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- (8) Table 1 Item - The eighth column lists the corresponding summary item number from LRA Table 1. If the applicant identifies in each LRA Table 2 AMR results consistent with the GALL Report the Table 1 line item summary number should be listed in LRA Table 2. If there is no corresponding item in the GALL Report, column eight is left blank. In this manner, the information from the two tables can be correlated.
- (9) Notes - The ninth column lists the corresponding notes used to identify how the information in each Table 2 aligns with the information in the GALL Report. The notes, identified by letters, were developed by an NEI work group and will be used in future LRAs. Any plant-specific notes identified by numbers provide additional information about the consistency of the line item with the GALL Report.

3.0.2 Staff's Review Process

The staff conducted three types of evaluations of the AMRs and AMPs:

- (1) For items that the applicant stated were consistent with the GALL Report, the staff conducted either an audit or a technical review to determine such consistency.
- (2) For items that the applicant stated were consistent with the GALL Report with exceptions, enhancements, or both, the staff conducted either an audit or a technical review of the item to determine technical review adequacy of the

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U.S. NUCLEAR REGULATORY COMMISSION

In the Matter of Entergy (Pilgrim Nuclear Power Station)

Docket No. 50-293-LR Official Exhibit No. 61

OFFERED by: Applicant/Licensee _____
 Intervenor _____
 NRC Staff Other NRC Staff Exh 23

IDENTIFIED on 4-10-08 Witness/Panel _____

Action Taken: ADMITTED REJECTED WITHDRAWN

Reporter/Clerk: Thibault

DOCKETED
 IISNRC
 April 15, 2008 (10:00am)
 OFFICE OF SECRETARY
 RULING MAKINGS AND
 ADJUDICATIONS STAFF

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- (2) For items that the applicant stated were consistent with the GALL Report with exceptions, enhancements, or both, the staff conducted either an audit or a technical review of the item to determine such consistency. In addition, the staff conducted either an audit or a technical review of the applicant's technical justifications for the exceptions or the adequacy of the enhancements.

The SRP-LR states that an applicant may take one or more exceptions to specific GALL AMP elements; however, any deviation from or exception to the GALL AMP should be described and justified. Therefore, the staff considers exceptions as being portions of the GALL AMP that the applicant does not intend to implement.

In some cases, an applicant may choose an existing plant program that does not meet all the program elements defined in the GALL AMP. However, the applicant may make a commitment to augment the existing program to satisfy the GALL AMP prior to the period of extended operation. Therefore, the staff considers these augmentations or additions to be enhancements. Enhancements include, but are not limited to, activities needed to ensure consistency with the GALL Report recommendations. Enhancements may expand, but not reduce, the scope of an AMP.

- (3) For other items, the staff conducted a technical review to verify conformance with 10 CFR 54.21(a)(3) requirements.

Staff audits and technical reviews of the applicant's AMPs and AMRs determine whether the aging effects on SCs can be adequately managed to maintain their intended function(s) consistent with the plant's current licensing basis (CLB) for the period of extended operation, as required by 10 CFR Part 54.

3.0.2.1 Review of AMPs

For AMPs for which the applicant claimed consistency with the GALL AMPs, the staff conducted either an audit or a technical review to verify the claim. For each AMP with one or more deviations, the staff evaluated each deviation to determine whether the deviation was acceptable and whether the modified AMP would adequately manage the aging effect(s) for which it was credited. For AMPs not evaluated in the GALL Report, the staff performed a full review to determine their adequacy. The staff evaluated the AMPs against the following 10 program elements defined in SRP-LR Appendix A.

- (1) *Scope of the Program* - Scope of the program should include the specific SCs subject to an AMR for license renewal.
- (2) *Preventive Actions* - Preventive actions should prevent or mitigate aging degradation.
- (3) *Parameters Monitored or Inspected* - Parameters monitored or inspected should be linked to the degradation of the particular structure or component intended function(s).
- (4) *Detection of Aging Effects* - Detection of aging effects should occur before there is a loss of structure or component intended function(s). This includes aspects such as method or technique (*i.e.*, visual, volumetric, surface inspection), frequency, sample size, data collection, and timing of new/one-time inspections to ensure timely detection of aging effects.
- (5) *Monitoring and Trending* - Monitoring and trending should provide predictability of the extent of degradation, as well as timely corrective or mitigative actions.
- (6) *Acceptance Criteria* - Acceptance criteria, against which the need for corrective action will be evaluated, should ensure that the structure or component intended function(s) are maintained under all CLB design conditions during the period of extended operation.
- (7) *Corrective Actions* - Corrective actions, including root cause determination and prevention of recurrence, should be timely.
- (8) *Confirmation Process* - Confirmation process should ensure that preventive actions are adequate and that appropriate corrective actions have been completed and are effective.
- (9) *Administrative Controls* - Administrative controls should provide for a formal review and approval process.
- (10) *Operating Experience* - Operating experience of the AMP, including past corrective actions resulting in program enhancements or additional programs, should provide objective evidence to support the conclusion that the effects of aging will be adequately managed so that the SC intended function(s) will be maintained during the period of extended operation.

Details of the staff's audit evaluation of program elements (1) through (6) are documented in SER Section 3.0.3.

The staff reviewed the applicant's quality assurance (QA) program and documented its evaluations in SER Section 3.0.4. The staff's evaluation of the QA program included assessment of the "corrective actions," "confirmation process," and "administrative controls" program elements.

The staff reviewed the information on the "operating experience" program element and documented its evaluation in SER Section 3.0.3.

3.0.2.2 Review of AMR Results

Each LRA Table 2 contains information concerning whether or not the AMRs identified by the applicant align with the GALL AMRs. For a given AMR in a Table 2, the staff reviewed the intended function, material, environment, AERM, and AMP combination for a particular system component type. Item numbers in column seven of the LRA, "GALL Report Volume 2 Item," correlates to an AMR combination as identified in the GALL Report. The staff also conducted onsite audits to verify these correlations. A blank in column seven indicates that the applicant was unable to identify an appropriate correlation in the GALL Report. The staff also conducted a technical review of combinations not consistent with the GALL Report. The next column, "Table 1 Item," refers to a number indicating the correlating row in Table 1.

3.0.2.3 UFSAR Supplement

Consistent with the SRP-LR, for the AMRs and AMPs that it reviewed, the staff also reviewed the UFSAR supplement, which summarizes the applicant's programs and activities for managing aging effects for the period of extended operation, as required by 10 CFR 54.21(d).

3.0.2.4 Documentation and Documents Reviewed

In its review, the staff used the LRA, LRA amendments, the SRP-LR, and the GALL Report.

During the onsite audit, the staff also examined the applicant's justifications to verify that the applicant's activities and programs will adequately manage the effects of aging on SCs. The staff also conducted detailed discussions and interviews with the applicant's license renewal project personnel and others with technical expertise relevant to aging management.

3.0.3 Aging Management Programs

SER Table 3.0.3-1 presents the AMPs credited by the applicant and described in LRA Appendix B. The table also indicates the SSCs that credit the AMPs and the GALL AMP with which the applicant claimed consistency and shows the section of this SER in which the staff's evaluation of the program is documented.

Table 3.0.3-1 PNPS Aging Management Programs

PNPS AMP (LRA Section)	GALL Report Comparison	GALL Report AMPs	LRA Systems or Structures That Credit the AMP	Staff's SER Section
Existing AMPs				
Boraflex Monitoring Program (B.1.1)	Consistent	XI.M22	auxiliary systems	3.0.3.1.1

PNPS AMP (LRA Section)	GALL Report Comparison	GALL Report AMPs	LRA Systems or Structures That Credit the AMP	Staff's SER Section
BWR CRD Return Line Nozzle Program (B.1.3)	Consistent with exceptions	XI.M6	reactor vessel, internals, and reactor coolant system	3.0.3.2.2
BWR Feedwater Nozzle Program (B.1.4)	Consistent with exceptions	XI.M5	reactor vessel, internals, and reactor coolant system	3.0.3.2.3
BWR Penetrations Program (B.1.5)	Consistent with exceptions	XI.M8	reactor vessel, internals, and reactor coolant system	3.0.3.2.4
BWR Stress Corrosion Cracking Program (B.1.6)	Consistent with exception and enhancement	XI.M7	reactor vessel, internals, and reactor coolant system	3.0.3.2.5
BWR Vessel ID Attachment Welds Program (B.1.7)	Consistent with exception	XI.M4	reactor vessel, internals, and reactor coolant system	3.0.3.2.6
BWR Vessels Internals Program (B.1.8)	Consistent with exceptions and enhancement	XI.M9	reactor vessel, internals, and reactor coolant system	3.0.3.2.7
Containment Leak Rate Program (B.1.9)	Consistent	XI.S4	engineered safety features systems / structures and component supports	3.0.3.1.2
Diesel Fuel Monitoring Program (B.1.10)	Consistent with exceptions and enhancements	XI.M30	auxiliary systems	3.0.3.2.8
Environmental Qualification (EQ) of Electric Components Program (B.1.11)	Consistent	X.E1	electrical and instrumentation and controls	3.0.3.1.3
Fatigue Monitoring Program (B.1.12)	Consistent	X.M1	reactor vessel, internals, and reactor coolant system / engineered safety features systems / auxiliary systems / steam and power conversion systems / structures and component supports	3.0.3.2.9
Fire Protection Program (B.1.13.1)	Consistent with exceptions and enhancements	XI.M26	auxiliary systems / structures and component supports	3.0.3.2.10
Fire Water System Program (B.1.13.2)	Consistent with exception and enhancements	XI.M27	auxiliary systems	3.0.3.2.11

PNPS AMP (LRA Section)	GALL Report Comparison	GALL Report AMPs	LRA Systems or Structures That Credit the AMP	Staff's SER Section
Flow-Accelerated Corrosion Program (B.1.14)	Consistent	XI.M17	reactor vessel, internals, and reactor coolant system / auxiliary systems / steam and power conversion systems	3.0.3.1.4
Containment Inservice Inspection Program (B.1.16.1)	Plant-specific		structures and component supports	3.0.3.3.2
Inservice Inspection Program (B.1.16.2)	Plant-specific		reactor vessel, internals, and reactor coolant system / structures and component supports	3.0.3.3.3
Instrument Air Quality Program (B.1.17)	Plant-specific		engineered safety features systems / auxiliary systems	3.0.3.3.4
Oil Analysis Program (B.1.22)	Consistent with exception and enhancements	XI.M39	engineered safety features systems / auxiliary systems	3.0.3.2.13
Periodic Surveillance and Preventive Maintenance Program (B.1.24)	Plant-specific		engineered safety features systems / auxiliary systems / steam and power conversion systems / structures and component supports	3.0.3.3.5
Reactor Head Closure Studs Program (B.1.25)	Consistent with exception	XI.M3	reactor vessel, internals, and reactor coolant system	3.0.3.2.14
Reactor Vessel Surveillance Program (B.1.26)	Consistent with enhancement	XI.M31	reactor vessel, internals, and reactor coolant system	3.0.3.2.15
Service Water Integrity Program (B.1.28)	Consistent with exceptions	XI.M20	auxiliary systems	3.0.3.2.16
Masonry Wall Program (B.1.29.1)	Consistent	XI.S5	structures and component supports	3.0.3.1.10
Structures Monitoring Program (B.1.29.2)	Consistent with enhancements	XI.S6	structures and component supports	3.0.3.2.17
Water Control Structures Monitoring Program (B.1.29.3)	Consistent with enhancement	XI.S7	structures and component supports	3.0.3.2.18
System Walkdown Program (B.1.30)	Consistent	XI.M36	reactor vessel, internals, and reactor coolant system / engineered safety features systems / auxiliary systems / steam and power conversion systems	3.0.3.1.11

PNPS AMP (LRA Section)	GALL Report Comparison	GALL Report AMPs	LRA Systems or Structures That Credit the AMP	Staff's SER Section
Water Chemistry Control - Auxiliary Systems Program (B.1.32.1)	Plant-specific		auxiliary systems	3.0.3.3.6
Water Chemistry Control - BWR Program (B.1.32.2)	Consistent	XI.M2	reactor vessel, internals, and reactor coolant system / engineered safety features systems / auxiliary systems / steam and power conversion systems	3.0.3.1.13
Water Chemistry Control - Closed Cooling Water Program (B.1.32.3)	Consistent with exception	XI.M21	reactor vessel, internals, and reactor coolant system / engineered safety features systems / auxiliary systems	3.0.3.2.19
New AMPs				
Buried Piping and Tanks Inspection Program (B.1.2)	Consistent with exception	XI.M34	engineered safety features systems / auxiliary systems / steam and power conversion systems	3.0.3.2.1
Heat Exchanger Monitoring Program (B.1.15)	Plant-specific.		engineered safety features systems / auxiliary systems	3.0.3.3.1
Metal-Enclosed Bus Inspection Program (B.1.18)	Consistent with exceptions	XI.E4	electrical and instrumentation and controls	3.0.3.2.12
Non-EQ Inaccessible Medium-Voltage Cable Program (B.1.19)	Consistent	XI.E3	electrical and instrumentation and controls	3.0.3.1.5
Non-EQ Instrumentation Circuits Test Review Program (B.1.20)	Consistent	XI.E2	electrical and instrumentation and controls	3.0.3.1.6
Non-EQ Insulated Cables and Connections Program (B.1.21)	Consistent	XI.E1	electrical and instrumentation and controls	3.0.3.1.7
One-Time Inspection Program (B.1.23)	Consistent	XI.M32 XI.M35	reactor vessel, internals, and reactor coolant system / engineered safety features systems / auxiliary systems	3.0.3.1.8
Selective Leaching Program (B.1.27)	Consistent	XI.M33	engineered safety features systems / auxiliary systems / steam and power conversion systems	3.0.3.1.9