

July 6, 2001

Mr. Charles H. Cruse  
Vice President - Calvert Cliffs Nuclear Power Plant, Inc.  
Calvert Cliffs Nuclear Power Plant  
1650 Calvert Cliffs Parkway  
Lusby, MD 20657-4702

SUBJECT: CALVERT CLIFFS UNITS 1 & 2  
NRC INSPECTION REPORTS 50-317/2001-003, 50-318/2001-003

Dear Mr. Cruse:

On May 25, 2001, the NRC completed a team inspection at the Calvert Cliffs Nuclear Power Plant. The enclosed report presents the results of the inspection. The results were discussed with Mr. Kevin Neitman, Manager, Nuclear Performance Assessment Department, and other members of your staff, at the exit meeting on May 25, 2001. In addition, we discussed the findings with Mr. Peter Katz, Plant General Manager, on June 5, 2001, via a telephone conference.

The inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection consisted of examinations of selected procedures and records, observations of activities, and interviews with personnel.

On the basis of the sample selected for review, the team concluded that in general, problems were properly identified, evaluated, and corrected. Notwithstanding, two Green findings were identified during this inspection. The first finding involved a failure to identify and correct problems associated with emergency core cooling recirculation pipe venting and pipe freeze protection. The second finding involved a failure to assess and document the basis for continued operability in accordance with plant procedures in regard to degraded switchgear ventilation dampers and increased reactor cavity annulus temperatures.

These findings were determined to be violations of NRC requirements. However, based on their very low safety significance, and because they were entered into your corrective action program, the NRC is treating these findings as Non-Cited Violations, in accordance with Section VI.A of the NRC's Enforcement Policy. If you deny these Non-cited violations, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Calvert Cliffs facility.

R. G. Lizotte

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Sincerely,

**/RA/**

Wayne D. Lanning, Director  
Division of Reactor Safety

Docket Nos. 50-317, 50-318  
License Nos. DPR-53, DPR-69

Enclosure: NRC Inspection Report 50-317/2001-003, 50-318/2001-003

cc w/encl:

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R. McLean, Administrator, Nuclear Evaluations  
J. Walter, Engineering Division, Public Service Commission of Maryland  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 05000317,05000318

License No: DPR-53, DPR-69

Report No: 05000317/2001-003, 05000318/2001-003

Licensee: Calvert Cliffs Nuclear Power Plant, Inc.

Facility: Calvert Cliffs Nuclear Power Plant

Dates: May 7 - 25, 2001

Inspectors: Barry S. Norris, Senior Reactor Inspector  
David P. Beaulieu, Senior Resident Inspector  
Mel Gray, Reactor Inspector

Approved By: David C. Lew, Chief  
Performance Evaluation Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

IR 05000317-01-03, 05000318-01-03; on 05/07-25/01; Calvert Cliffs Nuclear Power Plant, Inc., Calvert Cliffs Nuclear Power Plant, Units 1 and 2; annual baseline inspection of the identification and resolution of problems; findings identified in corrective action and procedure adherence.

The inspection was conducted by two regional inspectors and one resident inspector. The inspection team identified two Green findings (very low safety significance), resulting in two Non-Cited Violations. The significance of the issues is indicated by their color (Green, White, Yellow, Red) using NRC Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). 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/index.html>.

### Identification and Resolution of Problems

The inspectors determined that the licensee's performance in the area of problem identification and resolution at the Calvert Cliffs site was generally adequate. The Calvert Cliff's staff identified risk significant problems at an appropriate threshold, and the problems were classified at the appropriate significance level. Root cause evaluations were consistent with the significance of the problem, and corrective actions were associated with the cause of the problem. The engineering and maintenance backlogs, as well as the corrective action backlog, appeared to be adequately managed. The results of the licensee's audits and self-assessments were appropriately considered for entry into the corrective action program. Notwithstanding, the inspectors identified examples of a failure to identify and correct problems associated with emergency core cooling piping. Additionally, the inspectors identified examples of a failure to assess and document the basis for continued operability in accordance with plant procedures; these were associated with degraded switchgear ventilation dampers and increased temperatures in the reactor cavity annulus.

### Cornerstone: Mitigating Systems

- Green. A Non-Cited Violation of 10CFR50, Appendix B, Criterion XVI, was identified due to (1) a failure to identify as a condition adverse to quality that the potential for air remaining after venting containment sump piping could result in degraded emergency core cooling system (ECCS) pump operation, and (2) a failure to correct in a timely manner a condition adverse to quality, identified via industry operating experience, regarding the potential for freezing in ECCS minimum recirculation flow piping. The risk associated with the potential for air remaining in the containment sump piping was determined to be of very low safety significance because an evaluation performed by the licensee during the inspection showed that ECCS pump operation would not be degraded. The risk associated with the potential for freezing in ECCS minimum recirculation flow piping line was determined to be of very low safety significance since there is no indication freezing has occurred in the recirculation line. **(NCV 50-317,318/2001-03-01)**

## Cornerstone: Mitigating Systems & Barrier Integrity

- Green. A Non-Cited Violation of 10CFR50, Appendix B, Criterion V, was identified due to a failure to assess and document the basis for continued system operability in accordance with plant procedures associated with (1) degraded safety related dampers in the Unit 2 switchgear ventilation system that did not function as designed, and (2) indicated temperatures greater than the design limit in the Unit 2 reactor cavity annulus since 1995. The risk associated with failing to assess and document the basis for continued operation with this degraded equipment was determined to be of very low safety significance since, the switchgear ventilation system continued to perform its function to cool the vital switchgear rooms and the dampers were subsequently repaired, and a subsequent operability evaluation completed by the licensee during the inspection determined that the concrete could withstand increased localized temperatures. **(NCV 50-318/2001-03-02)**

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution (71152)

##### a. Effectiveness of Problem Identification

##### (1) Inspection Scope

The team evaluated the documents listed in Attachment 2. The review included issue reports (IRs), maintenance orders, operator workarounds and control room deficiencies, temporary modifications, maintenance and engineering backlogs, and the disposition of selected operating experience notifications. The team observed meetings associated with the corrective action process and interviewed selected plant staff and management.

The team reviewed Nuclear Program Assessment Department audit and surveillance reports, departmental self-assessments, and third-party evaluations. This review was to determine whether the results were consistent with NRC findings, if negative assessment results were entered into the licensee's corrective action program, and if corrective actions were completed to resolve identified program deficiencies.

##### (2) Issues and Findings

The team determined that the Calvert Cliffs staff generally identified problems and appropriately entered them into the IR system. However, the inspectors noted an instance where the licensee failed to promptly identify a condition adverse to quality regarding containment sump piping.

While conducting a Unit 1 surveillance test in April 2000, the licensee identified an unventable air pocket in the containment sump suction piping to the emergency core cooling system (ECCS) pumps. The surveillance test performed a partial stroke of a check valve by running a containment spray pump and noting that the level decreased in the containment sump. The surveillance test failed initially due to air in the piping after maintenance. The licensee ran the pump several times to remove the air from the system, and subsequently completed the surveillance test satisfactorily.

The licensee initiated IR3-028-136 to document the initial test failure and indicated the air had been vented from the piping. Subsequently, the licensee developed a modification package to install additional vents on the piping at both units to facilitate future testing. The engineering analysis to support the modification indicated that some air may have remained in the piping after the surveillance tests was satisfactorily completed. The inspectors concluded that air remaining in the piping could affect the ability of the Unit 1 ECCS pumps from taking suction from the sump. The team determined that, in 1997, an IR was written to document a similar condition regarding the Unit 2 containment sump piping. During the inspection, the licensee performed a bounding calculation of the volume of air that could be entrapped in the containment sump piping, and concluded that the Unit 1 and 2 ECCS pumps remained capable of performing their safety function.

This failure to identify this potential condition adverse to quality is more than minor, since air entrapped in unventable suction piping could degrade ECCS pump operation due to air binding. This issue affects the mitigating systems cornerstone, since the reliability of the ECCS pumps may be affected. Using the NRC Significance Determination Process (SDP) for At-Power Situations, this issue was determined to be of very low safety significance (GREEN) because a licensee evaluation completed during the inspection indicated the potential remaining air in the piping would not affect the ability of the ECCS pumps to perform their intended safety function. The licensee's failure to promptly identify a condition adverse to quality is a violation of the requirements of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." The issue was entered into the Calvert Cliff corrective action program as IR3-041-440. This violation of Criterion XVI is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65FR25368). This is the first of two examples. **(NCV 50-317,318/2001-03-01)**

The inspectors concluded that the results of the licensee's Nuclear Performance Assessment Department (i.e., quality assurance) assessments and periodic self-assessments reviewed during the inspection were appropriately considered by the licensee for entry into the corrective action program.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors reviewed the IRs listed in Attachment 2 to assess the appropriateness of the licensee's classification of the significance level, cause determination, and the extent of condition review. The inspectors assessed CCNPPI's review of the IRs for operability, reportability, and Maintenance Rule reliability and unavailability. The review also included an assessment of the backlog of corrective actions, and the maintenance and engineering backlogs, to determine if any actions, individually or collectively, represented an increased risk due to the delay of implementation. The team also observed the onsite and offsite review committees to evaluate the adequacy of their reviews with respect to the root cause evaluation and the proposed corrective actions.

(2) Issues and Findings

The corrective action program at Calvert Cliffs provided for three significance categories, the category usually corresponded to a combination of the risk associated with the issue and the probability of recurrence. Category 1 (Cat-1) IRs were considered a significant condition adverse to quality and were expected to receive a formal in-depth root cause analysis; Cat-2 IRs were a condition adverse to quality and received a causal analysis; and Cat-3 IRs were minor conditions adverse to quality not requiring a formal cause determination, or other problems associated with the site. The category was assigned by the IR Review Group (IRRG), which met daily to assign the significance category and the sponsor responsible for the investigation and corrective actions.



The inspectors determined that IRs were generally categorized at the correct significance level and the root cause evaluations reviewed were acceptable. The inspectors noted that the level of documentation for closed IRs was generally compatible with the assigned significance category. Cat-I IRs and most Cat-II IRs included documented evaluations of appropriate detail commensurate with the problem. While Cat-III IRs reviewed by the inspectors generally contained minimal documentation, the inspectors were able to ascertain, through interviews and other documents, that an appropriate evaluation was conducted.

The team reviewed the backlog of maintenance and engineering issues, and determined that the backlogs were properly prioritized and appeared to be declining with respect to total numbers. The team observed portions of the onsite review committee and verified that the committee had a questioning attitude with respect to risk and safety relative to root cause analysis and corrective actions.

#### Failure to Perform Operability Determinations

The Calvert Cliff staff generally considered operability and reportability during the review of the IRs; however, the inspectors identified instances where the licensee did not recognize that degraded safety-related systems/structures/components in Unit 2 represented an operability concern:

- First, there were several instances where the licensee did not assess the impact of degraded safety-related dampers in the #21 switchgear ventilation system as to the ability to perform its safety function to cool the Unit 2 vital switchgear rooms. Specifically, from July to November 1998, the licensee identified four instances where the gravity discharge damper for the #21 fan failed to close when the #22 fan was placed in-service, resulting in some cooling being bypassed from the switchgear room. In June 2000, the licensee identified that the modulating recirculation damper for the #21 fan was failed in a throttled position, resulting in restricted flow through the ventilation train and increased temperatures in the switchgear rooms. And, in September 2000, the licensee identified that the modulating outside air damper for the #21 fan was failed in the closed position, resulting in increased temperatures in the switchgear room and frost buildup on the cooling coils. These dampers are described in the Updated Final Safety Analysis Report (UFSAR), Section 9.8.2.3, and are classified as safety related.

In each case, the licensee issued an IR to initiate corrective actions, as required by Procedure QL-2-100, "Issue Reporting and Assessment." QL-2-100 directs the IR initiator and the reviewing supervisor to identify if an operability concern exists when a safety related system/component is not capable of performing its intended function or does not meet design requirements, the IR is then forwarded to the operations shift supervisor. Procedure NO-1-106, "Functional Evaluation/Operability Determination," Section 5.1.A, requires the shift supervisor to document on the IR the basis for operability of a degraded system/component. This expectation is consistent with the guidance provided in NRC Generic Letter 91-18, "Resolution of Degraded and Non-Conforming Conditions." Contrary to the procedural requirements, in each case, the licensee did not identify that the safety-related dampers were degraded and a potential operability concern. Consequently, the IR

was not formally reviewed by the shift supervisor, and the justification for concluding that the switchgear ventilating system remained operable was not documented in the IR.

The issue is more than minor because continued operation with degraded dampers, without determining the affect on the operability of the switchgear system, could reasonably be viewed as a precursor to a more significant event. This issue affects the mitigating systems cornerstone, since the switchgear ventilation system is a safety-related support system to the 4160 volt system which supplies power to mitigating equipment. Using the NRC's SDP for At-Power Situations, this issue is of very low safety significance (GREEN) since, notwithstanding increased room temperatures, the #21 switchgear train continued to perform its function to cool the vital switchgear rooms and the dampers were subsequently repaired.

- Secondly, since 1995, one of the temperature indications of the Unit 2 reactor cavity annulus has indicated greater than the UFSAR design limit of 150°F. Specifically, in April 2001, an IR was initiated to document and correct the problem; the IR noted that this was an operability concern and that it must be resolved prior to startup from the current refueling outage. After plant startup, the inspectors noted that the deficient condition still existed and that justification had not been documented for continued operability with a degraded condition. During the inspection, the licensee performed an operability evaluation and determined that the condition was acceptable for isolated local areas of concrete. The inspectors reviewed the Operability Determination and the supporting Engineering Service Package and considered them to be acceptable. Prior to this inspection, the licensee had not considered the condition to be an operability concern and had not performed an operability determination for the condition outside of the design basis of the plant, as described in the UFSAR, Section 5.1.5.1.

This issue is more than minor because elevated temperatures have the potential to cause degradation of the concrete for the reactor cavity annulus. The issue affects the barrier integrity cornerstone, since concrete degradation could affect the integrity of the reactor coolant system. Using the SDP for At-Power Situations, this issue is of very low safety significance (GREEN), since the operability evaluation determined that the concrete could withstand localized temperatures to 200°F.

The failure to assess and document, in accordance with plant procedures, the basis for continued system operability associated with (1) degraded safety related dampers in the Unit 2 switchgear ventilation system, and (2) indicated temperatures greater than the design limit in the Unit 2 reactor cavity annulus is a violation of 10CFR50, Appendix B, Criterion V, "Instruction, Procedures, and Drawings," which requires that activities affecting quality be prescribed by documented procedures and be accomplished in accordance with those procedures. The finding was entered into the Calvert Cliff corrective action program as IR3-041-438. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65FR25368). **(NCV 50-318/2001-03-02)**

### Failure to Take Timely Corrective Action

The inspectors determined that most deficiencies were corrected in a timely manner, commensurate with the safety significance of the issue; however, the inspectors identified an instance related to a failure to take prompt corrective actions to address an industry operating experience issue. Specifically, in January 1999, a nuclear facility reported an event in which the high pressure safety injection (HPSI) pumps were rendered inoperable when the common minimum flow recirculation line froze during cold weather conditions. On June 18, 1999, the licensee wrote IR3-008-282, to determine if the same condition potentially existed at the Calvert Cliffs. The IR was classified as Category II, based on the a high safety significance; the freezing of the common minimum flow recirculation line would render all emergency core cooling system (ECCS) pumps inoperable. On January 19, 2000, Calvert Cliffs design engineering completed a preliminary analysis determining that the issue was applicable; however, no interim compensatory measures were implemented to assure the line would not freeze while a more detailed analysis was performed. As of the inspection, the detailed analysis had not been completed, and IR3-008-282 remained open.

This issue is more than minor because cold weather conditions and the failure of a non-safety related local room heater could result in the line freezing and the loss of the common minimum pump recirculation flow. This issue affects the mitigating systems cornerstone. Using the At-Power SDP, this issue is of very low safety significance (GREEN), since the recirculation line has not frozen at Calvert Cliffs. The failure to take prompt corrective action for a significant condition adverse to quality is a violation of 10CFR50, Appendix B, Criterion XVI. The issue was entered into the Calvert Cliffs corrective action program as IR3-041-439. This is a violation of Criterion XVI, and is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65FR25368). This is the second of two examples. **(NCV 50-317,318/2001-03-01)**

### Follow-Up of a Previous Supplemental Inspection

In October 2000, the NRC conducted a supplemental inspection (Inspection Report 50-317/2000-10) associated with a white performance indicator for Unit 1 scrams with a loss of normal heat removal (LONHR). Based on that inspection, the NRC concluded that the evaluation performed by Calvert Cliffs was insufficient to determine the root causes and, therefore, to establish adequate corrective actions to prevent recurrence.

During this inspection, the inspectors reviewed a subsequent Priority 2 Causal Analysis (PD20000003) and determined that the results were extensive and encompassing. In addition, the numerous corrective actions are closely connected to each cause identified in the analysis. This item is closed.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed the corrective actions associated with the CCNPPI cause evaluations to determine whether the corrective actions addressed the identified causes, were scheduled or completed in a timely fashion, and were effective to preclude recurrence.

(2) Issues and Findings

The inspectors determined that the actions identified in IRs were generally adequate to correct the identified problem and prevent recurrence. In reviewing IRs for similar problems, the inspectors concluded corrective actions were generally effective. The inspectors also observed that the licensee corrective action program requires reviews of the effectiveness of completed corrective actions for significant problems. No issues or findings were identified.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

The inspectors interviewed plant personnel to determine if people were hesitant to use the IR system to identify safety problems.

(2) Issues and Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Kevin Neitman, and other members of licensee management, at the conclusion of the inspection on May 25, 2001. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

Attachment 1: Partial List of Personnel Contacted  
 Items Opened, Closed, and Discussed  
 List of Acronyms  
 List of Documents Reviewed

**PARTIAL LIST OF PERSONNEL CONTACTED**

**Calvert Cliffs**

P. Furio	Manager, Nuclear Regulatory Matters
M. Gahan	Manager, Corrective Action Program
D. Holm	Superintendent, Nuclear Operations
W. Holston	General Supervisor, Design Engineering
P. Katz	Plant General Manager
B. Montgomery	General Supervisor, Plant Engineering
M. Navin	Superintendent, Technical Support
K. Neitman	Manager, Nuclear Plant Assurance Program

**NRC**

D. Lew	Branch Chief, DRS
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**ITEMS OPENED, CLOSED, AND DISCUSSED**

**Opened & Closed**

50-317,318/2001-003-01	NCV	Failure to identify an issue adverse to quality, and failure to take prompt corrective action for a significant condition adverse to quality.
50-318/2001-003-02	NCV	Failure to properly implement procedures related to recognizing that degraded components presented an operability concern, and to document the basis for continued operability.

**LIST OF ACRONYMS**

Cat	Category (i.e., level of significance for IRs)
CCNPPI	Calvert Cliffs Nuclear Power Plant, Inc.
CFR	Code of Federal Regulations
EDG	Emergency Diesel Generator
HPSI	High Pressure Safety Injection
IAU	Issue Assessment Unit (i.e., corrective action department)
IR	Issue Report (i.e., deficiency document)
NCV	Non-Cited Violation
NPAD	Nuclear Performance Assessment Department (i.e., quality assurance)
NRC	Nuclear Regulatory Commission

**LIST OF DOCUMENTS REVIEWED**

**PROCEDURES:**

1-C09-ALM	ESFAS 12 Alarm Manual, Rev 34
EOP-3	Loss of all Feedwater, Rev 13
EOP-4	Excess Steam Demand Event, Rev 12
MN-1	Maintenance Program, Rev 4
MN-1-100	Conduct of Maintenance, Rev 19
MN-1-205	Maintenance Order Processing, Rev 10
NO-1-100	Conduct of Operations, Rev 18
NO-1-106	Functional Evaluation / Reportability Determination, Rev 7
NO-1-204	Plant Logs, Rev 10
NS-1-101	Nuclear Safety Concerns Program, Rev 1
NS-1-300	Industry Operating Experience Information Processing, Rev 4
OAP 92-9	Cold Weather Operations, Change 4
OI-22H	Switchgear Ventilation and Air Conditioning, Rev 15
OI-3A	Safety Injection & Containment Spray, Rev 13
QL-2	Self-Assessment / Corrective Action Program, Rev 5
QL-2-100	Issue Reporting & Assessment, Rev 13
QL-2-101	Causal Analysis, Rev 3
QL-2-102	Action Item Subsystem, Rev 3
QL-2-104	Self-Assessment, Rev 1
QL-3	Performance Assessment Program, Rev 3
QL-3-101	Continuous Assessment, Rev 10
RM-1-101	Regulatory Reporting, Rev 2
STP-0-4B-1	"B" Train Integrated Engineered Safety Features Test, Rev 20

**ISSUE REPORTS:**

IR0-000-029	IR3-016-892	IR3-026-033	IR3-030-564	IR3-037-548	IR3-041-427
IR0-013-984	IR3-016-898	IR3-026-515	IR3-030-840	IR3-037-634	IR3-041-456
IR0-055-429	IR3-017-717	IR3-026-798	IR3-030-889	IR3-037-763	IR3-041-470
IR3-002-626	IR3-018-929	IR3-027-463	IR3-030-978	IR3-037-822	IR3-041-485
IR3-003-973	IR3-019-277	IR3-027-840	IR3-030-979	IR3-038-473	IR3-041-491
IR3-003-975	IR3-019-466	IR3-027-849	IR3-030-980	IR3-039-009	IR3-041-492
IR3-005-176	IR3-020-203	IR3-028-136	IR3-032-708	IR3-039-527	IR3-041-502
IR3-005-177	IR3-021-419	IR3-028-446	IR3-033-630	IR3-040-102	IR3-041-702
IR3-005-474	IR3-021-498	IR3-028-870	IR3-033-851	IR3-040-109	IR3-041-809
IR3-006-285	IR3-021-853	IR3-029-012	IR3-033-951	IR3-040-148	IR3-041-828
IR3-006-293	IR3-022-681	IR3-029-627	IR3-034-459	IR3-040-158	IR3-041-832
IR3-007-429	IR3-023-262	IR3-029-798	IR3-035-036	IR3-040-205	IR3-041-852
IR3-007-497	IR3-023-765	IR3-029-799	IR3-036-091	IR3-040-212	IR3-041-878
IR3-007-883	IR3-023-766	IR3-029-858	IR3-036-197	IR3-040-220	IR3-041-882
IR3-008-282	IR3-024-944	IR3-029-959	IR3-036-291	IR3-040-323	IR3-041-887
IR3-008-986	IR3-024-948	IR3-030-009	IR3-036-310	IR3-041-005	IR3-042-129
IR3-012-212	IR3-025-368	IR3-030-207	IR3-036-562	IR3-041-213	IR3-042-170
IR3-012-452	IR3-025-432	IR3-030-417	IR3-036-924	IR3-041-419	IR3-042-199

Attachment 1 - (cont.)

IR3-042-200	IR3-044-715	IR3-047-782	IR3-052-259	IR3-055-456	IR3-059-351
IR3-042-242	IR3-044-924	IR3-048-075	IR3-052-260	IR3-055-613	IR3-071-465
IR3-042-299	IR3-044-929	IR3-048-237	IR3-052-609	IR3-055-902	IR3-071-542
IR3-042-310	IR3-044-934	IR3-048-524	IR3-052-863	IR3-055-986	IR3-071-956
IR3-042-567	IR3-044-943	IR3-048-589	IR3-052-904	IR3-056-132	IR3-072-501
IR3-042-714	IR3-045-002	IR3-048-710	IR3-053-126	IR3-056-387	IR3-072-612
IR3-043-387	IR3-045-682	IR3-049-086	IR3-053-353	IR3-056-895	IR3-073-222
IR3-043-437	IR3-046-161	IR3-049-103	IR3-053-359	IR3-057-589	IR3-073-726
IR3-043-444	IR3-046-490	IR3-049-985	IR3-053-360	IR3-057-647	IR3-075-358
IR3-043-480	IR3-046-923	IR3-050-204	IR3-053-668	IR3-057-731	IR3-075-359
IR3-043-657	IR3-046-924	IR3-050-304	IR3-053-689	IR3-057-768	IR3-075-442
IR3-043-965	IR3-046-926	IR3-050-432	IR3-054-493	IR3-057-783	IR3-075-481
IR3-044-033	IR3-046-946	IR3-050-837	IR3-054-739	IR3-057-875	IR3-076-930
IR3-044-153	IR3-047-053	IR3-050-838	IR3-054-986	IR3-057-944	IR3-076-976
IR3-044-167	IR3-047-267	IR3-051-126	IR3-055-134	IR3-058-088	IR3-084-375
IR3-044-244	IR3-047-270	IR3-051-447	IR3-055-241	IR3-058-216	IR3-084-748
IR3-044-248	IR3-047-543	IR3-051-859	IR3-055-410	IR3-058-711	IR3-084-775
IR3-044-562	IR3-047-763	IR3-052-056	IR3-055-416		

**OPERATING EXPERIENCE RELATED ACTION ITEMS:**

- AIT4B199500053 Non-Category 1 Pressure Switches Found as Inputs into the Reactor
- AIT4B199500088 Power Operated Relief Valves Potentially Susceptible to Thermal Locking
- AIT4B199900004 Omission of Refrigerant Analysis for Control Room Habitability Concerns
- AIT4B199900011 High Pressure Safety Injection Line Freezes During Cold Weather
- AIT4B199900014 Unplanned Entry into Reduced Inventory Conditions During Refueling Cavity Draindown
- AIT4B199900017 Recurring Event Involving Inadvertent Reactor Vessel Level Decrease During Shutdown Cooling Operations
- AIT4B199900039 Flooding of Main Steam Lines due to Bypassing Reactor Feed Pump
- AIT4B199900043 Safety Injection Check Valve Degradation High Level Trip
- AIT4B199900049 Feedwater Heater Shell Rupture
- AIT4B199900050 Fire Barrier Foam Cure Time
- AIT4B199900072 Water Chemistry Induced Fuel Leaks
- AIT4B199900073 Rupture of Drain Line from Moisture Separator Reheater Drain Tank
- AIT4B199900074 Main Steam and Relief Valves Unavailable During a Plant Transient
- AIT4B199900086 Reactor Power Ascension with an Unrecognized Loss of Feedwater Heating
- AIT4B199900096 Eaton Cutler Hammer Potential Safety Concern Involving DS and DSL Class 1E Circuit Breakers due to the application of incorrect Torque Values During Breaker Reconditioning
- AIT4B199900097 Recurring Event Regarding Unexpected Criticality
- AIT4B200000019 Cracked Roll Pins Found on Spring Discharge Lever of Several GE Magna-Blast Circuit Breakers
- AIT4B200000070 Continued Operation when Condition Called for Scramming the Unit
- AIT4B200000071 Loss of Reactor Coolant Inventory and Potential Loss of Emergency Mitigation Functions while in a Shutdown Condition
- AIT4B200000076 Isolation of All Low Pressure Feedwater Heaters Results in Complicated Plant Transient

Attachment 1 - (cont.)

AIT4B200000088 Potential Degradation of Firefighter Primary Protective Garments  
AIT4B200000090 Non-Vital Bus Fault Leads to Fire and Loss of Offsite Power  
AIT4B200000093 Cultural Contributors to a Premature Criticality  
AIT4B200000094 Leakage from Reactor Vessel Nozzle-to-Hot Leg Weld  
AIT4B200000095 Crack in Weld Area of Reactor Coolant System Hot Leg Piping  
AIT4B200100002 Inadequate Auxiliary Feedwater Pump Bearing Failures due to Inadequate Lubrication  
AIT4B200100017 Severe Storm Results in Scram and Loss of Safety System Functions due to Flooding

**NON-CITED VIOLATIONS:**

2000-03-01 Failure to properly implement a valve line-up for the CCW system  
2000-03-02 Failure to properly evaluate procedure changes per 10CFR50.59  
2000-06-01 Violation of TS 3.3.7 for containment radiation sensor bypassed for more than four hours during core alterations  
2000-06-02 Violation of TS 3.7.12 for failure to maintain a fire watch for an inoperable TS fire barrier penetration  
2000-07-01 Non-cited violation of offsite siren notification system surveillance testing requirements  
2000-09-01 Failure to implement procedural requirements for transfer of contaminated waste bags  
2000-11-01 Failure to perform a complete channel calibration of the PORV actuation circuitry per TSSR 3.4.12.6  
2000-12-01 Number 12 containment spray pump circuit breaker failed to close  
2000-12-02 Failure to verify safety injection tank boron concentration

**AUDITS, SELF-ASSESSMENTS & THIRD PARTY EVALUATIONS:**

Access Authorization/Fitness for Duty Program, Audit # 2000-02  
Alert Notification & Growl Testing, SA # 2001-00008  
Biannual Deficiency Tag Audit, MAINSA-00-050  
Continuous Assessment from 9/1/00-3/1/01, Audit # 2000-99  
Corrective Action Oversight, Assessment Report # 00-AR-01-OAU  
Fire Protection Program, Self Assessment # SA 200000109  
INPO Evaluation Interim Report (conducted December 2000)  
IRRG Effectiveness Review 2000  
Joint Self-Assessment (Procedure Adherence, Surveillance Testing, & Leadership)  
Non-Facility Staff Training, Audit # 2000-01  
Off-Site Safety Review Committee Minutes, Meetings 00-07, 01-01, 01-02  
Pressure Boundary Codes & Special Processes, Audit # 2000-03  
Preventability Assessment Externally Identified NPAD Weaknesses, # 2000-NPA-112  
Quest Diagnostics, Audit # QAO-00-28  
Radiation Safety Instrumentation Management Plan, Self Assessment # SA2000000150a  
Review of all NPAD Audits, # 2000-NPA-110  
Self Assessment of Unit 1 Refueling Outage Issue Reports, MAINSA-09-009  
Self-Assessment of Operations Self-Assessment Program, # SA2000-00178  
Self-Assessment Program, Assessment Report # 00-AR-02-OAU



Attachment 1 - (cont.)

Siren Activation, # 2000-EPU-001

Survey Mapping Action Plan, Self Assessment # RS200006

**OTHER DOCUMENTS:**

Engineering Evaluation ESP # ES200100398, Rev 0, April 27, 2001

Engineering Evaluation ESP # ES200100459, Rev 0, May 13, 2001

Engineering Modification ESP # ES200100390, Rev 1, May 2, 2001

Site Indicators Report for March 2001