant heatup to approximately 534 °F using RCP heat.
- Surveillance testing completed.

  This testing was accomplished using Plant Surveillance procedures.
- Reactor Startup completed.
- Plant Startup commenced, turbine startup and power ascension to 100% completed.
- Initiated reactor trip and evaluated the simulator during Hot Standby for approximately 45 minutes.

- Commenced reactor startup and plant startup during the increasing Xenon portion of this transient and power restoration to 100% completed.

In November 2000, the Millstone Nuclear Power Station submitted a letter[2] to the NRC reporting our transition to the 1998 version of ANSI Standard ANSI/ANS 3.5. The four-year testing program was therefore revised to conform to the updated standard. The final item of the Normal Operations and Surveillance Testing program (above), was completed following the transition to the 1998 standard, but prior to the end of the four-year reporting cycle.

The certification testing completed for Simulator Certification in the year 2000 to 2001, based upon the requirements of ANSI/ANS 3.5 (1998), consisted of:

- Operability Testing:
  - Eleven (11) Transient Tests,
  - Three (3) Steady State Comparisons Between the Plant and Simulator,
  - Repeatability and Real Time Testing.
- Scenario Based Testing of all simulator scenarios evaluated and used in operator training.

3. Malfunction Testing

The Millstone Unit No. 2 Simulator was originally certified for 250 malfunctions, which exceeded the requirements for the 25 types of malfunctions specified in section 3.1.3 of ANSI/ANS 3.5 (1985).

During the completion of the 1993 to 1997 Certification, it was self identified that some malfunctions were of little training value. Discussion with Operator Training identified those which could be completely or partially eliminated. These malfunctions were put into a "Not Certified" status. These "Not Certified" malfunctions are not used in training, but if needed to support the Operator Training program, would be tested, certified and returned to "Certified" status. 102 malfunctions were placed in this "Not Certified" status and approximately 20 malfunctions have been returned to "Certified" status due to the needs of Operator Training.

Each certified malfunction had its own test. Guidance for writing and conducting malfunction tests is contained in NSEM 4.04, "Major Malfunction Testing," and NSEM 4.05, "Malfunction Testing."

Malfunctions which produce integrated plant effects, such as Loss of Coolant Accidents or Steam Line Breaks (inside or outside of containment) are identified

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[2] R. G. Lizotte to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit Nos. 2 and 3, Simulator Adherence to the 1998 Standard of ANSI/ANS 3.5," dated November 30, 2000, (B18256).

as Major Malfunctions. Their tests are written and conducted per NSEM 4.04. Analytical data was obtained from the following sources to determine the correct simulator response:

- Millstone Unit No. 2 Final Safety Analysis Report,
- Millstone Unit No. 2 Reference Plant Data Book,
- Combustion Engineering Nuclear Plant Response Information.

All other malfunctions are identified as Minor Malfunctions. Their tests are written and conducted per NSEM 4.05. The following sources were used to determine how the simulator should respond:

- Actual plant response was evaluated,
- Similar plant responses identified in Licensee Event Reports or INPO Significant Operating Experience Reports were evaluated,
- Licensed and certified instructors were used to determine how the plant should respond.

All malfunction tests were evaluated twice prior to use by Operator Training: first, prior to the completion of the test, and second, by the Supervisor of Operator Training to ensure the malfunction performed as required.

ANSI/ANS 3.5 (1985), Section 3.4.2, requires provisions be made for incorporating additional malfunctions. This same requirement exists in ANSI/ANS 3.5 (1993 and 1998), Section 3.3.2.

Over the past 4 years, the following malfunctions have been developed and added to the Millstone Unit No. 2 Simulator:

- CH06 (CTMT Leakage)
- CH07 (Earthquake)
- CH08 (Loss of CRACS Fans)
- CV23 (Loss of BA Pumps)
- CV24 (Failure of CH433 [CTMT Check Valve] to Close)
- ED08C (Failure of 25A and 25B to Transfer to RSST)
- ED17C (Failure of 24C and 24D to Transfer to RSST)
- ED19A/B (Failure of VR11 or VR21 on Reactor Trip)
- ES03I/J (Failure of SIAS Start of FAC1/FAC2 HPSI)
- FW33A/B (Large Vacuum Leak)
- FW34A/B (Stuck FRV)
- FW35A/B (Stuck Aux FRV)
- FW36A/B (AFW Header Leak in TB)
- MS17A/B (Loss of Remote Indication of Open/Weeping S/G SV)
- RC22A/B (RCP Intermittent Vibration)
- RC23A/B (RCP High Vibration)

- RC24A/B (RCP High-High Vibration)
- RC25A/B/C/D (Loss of RCP)
- RC26A/B (Failure of RC003/045 to close on CIAS)
- RD01 (Dropped CEA Malfunction [Added S/D Gp A and Changed CEAs Dropped])
- RD13 (Stick 2 CEAs in Group 7)
- RH10A/B (Failure Closed of CTMT Sump HPSI Suction)
- RP27A/B (Failure of RPS to Trip)
- RP28A/B/C/D/E/F/G/H/I/J/K/L (Failure of RPS Trip Unit)
- RP29A/B (Failure of CEDS MG Breaker to OPEN from C04)
- TC10A/B/C/D/E/F/G/H/I/J/K/L (Failure of Turbine Trip)

During this 4 Year Simulator Certification cycle, there was one malfunction, "RC03, Cold Leg Rupture," that responded improperly and has yet to be corrected. This malfunction failed to correctly display the required amount of Containment Radiation Monitor response and will be corrected no later than August 31, 2001, per Discrepancy Report 1998-2-0096.

4. Annual Operability Testing

ANSI/ANS 3.5 (1985), Section 5.4.2 and Appendix B, and ANSI/ANS 3.5 (1993), Section 4.4.2 and Appendix B, specify annual operability testing requirements. The methodology used to write and conduct operability tests is described in NSEM 4.09, "Simulator Operability Testing."

Annual operability testing for Millstone Unit No. 2 consists of the following items:

- Steady state comparison of the simulator at 100% power and two (2) other power levels:
  - A printout of various Safety Parameter Display System (SPDS) screens of the plant at a specific power level is made,
  - A printout of various simulator SPDS screens at the same power level is made,
  - A comparison is made to ensure they are within the tolerances specified in ANSI/ANS 3.5 and any discrepancies noted and corrected.
  - Data specified in ANSI/ANS 3.5 as needing to be within a 10% tolerance are readings taken from analog indications:
    - A comparison is made of what an Operator recorded on the daily logs (during the time that the plant SPDS printout was made) to the same parameter on the simulator.

- Stability testing while at 100% power for one (1) hour:
  - Stability is determined if the simulator does not vary by greater than 2% over this time period.
  - This is a requirement of 2% of the entire range of the indication:
    - Steam Generator Pressure (0 to 1000 psia).
  - The Millstone Unit 2 computer plots do NOT use the entire range of the indication but a more narrow band:
    - Steam Generator Pressure (800 to 900 psia), which greatly increases the ability to see how stable the Millstone Unit No. 2 Simulator is.
- Performance testing of the required transients:
  - ANSI/ANS 3.5 (1985) required ten (10) transients to be evaluated.
  - ANSI/ANS 3.5 (1993) and ANSI/ANS 3.5 (1998) require eleven (11) transients to be evaluated.
  - Millstone Unit No. 2 evaluated eleven (11) transients as part of the required operability testing.
- Normal operations testing is covered in ANSI/ANS 3.5 (1985), Section 3.1.1, and ANSI/ANS 3.5 (1993), Section 3.1.3.

5. Instructor Station Testing

Simulator Instructor Station Testing was performed as described in NSEM 4.11, "Instructor Station Test," in May 1998.

Instructor Station Testing verified the correct operation of the following features of the Millstone Unit No. 2 Instructors Station:

Backtrack	Variable parameter control
Freeze	Composite malfunction
Snapshot	Remote function
Fast time	Boolean trigger
Slow time	

To verify the Input/Output (I/O) override feature of the Millstone Unit No. 2 Simulator, a sampling of the following points were tested to verify proper operation:

- Analog Outputs
- Analog Inputs
- Digital Outputs
- Digital Inputs
- Annunciator Overrides (On, Off, and Cry-wolf)

This test verified that the simulator had the ability to I/O essentially every point on the simulator. Curriculum testing of the training scenarios prior to the use of a simulator guide ensures the proper response of all the I/O features used in training.

During the performance of the Instructors Station Testing, it was identified that the simulator Operating Limits should also be tested. This was done and NSEM 4.11 was updated to reflect this new requirement.

6. Real Time Testing

Real time testing was performed in June 1998 per NSEM 4.13, "Real Time Simulator Verification." The purpose of this test was to verify that all simulation models are running in real time. Verification was accomplished by:

- Installing software counters to run at the end of each frame,
- Monitoring the operation of each real time executive and ensuring that it is running in real time,
- Running the following simulator scenarios and measuring the time used by each frame (of the 50 milliseconds [msec] available, no more than 16.3 msec was required, leaving greater than 60% spare time at all times):
    - Turbine trip (TC01)
    - Steam Line Break Inside Containment (MS01A)
    - RCS Hot Leg Break (RC02A)
    - RCP Locked Rotor (RC11A)

The results of this testing show that the Millstone Unit No. 2 Simulator performs in real time.

This test will be repeated every four years, or any time the possibility arises that the Millstone Unit No. 2 Simulator is not running in real time.

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Attachment 3

Millstone Nuclear Power Station, Unit No. 2

Performance Test Schedule
July 2001 to June 2005

MP2

PERFORMANCE TEST

SCHEDULE

	START	END
Performance Test (4 Year Cycle):	July 2001	June 2005
Year One:	July 2001	June 2002
Year Two:	July 2002	June 2003
Year Three:	July 2003	June 2004
Year Four:	July 2004	June 2005

APPROVED BY: signature on file
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YEAR 1

TEST	Date
Annual Operability (NSEM 4.09)	
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
Annual Transient Validation (NSEM 4.09)	
* Transient #1: Manual Reactor Trip	_____
* Transient #2: Simultaneous Trip of Both Feed Pumps	_____
* Transient #3: Simultaneous Closure of Both MSIVs	_____
* Transient #4: Simultaneous Trip of All RCPs	_____
* Transient #5: Trip of the "A" RCP	_____
* Transient #6: Turbine Trip < 15% Power	_____
* Transient #7: Ramp Decrease in Power	_____
* Transient #8: Large LOCA with LNP	_____
* Transient #9: MSLB Inside CTMT	_____
* Transient #10: RCS Depressurization to Saturation	_____
* Transient #11: Load Reject	_____
Normal Operations (NSEM 4.10)	
* Reactor Trip from 100%	_____
* Operation at Hot Standby	_____
* Reactor and Plant Start Up to 100% Power (Xenon Building-in from Trip)	_____

YEAR 1

TEST	Date
Completion of Scenario Based Testing Data (NSEM 6.06)	
* LORT	_____
* LOUT	_____
* LOIT	_____
Physical Fidelity Verification (NSEM 4.12)	_____
Instructor Station Test (NSEM 4.11)	_____

Other Items Completed

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

YEAR 2

TEST	Date
Annual Operability (NSEM 4.09)	
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
Annual Transient Validation (NSEM 4.09)	
* Transient #1: Manual Reactor Trip	_____
* Transient #2: Simultaneous Trip of Both Feed Pumps	_____
* Transient #3: Simultaneous Closure of Both MSIVs	_____
* Transient #4: Simultaneous Trip of All RCPs	_____
* Transient #5: Trip of the "A" RCP	_____
* Transient #6: Turbine Trip < 15% Power	_____
* Transient #7: Ramp Decrease in Power	_____
* Transient #8: Large LOCA with LNP	_____
* Transient #9: MSLB Inside CTMT	_____
* Transient #10: RCS Depressurization to Saturation	_____
* Transient #11: Load Reject	_____
Normal Operations (NSEM 4.10)	
* Load Changes 100% to 20%	_____
* Plant Shutdown 20% to 0%	_____
* Reactor Shutdown	_____
* RCS Cooldown and Entry into SDC	_____
* RCS Cooldown to MODE5(< 200°F)	_____

YEAR 2

TEST	Date
Completion of Scenario Based Testing Data (NSEM 6.06)	
* LORT	_____
* LOUT	_____
* LOIT	_____
Physical Fidelity Verification (NSEM 4.12)	_____
Simulator Operating Limits (NSEM 4.08)	_____

Other Items Completed

1. _____

2. _____

3. _____

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5. _____

6. _____

7. _____

YEAR 3

TEST	Date
Annual Operability (NSEM 4.09)	
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
Annual Transient Validation (NSEM 4.09)	
* Transient #1: Manual Reactor Trip	_____
* Transient #2: Simultaneous Trip of Both Feed Pumps	_____
* Transient #3: Simultaneous Closure of Both MSIVs	_____
* Transient #4: Simultaneous Trip of All RCPs	_____
* Transient #5: Trip of the "A" RCP	_____
* Transient #6: Turbine Trip < 15% Power	_____
* Transient #7: Ramp Decrease in Power	_____
* Transient #8: Large LOCA with LNP	_____
* Transient #9: MSLB Inside CTMT	_____
* Transient #10: RCS Depressurization to Saturation	_____
* Transient #11: Load Reject	_____
Normal Operations (NSEM 4.10)	
* From Cold Shutdown (MODE5) Start RCP and Heat RCS to ~ 534°F	_____
* Complete All Required Surveillance Procedures during RCS Heat Up	_____
* Reactor Start Up to > 5%	_____

YEAR 3

TEST	Date
Completion of Scenario Based Testing Data (NSEM 6.06)	
* LORT	_____
* LOUT	_____
* LOIT	_____
Physical Fidelity Verification (NSEM4.12)	_____

Other Items Completed

1. _____

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2. _____

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YEAR 4

TEST	Date
Annual Operability (NSEM 4.09)	
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
* Steady State Accuracy (_____%)	_____
Annual Transient Validation (NSEM 4.09)	
* Transient #1: Manual Reactor Trip	_____
* Transient #2: Simultaneous Trip of Both Feed Pumps	_____
* Transient #3: Simultaneous Closure of Both MSIVs	_____
* Transient #4: Simultaneous Trip of All RCPs	_____
* Transient #5: Trip of the "A" RCP	_____
* Transient #6: Turbine Trip < 15% Power	_____
* Transient #7: Ramp Decrease in Power	_____
* Transient #8: Large LOCA with LNP	_____
* Transient #9: MSLB Inside CTMT	_____
* Transient #10: RCS Depressurization to Saturation	_____
* Transient #11: Load Reject	_____
Normal Operations (NSEM 4.10)	
* Operation at Hot Standby	_____
* Reactor Start Up	_____
* Plant Start Up	_____
** Turbine Start Up	
** Power Increase 20%	
* Load Changes, 20% to 100%	_____

YEAR 4

TEST	Date
Completion of Scenario Based Testing Data (NSEM 6.06)	
* LORT	_____
* LOUT	_____
* LOIT	_____
Physical Fidelity Verification (NSEM 4.12)	_____
Real Time Test (NSEM-4.13)	_____
Repeatability Test (NSEM-4.13)	_____

Other Items Completed

1. _____

2. _____

3. _____

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