



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931**

August 12, 2002

EA-02-067
EA-00-022
EA-01-310

ATTN: Mr. James Scarola
Vice President - Harris Plant
Shearon Harris Nuclear Power Plant
P. O. Box 165, Mail Code: Zone 1
New Hill, NC 27562-0165

**SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT - NRC SUPPLEMENTAL
INSPECTION REPORT NO. 50-400/02-10**

Dear Mr. Scarola:

By letter dated June 27, 2002, you were informed that the Nuclear Regulatory Commission (NRC) would conduct a supplemental inspection at your Shearon Harris Nuclear Power Plant for two White findings in the mitigating systems cornerstone. On July 12, the NRC completed a Supplemental Inspection 95002 at your Shearon Harris Nuclear Power Plant. The enclosed report documents the inspection findings that were discussed with you and other members of your staff on July 12, 2002.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This supplemental inspection also was an examination of your problem identification, root cause and extent of condition evaluation, and corrective actions associated with two White findings identified in the mitigating systems cornerstone. The first White finding involved a violation of your fire protection program for a fire barrier assembly with an indeterminate fire resistance rating. The second White finding involved a violation of Technical Specifications resulting from inadequate foreign material controls which allowed foreign material to enter the containment sump suction piping.

The inspectors determined that the problem identification, root cause and extent of condition evaluation for the two White findings were adequate. There were prior opportunities to identify the findings and the corrective action program was not utilized in the resolution of the Thermo-lag fire barrier issue. The licensee's collective evaluation of the two findings was accurate. The inspectors found no common cause aspects linking the two performance deficiencies from a risk perspective.

Based on the results of this inspection, the NRC determined that your corrective actions are appropriate to resolve the deficiency in your foreign material exclusion (FME) program and the White finding for inadequate FME controls will be closed. The Thermo-lag fire barrier White finding will be dispositioned in NRC Inspection Report 50-400/02-08.

No findings of significance were identified during this inspection.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

Loren R. Plisco, Director
Division of Reactor Projects

Docket No. 50-400
License No. NPF-63

Enclosure: NRC Inspection Report
w/Attachment

cc w/encl: (See page 3)

cc w/encl:

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No: 50-400
License No: NPF-63

Report No: 50-400/02-10

Licensee: Carolina Power & Light (CP&L)

Facility: Shearon Harris Nuclear Power Plant, Unit 1

Location: 5413 Shearon Harris Road
New Hill, NC 27562

Dates: July 8- July 12, 2002

Inspectors: J. Brady, Senior Resident Inspector
G. MacDonald, Senior Project Engineer

Approved by: Brian Bonser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000400-02-10 on 7/8 - 12/02, Carolina Power and Light Company, Shearon Harris Nuclear Power Plant, Unit 1. Supplemental Inspection 95002 for degraded mitigating systems cornerstone to assess licensee's evaluation of Thermo-lag fire barrier with indeterminate fire resistance rating and foreign material in the containment sump suction piping to the A residual heat removal pump.

This inspection was conducted by a senior resident inspector and a senior project engineer. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>.

Cornerstone: Mitigating Systems

The U. S. Nuclear Regulatory Commission (NRC) performed this supplemental inspection to assess the licensee's evaluation associated with two performance deficiencies in the mitigating systems cornerstone. The first finding involved a Thermo-lag fire barrier of indeterminate fire resistance rating which separated train A and train B safety related cables in the auxiliary control panel area of the B train switchgear room. This performance issue was previously characterized as having low to moderate risk significance ("White") in NRC Inspection Report (IR) 50-400/00-09 and in NRC letter dated April 16, 2002. The second finding involved foreign material which was discovered in the containment sump suction piping to the A residual heat removal/low head safety injection (RHR/LHSI) pump. This performance issue was characterized as having low to moderate risk significance ("White") in NRC inspection report 50-400/02-07 and NRC letter dated June 13, 2002.

The inspectors determined that the licensee's problem identification, root cause and extent of condition evaluation for both findings were adequate. There were prior opportunities to identify the findings and the corrective action program was not utilized in the resolution of the Thermo-lag fire barrier finding. The licensee's collective evaluation of the two findings was accurate. The inspectors found no common cause aspects linking the two performance deficiencies from a risk perspective. The inspector's independent assessment of the licensee's extent of condition evaluation did not identify any additional areas affected by either finding which the licensee had not already identified. The corrective actions for the foreign material finding were acceptable. The corrective actions for the fire barrier finding were not complete and will be addressed in the ongoing Supplemental Inspection 95001 documented in NRC IR 50-400/02-08.

Given the licensee's acceptable performance in addressing the foreign material in the containment sump suction piping to the A RHR/LHSI pump, the White finding associated with this issue will only be considered in assessing plant performance for a total of four quarters in accordance with the guidance in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program."

The licensee's corrective action for the indeterminate Thermo-lag fire barrier involved performing a plant modification to create a new fire area and eliminate the need for the Thermo-lag fire barrier. This corrective action was not complete and the associated White finding will be dispositioned in the ongoing Supplemental Inspection 95001 documented in NRC IR 50-400/02-08.

Report Details

01 INSPECTION SCOPE

The U. S. Nuclear Regulatory Commission (NRC) performed this supplemental inspection to assess the licensee's evaluation associated with two performance deficiencies in the mitigating systems cornerstone of the reactor safety strategic performance area. The first finding involved a Thermo-lag fire barrier of indeterminate fire resistance rating which separated train A and train B safety related cables in the auxiliary control panel area of the B train switchgear room. This performance issue was previously characterized as having low to moderate risk significance ("White") in NRC Inspection Report (IR) 50-400/00-09 and in NRC letter dated April 16, 2002. The second finding involved foreign material which was discovered in the containment sump suction piping to the A residual heat removal/low head safety injection (RHR/LHSI) pump. This performance issue was characterized as having low to moderate risk significance ("White") in NRC inspection report 50-400/02-07 and NRC letter dated June 13, 2002.

02 EVALUATION OF INSPECTION REQUIREMENTS

02.01 Problem Identification

- a. Determination of who (i.e., licensee, self revealing, or NRC), identified the issue and under what conditions.

The inadequate fire barrier issue was identified by the NRC during the triennial fire protection inspection documented in NRC inspection report (IR) 50-400/99-13. In 1995, when fire test results were less than 3 hours, and when it was determined that Thermo-lag would not meet 3-hour rating, no corrective action document was initiated to identify deficient plant equipment. An engineering change was performed to modify equipment and modify descriptions in the FSAR and fire protection program. The corrective action program was not used in the resolution of the Thermo-lag issue. The failure to use the corrective action program was not identified in the licensee's evaluation. The licensee subsequently initiated AR65683 to document this issue. However, the failure to use qualified fire tests was identified as the root cause.

The foreign material exclusion (FME) issue was identified by the licensee during a maintenance activity to repair a body-to-bonnet leak on the A train inboard residual heat removal suction valve (1SI-310). A large piece of rubber material was identified which would have affected the A RHR/LHSI pump in the containment recirculation mode. The licensee's activities to find the foreign material were identified in NRC IR 50-400/01-05 section 1R13.2. These efforts were described in section 4OA2 of that report as reflecting an improved knowledge base (culture) in relation to FME.

- b. Determination of how long the issue existed, and prior opportunities for identification.

The potential problem with Thermo-lag fire barrier material was identified to industry by the NRC in 1992. Licensee actions to address Generic Letter (GL) 92-08 resulted in the acceptance of an inadequate Thermo-lag fire barrier in 1997 (ESR 95-00620, Thermo-lag Fire Protection Issues Resolution, Revision 1). There were several opportunities to find this problem. The final response to the GL provided the Harris final plan and included the safety evaluation for the modification. The GL response was routed through licensee management and was signed out by the site vice president. The 1998 triennial fire protection Nuclear Assessment Section (NAS) audit inspected a sample of Thermo-lag and included the required independent evaluation performed by a contractor. Self-assessments of the fire protection program after 1997 also had the opportunity to find the problem. However, they were dominated by the individuals responsible for the Thermo-lag evaluation.

The FME issue could have existed from initial plant licensing. However, it most likely was introduced when the A RHR/LHSI pump was replaced on April 14, 1991. Subsequently on April 15, 1991, a work order was issued to retrieve foreign material from the 1SI-310 valve which was an opportunity to inspect the pipe and find any additional foreign material. The root cause investigation (RCI) team could not determine why this work order was written and the survey records for this job indicated that only minor foreign material was identified and removed. There was no mention of any large pieces of rubber material. There were no other opportunities when the piping was open. However, industry guidance in Institute for Nuclear Power Operations (INPO) Significant Operating Experience Report (SOER 95-01) and licensee NAS audits, self-assessments, and corrective action trending provided information which alerted the licensee to the problems associated with FME and caused the licensee to upgrade their program. As the program was improved, there was always the opportunity to evaluate past vulnerabilities.

- c. Determination of the plant-specific risk consequences (as applicable) and compliance concerns associated with the issue(s) both individually and collectively.

Risk for both of the issues was evaluated as part of the preparation for the regulatory conferences. The licensee considered the two issues independent and the risk thus additive. The risk for the issues was described in NRC IR 50-400/00-09 for the Thermo-lag fire barrier issue and in NRC IR 50-400/02-07 for the FME issue.

The fire barrier issue was evaluated for a fire in the B switchgear room that would engulf the room and cause the Thermo-lag fire barrier in the auxiliary control panel area of the B switchgear room fire area to fail affecting the A train cables on the other side. The A train cables behind the Thermo-lag wall affected the A train auxiliary feedwater (AFW) function and A steam generator pilot

operated relief valve (PORV) functions. The foreign material would affect performance of the A train RHR/LHI pump in the containment sump recirculation mode. The A RHR/LHSI pump was credited in the fire barrier analysis to perform feed and bleed since secondary heat removal would be unavailable. The inspectors considered that because feed and bleed flow rates are relatively low, the need for going into high pressure recirculation with the RHR/LHSI pump may be mitigated by the licensee's ability to refill the refueling water storage tank (RWST). Refill of the RWST was credited in the FME risk evaluation performed by the NRC.

02.02 Root Cause and Extent of Condition Evaluation

- a. Evaluation of method(s) used to identify root cause(s) and contributing cause(s).

For the fire barrier issue, a barrier analysis was used to identify the root and contributing causes. This analysis was appropriate because the barriers that failed resided in the regulations/regulatory process, the approved fire protection program, and the design control process. Had those barriers not failed, the Thermo-lag evaluation would have produced different results.

The licensee used four methods to identify root and contributing causes for the FME adverse condition; Interviews, Barrier Analysis, Event and Causal Factor Charting, and Fault Tree Analysis. This analysis combination was appropriate for such an issue which involved human performance, procedures and such a long time period of possible exposure.

- b. Level of detail of the root cause evaluation.

For the fire barrier issue, the root cause evaluation was sufficiently detailed to support the identified root and contributing causes. The root cause analysis did not identify why the inadequate fire testing of installed fire barrier occurred (root cause), or why there was too much reliance on GL 86-10 engineering evaluations (contributing cause), or why there was a failure to adequately address design requirements (contributing cause). However, licensee personnel pointed out that the most important factor was that fire ratings must be tied to acceptable fire qualification tests.

For the FME issue, the root cause evaluation was sufficiently detailed to support the root and contributing causes, however the RCI team could not determine conclusively when the foreign material was introduced into the piping or why the work order written to remove foreign material in valve 1SI-310 following the A RHR/LHSI pump replacement (most likely evolution for entry of the foreign material) did not identify the foreign material. The age of the problem (most likely occurred in 1991) complicated the investigation. The investigation was detailed and thorough and looked at all possible entry points and times. An independent AR search of the corrective action program databases did not find any other potential entry points or times. The root cause was determined to be poor historical work practices.

- c. Consideration of prior occurrences of the problem and knowledge of prior operating experience.

For the fire barrier issue, the investigation identified 218 matches from the INPO database including Generic Letters, NRC Bulletins and Information Notices, and LERs related to similar Thermo-lag issues at various nuclear power plants. The root cause evaluation found that the method of resolution at Harris Nuclear Plant (HNP) was unique to the others identified.

For the FME issue, the investigation identified external industry operating experience in INPO SOER 95-01. Internally, the investigation identified 8 site specific FME events including a sitewide programmatic deficiency in FME controls identified by NAS in 2000 following refueling outage 9 (RFO-9). The inspectors identified trend ARs and self-assessments which had documented previous FME problems. The licensee was already aware of sitewide problems in FME program implementation and had taken steps to improve the FME program which contributed to finding the foreign material in the RHR/LHSI suction line and in inspecting and verifying the emergency core cooling system (ECCS) stagnant piping sections were free of foreign material.

- d. Consideration of potential common cause(s) and extent of condition of the problem.

For the fire barrier issue, the investigation found that the problems in the B switchgear room auxiliary control panel area were generic to the other places in the plant that Thermo-lag was issued, including the cable spreading rooms. In addition, it found that inadequate fire testing could be generic to the fire wrap which was the subject of URI 50-400/99-13-03.

For the FME issue, the investigation determined that foreign material was discovered in a segment of containment sump suction piping which would not be utilized until containment sump recirculation was initiated following an accident. The piping was stagnant and normal RHR, low pressure injection (LPI), or normal RHR surveillance flowpaths would never have affected the foreign material or moved it to a location where it might have been discovered. Only the valve maintenance evolutions had the potential to discover the foreign material. The evaluation looked at similar stagnant piping sections in other safety-related piping systems as described in NRC IR 50-400/01-05.

02.03 Corrective Actions

- a. Appropriateness of corrective action(s)

For the fire barrier issue, corrective actions to revise the fire area to eliminate the need for the barrier and to ensure procedures require starting from an adequate qualification test appear to be appropriate. The inspectors noted that by providing a three hour fire rated wall at the B switchgear room and auxiliary control panel room boundary, the majority of the ignition sources were separated

from the cables in the Thermo-lag enclosure. This would reduce the plant risk for a fire in the auxiliary control panel room. This modification was not complete at the time of this inspection and the adequacy of the implementation of this modification as corrective action for the Thermo-lag fire barrier White finding will be addressed in the 95001 inspection documented in NRC IR 50-400/02-08. The Thermo-lag fire barrier White finding will be dispositioned in NRC IR 50-400/02-08.

For the FME issue, corrective actions included inspection of all ECCS stagnant piping sections and the A RHR/LHSI pump via videocamera, and a visual examination of the RWST through the manway. All foreign material which was found was removed and the piping was cleaned. Corrective actions were appropriate and further discussion is included in NRC IR 50-400/01-05.

b. Prioritization of corrective actions

Corrective actions were being properly prioritized. The changes to the ACP area were being worked concurrent with completion of the engineering change.

Corrective actions for the FME issue were properly prioritized and were complete. The licensee had already undertaken a comprehensive FME program upgrade prior to the identification of the foreign material in the A RHR/LHSI containment sump suction line, and this program upgrade may have contributed to the FME program culture change which led to the discovery of this foreign material. All ECCS stagnant piping sections were verified to be free of foreign material prior to the startup following refueling outage 10 in the fall of 2001.

c. Establishment of schedule for implementing and completing the corrective actions

For the fire barrier issue, procedure changes to ensure that review criteria exist to ensure that fire barrier modifications do not invalidate test results in the future was complete. The engineering change for the ACP room was not issued at the time of inspection completion. However, the field work had been performed at risk and was essentially complete. Reviews of other fire barriers was in progress, and initial walkdowns were complete. Resolution of issues was in progress and were being prioritized based on risk.

For the FME issue the immediate corrective actions to ensure the piping was free of foreign material were completed prior to the startup following RFO-10. Additional long term corrective actions consisted of designating an FME coordinator responsible for FME training, planning, and enforcement; routine supervisory FME inspections; FME procedure improvements; additional FME training; and use of new FME covers.

d. Establishment of quantitative or qualitative measures of success for determining the effectiveness of the corrective actions to prevent recurrence

For the fire barrier issue, an effectiveness review was scheduled for July 2003.

For the FME issue the effectiveness review of the corrective actions in response to the sitewide programmatic deficiency had been completed and concluded the FME program was improving.

02.04 Independent Assessment of Extent of Condition and Generic Implications.

The inspectors performed plant walkdowns and document reviews in determining that the extent of condition for the Thermo-lag wall issue included all Thermo-lag usage in the plant. The Thermo-lag usage included various transoms and mullions on the 216', 236', 261', and 305' elevations of the reactor auxiliary building and control building; and Thermo-lag wall and tunnel assemblies in the A and B cable spreading rooms and the B switchgear room auxiliary control panel area. The problem with the Thermo-lag issue was related to the use of engineering evaluations for determining the applicability of fire test results to qualify plant features as rated fire barriers. In the case of the Thermo-lag, a failed 3 hour qualification fire test was used to accept Thermo-lag features by engineering evaluation as adequate for the hazard. The use of failed tests for fire rating determination appears specific to the resolution of the Thermo-lag issue. In other cases, hardware modifications were made to reconcile the configurations to the test configurations that passed rating tests.

The resident inspectors reviewed the scope of the licensee's extent of condition for the FME problem prior to the restart of Harris plant following RFO-10. This evaluation independently reviewed the safety related piping systems for any areas where foreign material might exist which would not be identified by normal system operation or surveillance activities. This was documented in NRC IR 50-400/01-05 sections 1R13.2 and 4OA2.

The problem with the FME issue was related to foreign material being discovered in safety related piping systems in a location where it would not have been discovered by normal system operation or surveillance. During this supplemental inspection the inspectors reviewed the above NRC IR sections and the licensee documents which provided the bases for the scope of the ECCS piping inspections via video camera. The inspectors reviewed the videotapes of the piping inspections and verified that the tapes showed the ECCS piping was free of foreign material. The inspectors considered that relief valves and instrumentation might represent other system components where foreign material could affect the system but not be detected by normal system operation or surveillance. The corrective action program database was searched for relief valves and instrumentation problems associated with debris or trash and no examples of FME related problems were noted. The inspectors determined that the licensee's extent of condition evaluation was comprehensive.

The inspectors found that the licensee's collective evaluation of the two issues was accurate. Although there were some common aspects such as not effectively using operating experience information, historical weak procedural guidance and inadequate human performance, the inspectors found no common cause aspects linking the two performance deficiencies from a risk perspective.

03 OTHER ACTIVITIES

03.01 Event Followup

(Closed) Licensee Event Report (LER) 50-400/2001-003-00 , "1A-SA Residual Heat Removal Suction Line Debris - Nonconforming Condition." The LER has been dispositioned as a White finding identified as violation 50-400/02-07-01 (EA 02-067). This finding is described in section 2.0 of this report. The corrective actions for this LER as described in section 02.03 of this report were adequate and this LER is closed.

04 MANAGEMENT MEETINGS

Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Scarola, Vice President - Harris Plant, and other members of licensee management at the conclusion of the inspection on July 12. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. None of the material provided to or reviewed by the inspectors was considered proprietary.

Supplementary Information

Key Points Of Contact

Licensee Personnel

D. Alexander, Nuclear Assessment Manager
J. Caves, Licensing Supervisor
R. Duncan, Director Site Operations
J. Holt, Site Support Services Manager
J. Laque, Maintenance Manager
E. McCartney, Engineering Technical Services Superintendent
J. Scarola, Harris Plant Vice President

NRC Personnel

Brian Bonser, Branch Chief, Division of Reactor Projects, Region II

List of Items Opened, Closed, and Discussed

Opened

None

Opened and Closed

None

Closed

50-400/2002-007-01(EA 02-067)	VIO	Foreign Material in A RHR Containment Sump Suction Piping (Section 02).
50-400/2001-003-00	LER	1A-SA Residual Heat Removal Suction Line Debris-Nonconforming Condition (Section 03.01).

Discussed

50-400/2000-009-01 (EA 00-022)	VIO	Failure to Maintain the Fire Area Separation Barrier Between the B Train Switchgear Room/Auxiliary Control Panel Room and the A Train Cable Spreading Room (Section 02) .
50-400/2000-009-02 (EA 01-310)	VIO	Failure To Obtain NRC Approval Prior To Implementing A Change To The Approved Fire Protection Program (Section 02).

List of Documents Reviewed

Thermo-lag Fire Barrier White Finding

NAS Audit H-FP-92-01 HNP Triennial Fire Protection
NAS Audit H-FP-95-01 HNP Triennial Fire Protection
NAS Audit H-FP-98-01 HNP Triennial Fire Protection
HNP NEI Fire Protection Self Assessment dated 9/26/00
HNP Fire Protection Self Assessment 00023155
HNP Fire Protection Self Assessment ENG 99-022 Rev 1
Self Assessment Report of the Safe Shutdown Analysis in Case of Fire at HNP dated August 25, 1997

NRC Inspection Report 50-400/99-13
NRC Inspection Report 50-400/00-09
NRC Inspection Report 50-400/01-05 section 1R05
NRC Inspection Report 50-400/00-04, section 1R15 and 4OA2
NRC Inspection Report 50-400/00-06, section 1R15 and 4OA2

Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 2/14/94
Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 12/19/94
Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 3/23/95
Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 8/31/95
Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 9/13/95
Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 12/27/95
Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 5/16/97
Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers" Response dated 8/29/97

LER 50-400/97-006, Breach in Reactor Auxiliary Building 3-hour rated fire barrier Thermo-lag wall in Cable Spread room

NGGM-PM-0007, Quality Assurance Program Manual, Section 15, Quality Assurance for Fire Protection Systems

Engineering Service Request 95-00620, Thermo-lag Fire Protection Issues Resolution, Revision1

AR 53063, Thermo-lag ACP violation
AR 64077, Degraded cornerstone commonalities
AR 45756, Fire protection FSAR discrepancies

Foreign Material White Finding

NAS Audit H-OUT-94-01, Refueling Outage No.5
NAS Audit H-NF-95-01, HNP Corporate Nuclear Fuels Program

NAS Audit H-OUT-95-01, Refueling Outage No. 6
NAS Audit H-OUT-00-01, Refueling Outage No. 9
NAS Audit H-OUT-01-01, Refueling Outage No. 10

Self Assessment Report on FME during RFO-7 dated May 30, 1997
Self Assessment Report on FME Program dated March 30, 2000
Self Assessment Report on FME Program dated March 1, 2002

Procedure AP-619, Foreign Material Exclusion and Loose Article Control in Fuel Handling Areas (Fuel Handling Building and Containment), Revision 3

Procedure MMM-011, Cleanliness, Housekeeping, and Foreign Material Exclusion (FME) Classification and Work Practices, Revision 6

Procedure MNT-NGGC-007, Foreign Material Exclusion Program, Revision 1
INPO Significant Operating Experience Report (SOER) 95-01, Reducing Events Resulting From Foreign Material Intrusion

Licensee Event Report (LER) 50-400/2001-003-00, 1A-SA Residual Heat Removal Suction Line Debris Nonconforming Condition

15 videotapes depicting internal examination of ECCS piping during RFO-10

AR 00049404, Foreign Material Found in Line Downstream of Valve 1ASI-310
AR 00019814, Adverse Trend in FME Controls During RFO9
AR 00020874, Sitewide FME Deficiencies
AR 00049778, Potential Emerging Trend in FME Practices
AR 00064077, Collective Impact of White Findings