April 21, 2003

Mr. D. Wilson
Site Vice-President
Monticello Nuclear Generating Plant
Nuclear Management Company, LLC
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT
NRC INTEGRATED INSPECTION REPORT 50-263/03-03

Dear Mr. Wilson:

On March 31, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Monticello Nuclear Generating Plant. The enclosed report documents the inspection findings which were discussed on April 7, 2003 with Mr. Wilson and other members of your staff.

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.

Based on the results of this inspection, the NRC identified four findings of very low safety significance (Green) and four associated Non-Cited Violations. Additionally, one licensee identified violation is listed in Section 4OA7 of this report. If you contest the subject or severity of these Non-Cited Violations, you should provide a response within 30 days of the date of this inspection report, with a basis for your denial, to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region III, 801 Warrenville Road, Lisle, IL 60532-4351; the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspectors' Office at the Monticello Nuclear Generating Station.

Since the terrorist attacks on September 11, 2001, the NRC has issued two Orders (dated February 25, 2002, and January 7, 2003) and several threat advisories to licensees of commercial power reactors to strengthen licensee capabilities, improve security force readiness, and enhance access authorization. The NRC also issued Temporary Instruction 2515/148 on August 28, 2002, that provided guidance to inspectors to audit and inspect licensee implementation of the interim compensatory measures (ICMs) required by the February 25th Order. Phase 1 of TI 2515/148 was completed at all commercial nuclear power plants during calendar year (CY) '02, and the remaining inspections are scheduled for completion in CY '03. Additionally, table-top security drills were conducted at several licensees to evaluate the impact of expanded adversary characteristics and the ICMs on licensee

protection and mitigative strategies. Information gained and discrepancies identified during the audits and drills were reviewed and dispositioned by the Office of Nuclear Security and Incident Response. For CY '03, the NRC will continue to monitor overall safeguards and security controls, conduct inspections, and resume force-on-force exercises at selected power plants.

Should threat conditions change, the NRC may issue additional Orders, advisories, and temporary instructions to ensure adequate safety is being maintained at all commercial power reactors.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures 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.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Bruce L. Burgess, Chief
Branch 2
Division of Reactor Projects

Docket No. 50-263
License No. DPR22

Enclosure: Inspection Report 50-263/03-03
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-263
License No:	DPR-22
Report No:	50-263/03-03
Licensee:	Nuclear Management Company, LLC
Facility:	Monticello Nuclear Generating Plant
Location:	2807 West Highway 75 Monticello, MN 55362
Dates:	December 29, 2002, through March 31, 2003
Inspectors:	S. Burton, Senior Resident Inspector D. Kimble, Resident Inspector C. Phillips, Senior Operations Engineer P. Young, Operator Licensing Examiner
Approved by:	Bruce L. Burgess, Chief Branch 2 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000263/2003-003; Nuclear Management Company, LLC; on 12/29/2002-3/31/2003, Monticello Nuclear Generating Plant. Maintenance Effectiveness, Maintenance Risk Assessments and Emergent Work Control, Personnel Performance During Non-Routine Plant Evolutions and Events, and Surveillance Testing.

This report covers a 3-month period of baseline resident inspection and an announced baseline inspection for the licensed operator requalification program. The inspections were conducted by Region III and resident inspectors. Four Green findings were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 “Significance Determination Process” (SDP). Findings for which the SDP does not apply may be "Green," or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

Green. A finding of very low safety significance was identified by the NRC inspectors. The finding was associated with a reactor power transient to less than 65 percent reactor power that was caused by a steam jet air ejector (SJAE) pressure controller failure, subsequent isolation of the SJAE, and the associated impact on the availability of the condensate and feed system. The finding was associated with a failure to incorporate industry operating experience into preventative maintenance activities that would have prevented a maintenance rule functional failure (MRFF) of the main condenser system.

The inspectors determined the finding to be more than minor because the event caused an actual upset in plant stability and operation and resulted in a plant transient, thus directly affecting the objective for the initiating events cornerstone. The results of a Phase 1 and a Phase 2 SDP indicated that the issue was of very low safety significance and within the licensee response band. A Non-Cited Violation (NCV) of 10 CFR 50.65(a)(3) was issued for failure to incorporate industry operating experience into preventative maintenance activities that would have prevented a maintenance rule functional failure of the main condenser system. (Section 1R14)

Cornerstone: Mitigating Systems

Green. A finding of very low safety significance was identified by the NRC inspectors associated with inadequate procedural controls and a failure to follow written work instructions for a maintenance activity performed on No. 11 traveling screen. This maintenance activity allowed a large quantity of cinders to be swept into the intake of an operating pump (Train A) of the residual heat removal service water (RHRSW) system.

The inspectors determined the finding to be more than minor because it had a direct impact on the mitigating systems objective of the reactor safety cornerstone. Specifically, the cinders were swept into the intake of safety-related pumps, which had the potential to adversely effect the reliability of Train 'A' of the RHRSW system. Because the presence of the cinders did not result in the actual loss of a safety function for any system, the finding was determined through a Phase 1 SDP to be of very low safety significance and within the licensee response band. A Non-Cited Violation (NCV) of Technical Specification 6.5.A.1 was issued. Technical Specification 6.5.A.1 stated that maintenance that can affect the performance of safety-related equipment be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. (Section 1R13)

Cornerstone: Barrier Integrity

Green. A finding of very low safety significance was identified by the NRC inspectors. The finding was associated with repeated repair activities associated with low oil pressure trips of a control room air conditioning compressor. A third occurrence of a trip on low oil pressure resulted in the licensee identifying and correcting a problem with the physical configuration between the compressor's oil separator and crankcase, which was discussed in a vendor's technical bulletin.

The inspectors determined the finding to be more than minor because if left uncorrected it would become a more significant safety concern. Specifically, if left uncorrected the alignment problem between the oil separator and the crankcase would have had an adverse effect on the reliability of the control room ventilation (CRV) compressors and, therefore, the CRV systems' long-term performance. Because the problem with the compressor was related only to first attempt starts following periods of being in standby, and because no barrier functions were ever lost, the finding was determined through a Phase 1 SDP to be of very low safety significance and within the licensee response band. A Non-Cited Violation (NCV) of Criterion XVI of 10 CFR 50, Appendix B, was issued for failure to promptly identify and correct the problem with a control room air conditioning compressor following compressor low oil pressure trips on January 30 and February 11, 2003. (Section 1R12)

Green. A finding of very low safety significance was identified by the NRC inspectors associated with a breech of primary containment while performing a calibration of torus level instrumentation. Due to a procedural inadequacy associated with the on-line calibration of the torus level switch, technicians aligned the torus air space to the secondary containment through the calibration instrument water column.

The inspectors determined the finding to be more than minor because an objective for the barrier integrity cornerstone was adversely impacted. Specifically, the physical configuration control attribute of containment was adversely impacted when the containment boundary was opened to secondary containment during the calibration. The finding was determined through a Phase 1 SDP to be of very low safety significance and within the licensee response band. A Non-Cited Violation (NCV) of Criterion V of 10 CFR 50, Appendix B, was issued for inadequate procedures. (Section 1R22)

B. Licensee-Identified Violations

One violation of very low significance identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The inspection period began with the plant operating at full power. Over the weekend of January 25-26, 2003, reactor power was reduced to approximately 75 percent for several hours to facilitate routine main steam valve testing and control rod pattern adjustments. On January 27, 2003, operators reduced power to approximately 65 percent in response to the failure of No. 11 steam jet air ejector (SJAE) steam supply controller (Section 1R14). Full power operation was restored later that same day. On February 2, 2003, operators were again forced to reduce power in response to problems with No. 11 SJAE controller (Section 1R14). In this case, power was reduced to approximately 58 percent, and operators were again able to restore the plant to full power operation later that same day. With the exception of very minor routine planned power reductions for rod pattern adjustments, the plant operated at or near full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System/Train Alignment Verifications

a. Inspection Scope

Throughout the inspection period, inspectors performed partial walkdowns of several systems or system trains. To the extent allowed by plant conditions, these inspections checked key components for proper system/train line-up and operability issues. The following systems/trains were selected based upon risk significance, plant configuration, system work or testing, or inoperable or degraded conditions.

- High pressure coolant injection (HPCI), No. 11 emergency diesel generator (EDG), and No. 12 EDG with reactor core isolation cooling (RCIC) out-of-service for routine maintenance during the week ending 1/18
- RCIC with HPCI out-of-service due to a controller failure during the week ending 2/15
- Train ‘A’ residual heat removal (RHR)/residual heat removal service water (RHRSW) with various Train ‘B’ components out-of-service for scheduled maintenance during the week ending 3/15
- Train ‘B’ core spray with Train ‘A’ out-of-service for scheduled maintenance during the week ending 3/29

The inspectors reviewed the position of critical redundant equipment and looked for any discrepancies between the existing equipment line-up and the required line-up.

b. Findings

No findings of significance were identified.

.2 Semiannual Full System Alignment Verification

a. Inspection Scope

Due to the system's risk significance, the inspectors selected the main feedwater system for an extensive walkdown during the weeks ending 1/18 and 2/15. To the extent practicable with the plant operating at power, inspectors reviewed mechanical and electrical equipment line-ups, component labeling, component lubrication, component and equipment cooling, hangers and supports, and the operability of support systems by walking down the accessible portions of the system within the turbine building. In addition, the inspectors checked for ancillary equipment or debris that could possibly interfere with equipment operation.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors walked down the following risk significant areas looking for fire protection issues. The inspectors selected areas containing systems, structures, or components identified as important to reactor safety.

Fire Zones:

- 1A - No. 12 RHR and core spray pump room
- 1B - No. 11 RHR and core spray pump room
- 1F - Torus area
- 6 - Refuel floor
- 8 - Cable spreading room
- 31B - 1st Floor emergency filtration train (EFT) building (Division II)
- 32A - 2nd Floor EFT building (Division I)
- 32B - 2nd Floor EFT building (Division II)
- 33 - 3rd Floor EFT building

The inspectors reviewed the control of transient combustibles and ignition sources, fire detection equipment, manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, and barriers to fire propagation.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

During the week ending on March 1, 2003, inspectors performed a semiannual internal flooding inspection of the Division I and Division II safety-related 4160 V switchgear rooms. Recently, the licensee had identified an internal flooding scenario from service water system lines just outside the Division II 4160 V switchgear room that could potentially impact both divisions of safety-related 4160 V switchgear. This scenario, although evaluated in the licensee's station flooding analyses, had not been modeled in the licensee's Probabilistic Risk Assessment (PRA). The overall significance of the scenario resulted in the licensee increasing their PRA baseline core damage frequency (CDF) by approximately 319 percent. Given the safety significance of this issue, the inspectors chose the safety-related 4160 V switchgear rooms for this semiannual inspection. The inspectors conducted reviews of design measures, seals, and drain systems, contingency equipment condition and availability, flood barriers, and compensatory measures. Additionally, the inspectors performed walkdowns of the applicable plant areas to identify any new or previously unidentified internal flooding sources.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Facility Operating History

a. Inspection Scope

The inspectors reviewed the plant's operating history from March 2001 through February 2003, to assess whether the Licensed Operator Requalification Training (LORT) program had addressed operator performance deficiencies noted at the plant.

b. Findings

No findings of significance were identified.

.2 Licensee Requalification Examinations

a. Inspection Scope

The inspectors performed a biennial inspection of the licensee's LORT program. The inspectors reviewed the annual requalification operating and biennial written examination material to evaluate general quality, construction, and difficulty level. The

operating examination material consisted of two dynamic simulator scenarios and thirteen job performance measures (JPMs). The biennial written examinations consisted of between 30 and 35 open reference multiple choice questions. The biennial written examination was conducted in early 2002. The inspectors reviewed the methodology for developing the examinations, including the LORT program 2 year sample plan, probabilistic risk assessment insights, previously identified operator performance deficiencies, and plant modifications. The inspectors also reviewed the licensee's program and assessed the level of examination material duplication during the current year annual examinations as compared to the previous year's annual examinations. Additionally, the inspectors interviewed members of the licensee's management, operations, and training staff and discussed various aspects of the examination development.

b. Findings

No findings of significance were identified.

.3 Licensee Administration of Requalification Examinations

a. Inspection Scope

The inspectors observed the administration of the requalification operating test to assess the licensee's effectiveness in conducting the test and to assess the facility evaluators' ability to determine adequate performance using objective, measurable performance standards. The inspectors evaluated the performance of one shift crew in parallel with the facility evaluators during two dynamic simulator scenarios. In addition, the inspectors observed licensee evaluators administer eleven JPMs to four licensed operators. The inspectors monitored the training staff personnel administer the operating test, including pre-examination briefings, licensee assessments of operator performance, and individual and crew evaluations after dynamic scenarios. The inspectors evaluated the ability of the simulator to support the examinations. A specific evaluation of simulator performance was conducted and documented under Section 1R11.7, "Conformance With Simulator Requirements Specified in 10 CFR 55.46," of this report. The inspectors also reviewed the licensee's overall examination security program.

b. Findings

No findings of significance were identified.

.4 Licensee Training Feedback System

a. Inspection Scope

The inspectors assessed the methods and effectiveness of the licensee's processes for revising and maintaining its LORT program up to date, including the use of feedback from plant events and industry experience information. The inspectors interviewed licensee personnel (operators, instructors, training management, and operations management) and reviewed the applicable licensee's procedures. In addition, the

inspectors reviewed the licensee's quality assurance oversight activities, including licensee's training department self-assessment reports, to evaluate the licensee's ability to assess the effectiveness of its LORT program and to implement appropriate corrective actions.

b. Findings

No findings of significance were identified.

.5 Licensee Remedial Training Program

a. Inspection Scope

The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the previous annual requalification examinations and the training planned for the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans, and interviewed licensee personnel (operators, instructors, and training management). In addition, the inspectors reviewed the licensee's previous NRC annual examination cycle remediation packages for unsatisfactory operator performance on the operating test to ensure that remediation and subsequent re-evaluations were completed prior to returning individuals to licensed duties.

b. Findings

No findings of significance were identified.

.6 Conformance With Operator License Conditions

a. Inspection Scope

The inspectors reviewed the facility and individual operator licensees' conformance with the requirements of 10 CFR Part 55. The inspectors reviewed the facility licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53 (e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators and which control room positions were granted credit for maintaining active operator licenses. The inspectors also reviewed ten licensed operators' medical records maintained by the facility's nurse and assessed compliance with the medical standards delineated in ANSI/ANS-3.4, "American National Standard Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants," and with 10 CFR 55.21 and 10 CFR 55.25. In addition, the inspectors reviewed the facility licensee's LORT program to assess compliance with the requalification program requirements as described by 10 CFR 55.59 (c).

b. Findings

No findings of significance were identified.

.7 Conformance With Simulator Requirements Specified in 10 CFR 55.46

a. Inspection Scope

The inspectors assessed the adequacy of the licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements as prescribed in 10 CFR 55.46, "Simulation Facilities." The inspectors also reviewed a sample of simulator performance test records (i.e., transient tests, scenario test and discrepancy resolution validation test), simulator discrepancy and modification records, and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy process to ensure that simulator fidelity was maintained. This was accomplished by a review of discrepancies noted during the inspection to ensure that they were entered into the licensee's corrective action system and by an evaluation to verify that the licensee adequately captured simulator problems and that corrective actions were performed and completed in a timely fashion commensurate with the safety significance of the item (prioritization scheme). Open simulator discrepancies were reviewed for importance relative to the impact on 10 CFR 55.45 and 55.59 operator actions as well as on nuclear and thermal hydraulic operating characteristics. Furthermore, the inspectors conducted interviews with members of the licensee's simulator configuration control group and completed the IP 71111.11, Appendix C, checklist to evaluate whether or not the licensee's plant-referenced simulator was operating adequately as required by 10 CFR 55.46 (c) and (d).

b. Findings

No findings of significance were identified.

.8 Written Examination and Operating Test Results

a. Inspection Scope

The inspectors reviewed the pass/fail results of individual operating tests, and simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee during calendar year 2003.

b. Findings

No findings of significance were identified.

.9 Quarterly Resident Inspector Observation of Training

a. Inspection Scope

The inspectors observed a training crew during a simulator scenario and reviewed licensed operator performance in mitigating the consequences of events on March 26, 2003. The scenario was in preparation for shutdown conditions during the planned April refueling outage, and included a loss of off-site power and a loss of shutdown cooling. The transient resulted in the operators responding to, and restoring from the abnormal

conditions. Areas observed by the inspectors included: clarity and formality of communications, timeliness of actions, prioritization of activities, procedural adequacy and implementation, control board manipulations, managerial oversight, emergency plan execution, and group dynamics.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the licensee's handling of performance issues and the associated implementation of the Maintenance Rule (10 CFR 50.65) to evaluate maintenance effectiveness for the selected systems. The following systems were selected because they were designated as risk significant under the Maintenance Rule, were placed in the increased monitoring (Maintenance Rule category a(1)) group, or were attributed to an inspector-identified issue or problem that potentially impacted system work practices, reliability, or common cause failures:

- Average power range monitors, due to a failure of a flow converter and unplanned Technical Specification entry, during the weeks ending 1/11, 1/18, and 2/8

- No. 13 RHR pump motor 4 KV breaker troubleshooting following failure to close on demand during the weeks ending 2/22, 3/1, and 3/22

- Troubleshooting and repair of a control room air conditioning compressor, V-EAC-14A, during the weeks ending 3/8 through 3/29

The inspectors reviewed the licensee's categorization of specific issues including evaluation of performance criteria, appropriate work practices, identification of common cause errors, extent of condition, and trending of key parameters. Additionally, the inspectors reviewed implementation of the maintenance rule requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations associated with reviewed condition reports (CRs), and current equipment performance status.

b. Findings

(1) Introduction

A finding of very low significance (Green) related to barrier integrity and a Non-Cited Violation (NCV) for inadequate corrective action as required by Criterion XVI of 10 CFR 50, Appendix B, were identified by the inspectors. This finding was associated with repeated trips of a control room air conditioning compressor, V-EAC-14A, on low oil pressure over the course of the inspection period, and the licensee's failure to correctly diagnose and repair the problem. The associated NCV was issued for the failure to

promptly identify and correct a condition adverse to quality involving the repetitive compressor low oil pressure trips of the control room air conditioning compressor, V-EAC-14A, on January 30, and February 11, 2003.

(2) Description

On January 30, 2003, the licensee performed a routine swap of running control room air conditioning equipment. While changing from the 'B' Train of control room ventilation (CRV) to the 'A' Train, the oncoming control room air conditioning compressor, V-EAC-14A, tripped on low oil pressure. The following day, the licensee determined that the compressor problem could be repaired with a simple mechanical adjustment to the compressor superheat. The requisite adjustments were performed and the licensee declared the 'A' Train of CRV operable.

On February 11, 2003, the licensee again attempted to place the 'A' Train of CRV into service. Shortly after starting V-EAC-14A, the compressor tripped on low oil pressure. After several days of troubleshooting and investigation, the licensee determined that this low oil pressure trip was due to a low oil level in the compressor crankcase which manifested itself during periods when the compressor was run in an unloaded condition. The licensee added oil to the unit and restored the 'A' Train of CRV to an operable status.

On March 6, 2003, the licensee experienced a third trip of V-EAC-14A on low oil pressure. Following this instance, the licensee discovered that the physical layout of air conditioning equipment piping on the compressor skid was allowing oil to drain from the crankcase to the oil separator while the unit was in standby. The lack of oil in the crankcase following periods in a standby status was the postulated cause for the low oil pressure trips that had been experienced. The licensee was able to confirm the existence of a physical configuration problem with the oil return line from the oil separator to the crankcase by checking a vendor installation and service booklet that had been supplied with replacement components. The licensee rerouted the oil return line from the separator to the crankcase per the vendor's instructions and restored the 'A' Train of CRV to an operable status.

(3) Analysis

The inspectors determined that the licensee's corrective maintenance efforts following the first two trips on low oil pressure failed to accurately diagnose and correct the equipment configuration problem with V-EAC-14A and that this issue was a performance deficiency. Additionally, the inspectors identified that the licensee had vendor information available on site that, had it been consulted following the first two low oil pressure trips, would have led the licensee's staff to the configuration problem. Further, the inspectors determined that this issue, now classified as a finding, was more than minor because if left uncorrected, it would become a more significant safety concern.

During the period prior to the licensee correctly diagnosing and repairing the equipment configuration problem with V-EAC-14A, the compressor was subjected to several starts with lower than appropriate oil pressure. While only three of these recent starts resulted

in compressor trips, the successful starts of the unit with less than adequate oil pressure, albeit above the trip setpoint, would have had some degree of adverse impact on the compressor. Additionally, although not manifesting the same symptoms, the 'B' Train compressor, V-EAC-14B, was similar in configuration and equipment layout as V-EAC-14A. As a result, the inspectors concluded that the finding was more than minor because if left uncorrected, the alignment problem between the oil separator and the crankcase would have had an adverse affect on the reliability of the CRV compressors' long-term performance. Reliability of the CRV compressors' long term performance is necessary to ensure that habitability of the control room and equipment qualification, specifically the continuous duty rating for control room equipment, is maintained. Consequently, the inspectors performed a significance determination for the finding in accordance with NRC IMC 0609.

During a Phase 1 SDP, the inspectors determined that the finding was of very low significance (Green) and within the licensee's response band. In reviewing the finding using the Phase 1 SDP criteria for barrier integrity, the inspectors found that no actual degradation of the barrier function provided by the CRV and EFT systems occurred. In their investigation, the licensee determined that the configuration problem on the compressor unit was present only during an initial start of the unit after sitting idle in a standby condition for some appreciable length of time. Second attempt starts, starts following having recently run the unit, and the unit in a running condition were not subject to the low oil pressure trip caused by the configuration problem. Additionally, the inspectors determined that the finding did not involve any direct breach of any barrier function or any open pathways. Thus, the inspectors found that a Phase 2 SDP was not required.

(4) Enforcement

The licensee's Updated Safety Analysis Report (USAR) denotes the control room ventilation and EFT system is subject to the requirements of 10 CFR 50, Appendix B. Criterion XVI of 10 CFR 50, Appendix B, states that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Contrary to this requirement, the licensee failed to promptly identify and correct the problem with V-EAC-14A following compressor low oil pressure trips on January 30, and February 11, 2003.

This violation is being treated as a NCV consistent with Section VI.A of the USNRC Enforcement Policy (NCV 50-263/03-03-01). The licensee has entered this issue into their corrective action program as CR 03001577. Corrective actions taken or planned by the licensee included potential replacement of V-EAC-14A and modifications to both V-EAC-14A and V-EAC-14B to correct the layout deficiency between the oil separator and the crankcase. The licensee has entered this issue into their corrective action program as CR 03001577.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed and observed emergent work, preventive maintenance, or planning for risk significant maintenance activities. The inspectors observed maintenance or planning for the following activities or risk significant systems undergoing scheduled or emergent work.

- No. 12 EDG fuel oil pump failure during the weeks ending 1/4, 1/11, 1/18, and 2/8
- Indications of unexpected small decrease in steam flow during the weeks ending 1/11 and 2/15
- Failure of the HPCI flow controller rendering HPCI inoperable during the week ending 2/15
- The change in baseline CDF due to the identification of an unmodeled internal flooding event in the plant's PRA during the week ending 3/1
- Addition of cinders into Train 'A' of the RHRSW system during work on No. 11 traveling screen during the week ending 3/15

The inspectors also reviewed the licensee's evaluation of plant risk, risk management, scheduling, and configuration control for these activities in coordination with other scheduled risk significant work. The inspectors reviewed the licensee's control of work activities and specifically assessed consideration of baseline and cumulative risk, management of plant configuration, control of maintenance, and external impacts on risk. In-plant activities were reviewed to ensure that the risk assessment of maintenance or emergent work was complete and adequate, and that the assessment included an evaluation of external factors. Additionally, the inspectors assessed the licensee's assigned risk category for the evolutions.

b. Findings

(1) Introduction

A finding of very low significance (Green) related to the mitigating systems cornerstone and a NCV for failure to follow written procedures and instructions as required by the licensee's Technical Specifications were identified by the inspectors. This finding was associated with a maintenance activity on the No. 11 traveling screen that involved the pouring of a sealing material (cinders) around stop logs used to isolate the traveling screen from the plant's river water intake. During this activity, a large quantity of cinders were swept into the suction of the Train 'A' RHRSW system pumps, both of which were in-service at the time. The associated NCV was issued for the failure to follow written instructions governing the addition of sealing material for the stop log. This maintenance work instruction did not permit the addition of cinders and specifically limited the quantity of material to be added to the stop logs for sealing purposes.

(2) Description

On March 11, 2003, the licensee was engaged in an ongoing maintenance activity with the No. 11 traveling screen. In order to facilitate the planned work, the licensee had isolated the traveling screen from both the river side and the plant side using stop logs, which are essentially wooden dams. However, the stop logs were not leak tight, and the licensee experienced difficulties maintaining the work area around No. 11 traveling screen dewatered.

At the same time, the licensee was also in the midst of a planned Train 'B' RHR and RHRSW work week. To facilitate some of the planned maintenance activities on Train 'B' of the RHRSW system, the licensee placed Train 'A' RHRSW pumps in-service. The Train 'A' pumps were used, via a small cross connection designed for the purpose, to maintain both trains of RHRSW pressurized in order to keep differential pressure across the RHR/RHRSW heat exchangers properly aligned.

Maintenance personnel involved with sealing leaks at the No. 11 traveling screen were unaware that Train 'A' RHRSW pumps were in-service, since the traveling screen house is separated from the pump intake by a concrete wall. However, only approximately 6 feet of horizontal distance separated the intake of the Train 'A' RHRSW pumps from the plant side stop log being used to isolate No. 11 traveling screen.

In an attempt to seal the leakage past the stop logs, maintenance personnel poured approximately 24 buckets, about 4 gallons each, of cinders on the plant side of the stop log. The licensee's belief was that the cinders would be drawn into the gaps with the water leaking past the stop log and essentially clog the leakage paths. A licensee periodic maintenance procedure for rebuilding traveling screens discussed the use of cinders to plug stop log leakage; however, this procedure was not being used for the work on the No. 11 traveling screen. Instead, the licensee was using a standard plant work order to accomplish maintenance on the No. 11 traveling screen. The instructions in this work order called for the use of approximately 4 buckets of shelled corn as a sealing media; no allowance for use of any quantity of cinders was specified. Additionally, the work order instructions did not specify that the duty operations crew be notified prior to the pouring of any sealing media in the vicinity of the stop logs, consequently, plant operators were completely unaware of the application of cinders to the area between the stop logs and the intake of the 'A' train RHRSW pumps.

Early in the morning on March 12, 2003, plant operators received a high differential pressure alarm for the RHRSW Train 'A' basket strainer. The licensee secured the operating Train 'A' RHRSW pumps and noted that the solenoid valves supplying motor cooling water for both Train 'A' RHRSW pumps would not go fully closed. The motor cooling water supply source for the RHRSW pumps comes from the pump's own discharge.

During evaluation of the high differential pressure alarm, operations personnel realized that the cinder pouring activity associated with No. 11 traveling screen and the running of the Train 'A' RHRSW pumps were concurrent activities. Based on this fact, the licensee postulated that the Train 'A' RHRSW pumps had entrained an unknown quantity of cinders in the service water system flow path from the service water forebay

into the pump intakes. Following discussions with the resident inspectors about potential operability questions associated with Train 'A' RHRSW, Train 'A' emergency service water (ESW), and the diesel fire pump, the licensee began actions to investigate the matter and to support their prompt operability conclusion that all of the pumps in question remained operable.

The licensee disassembled and inspected the Train 'A' RHRSW basket strainer and found cinders lodged in the downstream side of the basket and lying loose at the bottom of the basket. Approximately a quart of total material was recovered from the basket, and the licensee concluded that this was sufficient to have produced the differential pressure results observed. Upon restoration of the basket strainer, the licensee performed test runs on both Train 'A' RHRSW pumps. Motor cooling water flow was visually verified as normal. The licensee had previously disassembled and inspected both solenoid motor cooling water supply valves and removed a grit-like substance similar in nature to the cinders the licensee recovered from the basket strainer. Although the solenoid valves would now go fully closed, the licensee still continued to experience operational problems with the valves' stroke times. With all other pump test parameters normal, however, the licensee concluded that both Train 'A' RHRSW pumps were operable, and that their initial prompt operability determination had been appropriate. Shortly thereafter, the licensee conducted successful test runs of the diesel fire pump and both Train 'A' ESW pumps as well.

(3) Analysis

The inspectors determined that the issue included a performance deficiency on the part of the licensee in that the licensee's maintenance personnel failed to follow their established written instructions for the work on No. 11 traveling screen. Further, the inspectors determined that the issue, now classified as a finding, was more than minor.

The mitigating systems objective of the reactor safety cornerstone is to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was more than minor in that it had a direct impact on this objective; specifically, the licensee's actions, which allowed foreign material to be entrained into the intake flow of safety-related pumps, had an adverse affect on the reliability of Train 'A' of the RHRSW system. As a result, the inspectors performed a significance determination for the finding in accordance with NRC IMC 0609.

During a Phase 1 SDP, the inspectors determined that the finding was of very low significance (Green) and within the licensee's response band. In reviewing the finding using the Phase 1 SDP criteria for mitigating systems, the inspectors found that no actual loss of safety function for any mitigating system occurred. Additionally, the inspectors also determined that the finding was not complicated by any external events such as fire, seismic, flooding, or severe weather. Thus, the inspectors found that a Phase 2 SDP was not required.

(4) Enforcement

Technical Specification 6.5.A.1, via Regulatory Guide 1.33, Revision 2, Appendix A, requires that maintenance that can affect the performance of safety-related equipment be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Contrary to this requirement, the licensee failed to follow the documented work instructions related to the stop log sealing operations for No. 11 traveling screen on March 11, 2003. This violation is being treated as a NCV consistent with Section VI.A of the USNRC Enforcement Policy (NCV 50-263/03-03-02).

The licensee has entered this issue into their corrective action program as Level 1 CR 03002747. Corrective actions taken or planned by the licensee included stopping all work in the plant intake and correcting/upgrading the work control documents and instructions for the work on No. 11 traveling screen; instituting requirements to have maintenance supervisors brief the on-watch operations shift manager about work in the plant intake on a shift-by-shift basis; inspection of the plant side of the plant side stop logs for debris using a remote submersible camera; and vacuuming of the plant side of the stop logs prior to removal of any cinders or debris which may be present.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events (71111.14)

a. Inspection Scope

On January 27, 2003, and again on February 2, the licensee experienced a pressure perturbation in the No. 11 steam jet air ejector (SJAE) steam supply. The pressure transient resulted in a low pressure isolation of the SJAE outlet isolation valve. The isolation caused a combined reactor level and condenser vacuum transient. Operator response, in both cases, included a rapid power reduction from 100 percent to less than 65 percent power which terminated the transient and the SJAE steam being supplied via the manual bypass valve. In both cases reactor power was subsequently restored to 100 percent. The inspectors reviewed the operator response to the event, control room logs, instrumentation and recorder traces, plant computer data, analysis of operating in an off-normal configuration, and related procedures to assess operator performance during the transient. The inspectors reviewed the maintenance rule requirements, corrective actions, and the licensee performance relative to the associated programs because the second event occurred seven days later, only two days after repairs to first failed controller were completed.

b. Findings

(1) Introduction

A finding of very low significance (Green) related to the initiating events cornerstone and a NCV of 10 CFR 50.65(a)(3) were identified by the inspectors. The finding involved the transient initiated by the SJAE pressure controller failure, subsequent isolation of the SJAE, and the associated impact on the availability of the condensate and feed system. The NCV was associated with a failure to incorporate industry operating experience into

preventative maintenance activities that would have prevented a maintenance rule functional failure (MRFF) of the main condenser system.

(2) Description

On January 27, 2003, an inadvertent isolation of the No. 11 SJAE occurred due to a failure of the pressure controller. A second isolation occurred on February 2, 2003, when the replaced controller failed two days after it had been placed in-service. The cause of the January 27 event was attributed to a potentiometer failure due to aging. This failure was considered random and attributed to normal aging of the potentiometer. The cause of the February 2 event was age-related degradation of electrolytic capacitors in the spare controller that was obtained from the licensee's warehouse. The licensee determined that the second failure occurred because their staff did not recognize that the component could fail due to age-related degradation of the capacitors.

The transient and operator response to both events were nearly identical, and consistent with approved procedures. Upon automatic isolation of the SJAE, condenser vacuum decreased and local manual control of the SJAE steam supply bypass valve was established to restore SJAE steam pressure and condenser vacuum. Both hotwell level and saturation conditions in the condenser changed during the time it took operators to respond to the isolation and restore condenser vacuum. As a result, when condenser vacuum was restored, cavitation of the condensate pumps occurred due to the decrease in available net positive suction head. This caused a decrease in feedwater flow and a subsequent reduction in reactor water level. As reactor water level decreased, operators initiated a rapid power reduction to match steam demand to the reduced feedwater flow. This action stabilized reactor water level. Once in a stable plant condition, operators restored reactor water level and power to their original values and continued with operation of the SJAE pressure controller in manual at the local bypass station.

(3) Analysis

The licensee's root cause evaluation indicated that a performance deficiency existed because the second transient was determined to be preventable, since sufficient information related to aging of electrical components/sub-components had been available but was not incorporated into the maintenance and replacement process. This information included industry events, General Electric (GE) service information letters (SILs), and operating experience notices dating back over a 10-year period. Although most of the information demonstrated that age-related failure of capacitors was common knowledge, and the information indicated that corrective actions at many plants was specific enough to address this type of aging, the licensee did not incorporate these recommendations into their program. Additionally, GE SIL No. 290 specifically recommended that "spot checks be made on the aluminum electrolytic capacitors in instrumentation components taken out of service for maintenance and on spare instrumentation taken out of storage to be put in service. Also spare aluminum electrolytic capacitors that have been stored for more than five years should be tested before they are installed in instrumentation components." Had this information been

properly assessed and incorporated into plant processes, the failure of the capacitor in the spare controller, which had a 1968 date code, would have been prevented.

The objective of the initiating events cornerstone is to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. The inspectors determined the finding to be more than minor in that the event caused an actual upset in plant stability and operation resulting in a plant transient, thus directly affecting the objective for the initiating events cornerstone. As a result of reviewing the licensees risk assessment, the inspectors also determined that the issue affected the initiating events cornerstone in that it had an actual, albeit small, risk impact on the licensee's transient event initiating frequency. The licensee indicated that the additional risk primarily resulted from instabilities in steam flow to the SJAEs and the associated challenges to both condenser vacuum and reactor water level while operating with the SJAE steam supply in manual.

In order to determine the risk/safety significance of the event, the inspectors performed a Phase 1 SDP in accordance with IMC 0609. The inspectors concluded that the event increased the likelihood of a reactor trip and also affected mitigation equipment due to the impact on reactor water level and the availability of the feed and condensate system. As a result, the inspectors continued in the SDP to Phase 2. The results of the Phase 2 SDP indicated that the issue was of very low safety significance (Green) and within the licensee response band.

The licensee's engineering work instruction EWI-05.02.01, "Maintenance Rule Program," Step 8.3, indicates that insights into establishing goals commensurate with safety are obtained from inputs from PRA, system engineering, the maintenance rule coordinator, expert panel, condition reports, and industry-wide operating experience. Further, it specifies that industry wide operating experience is obtained from numerous sources including, but not limited to, the licensee's operating experience database, utility peers, owners groups, industry groups, manufactures, INPO, and EPRI. The licensee conducted a search of several of these databases during their root cause evaluation of the event and concluded that failures of electrolytic capacitors is generally considered common knowledge within the nuclear industry. Further, the evaluation concluded that the licensee's staff was also aware of these electrolytic capacitor issues, and that available operating experience was not appropriately assessed or acted upon.

The licensee's root cause evaluation documented 15 applicable reported operating experience issues, of which nine were evaluated by Monticello staff between 1999 and 2002. Operating experience reports included GE controller failures and related issues, electrolytic capacitor failures, GE SILs, licensee event reports (LERs), and licensee commitments. The licensee summarized their evaluation results stating that there was a lack of comprehensive work guidance and a lack of a comprehensive aging electronic component management process for maintenance and refurbishment processes, and that the plant staff had not been pro-active in taking action to address component replacement aging/degradation issues.

Although the main condenser is not a safety-related component, it plays a vital and important role in removing stored energy from the reactor. Additionally, the main condenser and SJAEs support multiple operations in the emergency operating

procedures. For these reasons the main condenser was considered within the scope of the maintenance rule. Because the SJAEs are normally operating, maintenance rule performance is monitored through plant level criteria including unplanned capability loss factor. Due to the unplanned power reduction associated with responding to the SJAE controller failure, the licensee determined that the failure of the SJAE pressure controller was a MRFF because it negatively impacted the unplanned capability loss factor.

(4) Enforcement

Title 10 CFR 50.65(a)(3) states, in part, that preventative maintenance activities shall be evaluated to take into account, where practical, industry-wide operating experience. Contrary to this requirement, industry operating experience pertaining to the monitoring and replacement of electrolytic capacitors installed in electrical components was not incorporated into preventative maintenance activities for the replacement of the SJAE pressure controller completed on January 31, 2003, and it was practical to do so. This violation is being treated as a NCV consistent with Section VI.A of the USNRC Enforcement Policy (NCV 50-263/03-03-03). The licensee has entered this into their corrective action program as CR 03001187. Completed corrective actions include a formal root cause and evaluation of the conditions contributing to the SJAE controller failure. Additional actions had been created to address root and contributing causes identified as a result of the formal evaluation.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following operability evaluations to determine the impact on Technical Specifications, the significance of the evaluations, and to ensure that adequate justifications were documented. In some cases, the inspectors challenged the thoroughness of the licensee's evaluation, which resulted in the licensee upgrading the original evaluation or performing additional supporting evaluations in response to the inspectors' questions.

- High efficiency particulate air (HEPA) filter orientation issues during the weeks ending 1/11 and 2/1
- Lack of full engagement on No. 11 EDG electric fuel oil pump coupling during the weeks ending 1/4 and 2/15
- Operability of HPCI with both HPCI room air handling units out-of-service during the week ending 2/15
- Operability of No. 13 RHR pump following replacement of a failed 4 kV pump/motor supply breaker during the week ending 2/15
- Operability of various base-plates and supports identified as not having full contact with the supporting structure during the weeks ending 3/1 and 3/29.

Operability evaluations were selected based upon the relationship of the safety-related system, structure, or component to risk.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors reviewed Operator Workaround (OWA) 03-009, "11 SJAE Pressure Controller CV-1242 Is Isolated Due to a Steam Leak," and OWA 02-062, "12 SJAE Pressure Controller CV-1243 Is Isolated Due to a Steam Leak." Reactor scrams are typically accompanied by a short-lived pressure transient less than the isolation set-point at which both of the SJAEs would isolate without prior operator intervention. Therefore, a typical scram could be encumbered by a loss of both SJAE's, and without prompt intervention, a loss of the condenser. Because both SJAE were in manual bypass, the inspectors reviewed the potential to impact the operators' ability to respond to a scram.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the following post-maintenance activities for review. Activities were selected based upon the structure, system, or component's ability to impact risk.

- Post-maintenance testing of 11 EDG electric fuel oil coupling alignment during the weeks ending 1/4, 1/11, and 1/18
- Post-maintenance testing of the RCIC system following a routine maintenance work window during the week ending 1/18
- Post-maintenance testing of the HPCI system following a routine maintenance work window during the week ending 2/15

The inspectors reviewed the test data to ensure that post-maintenance testing activities were adequate for the above maintenance activities. The inspectors reviews included, but were not limited to, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use and compliance, control of temporary modifications or jumpers required for test performance, documentation of test data, Technical Specification applicability, system restoration, and evaluation of test data. Also, the inspectors sampled documentation for maintenance and post-maintenance testing activities and ensured that the equipment met the licensing basis, Technical Specifications, and USAR design requirements.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors selected the following surveillance test activities for review. Activities were selected based upon risk significance and the potential risk impact from an unidentified deficiency or performance degradation that a system, structure, or component could impose on the unit if the condition were left unresolved.

- Turbine control valve fast closure scram test and calibration during the week ending 1/11
- Core spray header differential pressure instrument test and calibration during the weeks ending 2/8 and 2/15
- Reactor low-low level emergency core cooling system (ECCS) initiation transmitter calibration during the week ending 3/8
- HPCI quarterly surveillance during the week ending 2/15
- Torus level switch calibration during the week ending 2/15

The inspectors observed the performance of surveillance testing activities, including reviews for preconditioning, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use, control of temporary modifications or jumpers required for test performance, documentation of test data, Technical Specification applicability, impact of testing relative to performance indicator reporting, and evaluation of test data.

b. Findings

(1) Introduction

A finding of very low significance (Green) related to barrier integrity and a NCV for inadequate procedures as required by Criterion V of 10 CFR 50, Appendix B, were identified by the inspectors. The finding was associated with a breech of primary containment while performing a calibration of torus level instrumentation.

(2) Description

On February 10, 2003, the licensee performed a calibration of the torus high level suction valve interlock switch for the HPCI system. Due to a procedural inadequacy, technicians aligned the torus air space to the secondary containment through the calibration instrument water column. Specifically, while performing a calibration of the instrument the technician noted that there was an instrument water level offset in the

test fixture tubing and that the level offset corresponded to the additional containment nitrogen pressure in the torus. After consulting his supervisor, the technician secured the valve line-up and restored the configuration to normal. The containment bypass condition existed for approximately three minutes. The licensee logged the unplanned Technical Specification limiting condition for operation (LCO) entry and initiated CR 03001521 to assess the issue.

Condition Report 03001521 found that the calibration of the level switch had been previously performed once per cycle during refueling outages, and that the calibration frequency had recently been changed to annual with performance of the calibration moved to on-line conditions. When that calibration was performed during refueling outages, the torus air space was at atmospheric pressure during the calibration. When the calibration was performed with the unit operating at power, the torus air space was inerted and pressurized.

The licensee performed a causal analysis for the event and attributed it to procedural inadequacies, improper reviews, and improper application of skill-of-the-craft. During their evaluation of the condition, the licensee identified that the prior calibration of these switches had been embedded in an outage preventative maintenance task and that a prerequisite for that procedure was that the reactor needed to be depressurized. In 2002, the licensee determined that the calibration could be performed on-line and the instrument was added to an on-line preventative maintenance procedure. One causal factor was that the independent reviewer of the new on line procedure did not simulate task performance as required by 4AWI-02.02.02, "Work Procedure Reviews and Approvals." This causal factor directly linked the movement of the old procedure to on-line with the failure to translate the off-line prerequisites into the new procedure. The licensee's evaluation also concluded that primary containment had been breached, but that the duration was less than the allowed outage time indicated in the LCO. Therefore, the specification was not violated.

(3) Analysis

The inspectors determined that the issue involved a performance deficiency on the part of the licensee in that the licensee failed to translate procedural prerequisites when moving the calibration of the torus high level transfer switch from an outage procedure to an on-line procedure. Additionally, the inspectors determined that skill-of-the-craft training provided to technicians contained theoretical information related to the proper isolation and calibration of instrumentation. Further, the inspectors determined that the issue, now classified as a finding, was more than minor in that it directly impacted the objective for the barrier integrity cornerstone of reactor safety because a physical design barrier, the containment, had been bypassed. Specifically, the configuration control attribute of the containment was impacted when the containment boundary was not preserved.

During the Phase 1 SDP, the inspectors determined that the finding needed to be screened in accordance with the containment integrity SDP, Appendix H, of IMC 0609. This assessment was required because the finding did not cause a degradation of the radiological barrier function provided for various structures, and it did not impact the control room barrier against toxic gas or smoke. However, the finding did represent an

actual open pathway in the physical integrity of the reactor containment. In applying Appendix H, the inspectors determined that core damage frequency was not affected, but that the containment function was affected resulting in a Type "B" finding. The inspectors reviewed Table 3 for Type "B" findings and found that a suppression pool bypass condition existed for less than 3 days. Thus, the finding was determined to be of very low safety significance (Green) and within the licensee response band.

(4) Enforcement

The licensee's USAR denotes the primary containment as being subject to the requirements of 10 CFR 50, Appendix B. Criterion V of 10 CFR 50, Appendix B, requires that activities affecting quality shall be prescribed by documented instructions or procedures appropriate to the circumstances. Contrary to this requirement, the licensee failed to incorporate prerequisites or procedural steps necessary to prevent bypassing containment when they converted the torus level instrument calibration from an outage procedure to an on-line procedure prior to the February 10, 2003, calibration of the instrument.

This violation is being treated as a NCV consistent with Section VI.A of the USNRC Enforcement Policy (NCV 50-263/03-03-04). The licensee has entered this issue into their corrective action program as CR 03001521. Corrective actions taken or planned by the licensee included reviewing all surveillance and preventative maintenance activities in the schedule that were moved from an outage window and scheduled to be performed on-line, development of a plan to review related procedures for conformance with station administrative work instructions, and increasing technician knowledge through training.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (71152)

Cornerstone: Barrier Integrity

Maintenance Effectiveness (71111.12)

a. Inspection Scope

As part of the maintenance effectiveness inspection (Section 1R12) for the issues associated with control room air conditioning compressor V-EAC-14A, the inspectors confirmed that the licensee entered the problems identified during the inspection into their corrective action program. Additionally, the inspectors assessed that the licensee was identifying issues at an appropriate threshold and entering them in the corrective action program, and checked to ensure that problems included in the licensee's corrective action program were properly addressed for resolution. Attributes reviewed included: complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective

actions were commensurate with safety and sufficient to prevent recurrence of the issue.

b. Findings

As discussed in Section 1R12 of this report, inspectors identified a finding of very low significance (Green) related to barrier integrity. The finding and associated NCV for inadequate corrective actions were identified. The issue was associated with repeated trips of a control room air conditioning compressor, V-EAC-14A, on low oil pressure over the course of the inspection period, and the licensee's failure to correctly diagnose and repair the problem.

4OA3 Event Follow-up (71153)

Cornerstones: Mitigating Systems

(Closed) Licensee Event Report 50-263/2002-006: "Surveillance Activity to Isolate Transmitter Prevents a Flow Bias Scram Signal"

On October 8, 2002, the licensee identified during a review of nuclear instrument surveillances that the method of isolating the transmitter for the average power range monitor (APRM) recirculation flow instrument resulted in a condition that could momentarily prevent a flow-bias scram in the trip system being tested. The condition resulted from an incorrect procedure revision performed in 1992. The licensee found that the surveillance procedure required the technician to close instrument isolation valves for the flow bias scram flow transmitter prior to opening the associated equalizing valve. This practice resulted in a momentary condition where pressure to the transmitter was locked-in and effectively caused the appearance of a steady state flow condition prior to the insertion of a half-scram by the opening of the associated bypass valve. It was determined that this condition disabled the half-scram function for the affected instrument channel, thereby precluding a reactor trip during this short period of time. The licensee has entered this condition into their corrective action program as CR 02009434. A licensee identified violation is discussed in Section 4OA7.

4OA4 Cross-cutting Issues

Human Performance

A finding of very low safety significance (Green) and an associated NCV for failure to follow applicable written instructions were identified by inspectors. The finding and NCV were associated with maintenance on No. 11 traveling screen in the river water intake that resulted in Train 'A' of the RHRSW system ingesting foreign material. Contributing causes to the foreign material ingestion included a lack of coordination between the different simultaneous work activities the licensee had in progress, and the failure of licensee maintenance personnel to adhere to the established written instructions for the work on No. 11 traveling screen. The inspectors determined that the errors involved were human performance related. (Section 1R13)

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. Wilson and other members of licensee management on April 7, 2003. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Biennial Operator Requalification Program Inspection with Mr. D. Wilson on February 28, 2003.

- Biennial Operator Requalification Program Inspection written examination and operating test results information was discussed with Mr. G. Lashinski via telephone on March 12, 2003.

4OA7 Licensee-Identified Violation

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements, which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

Cornerstone: Mitigating Systems

Technical Specification 3.1.A, Reactor Protection System, specifies the minimum number of operable instrument channels and trip systems required for plant operation. As described in LER 50-263/2002-006, “Surveillance Activity to Isolate Transmitter Prevents a Flow Bias Scram Signal,” and in CR 02009434, “Surveillance 0026 Appears to Violate TS Table 3.1.1-4 Momentarily During Transmitter Valve-Out Activity,” the minimum number of operable or tripped systems was not maintained for short periods of time (Section 4OA3.1). Subsequently, the regional senior reactor analyst determined that the configuration's risk significance was well below the 1E-6 threshold and of very low safety significance (Green) primarily because of the short duration that the reactor protection system flow bias scram function was unavailable. This was found to be consistent with the licensee's risk determination as documented in LER 2002-006.

KEY POINTS OF CONTACT

Licensee

R. Baumer, Licensing
G. Bregg, Manager, Quality Services
W. Cheever, Training Manager
R. Deopere, Inservice Inspection Supervisor
D. Fadel, Director of Engineering
J. Forbes, Senior Vice President
J. Grubb, Operations Manager
K. Jepson, Radiation Protection and Chemistry Manager
G. Lashinski, Operations Training Supervisor
B. Linde, Security Manager
B. Mackissock, Shift Operations Manager
D. Neve, Regulatory Affairs Manager
J. Purkis, Plant Manager
B. Sawatzke, Maintenance Manager
C. Schibonski, Safety Assessment Manager
J. Schriver, Simulator Support
E. Sopkin, Engineering Manager
D. Wilson, Site Vice President

Nuclear Regulatory Commission

B. Burgess, Chief, Region III Reactor Projects Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-263/03-03-01	NCV	Failure to promptly identify and correct a problem with a control room air conditioning compressor following repeated trips on low oil pressure (Section 1R12)
50-263/03-03-02	NCV	Inadequate procedural controls and failure to follow work instructions results in foreign material ingestion by RHRSW pumps (Section 1R13)
50-263/03-03-03	NCV	Failure to apply industry operating experience to maintenance practices for electrical components in maintenance rule systems (Section 1R14)
50-263/03-03-04	NCV	Inadequate procedures as required associated with a breech of primary containment while performing a calibration of torus level instrumentation (Section 1R22)

Closed

50-263/03-03-01	NCV	Failure to promptly identify and correct a problem with a control room air conditioning compressor following repeated trips on low oil pressure (Section 1R12)
50-263/03-03-02	NCV	Inadequate procedural controls and failure to follow work instructions results in foreign material ingestion by RHRSW pumps (Section 1R13)
50-263/03-03-03	NCV	Failure to apply industry operating experience to maintenance practices for electrical components in maintenance rule systems (Section 1R14)
50-263/03-03-04	NCV	Inadequate procedures as required associated with a breech of primary containment while performing a calibration of torus level instrumentation (Section 1R22)
50-263/2002-006	LER	Surveillance activity to isolate transmitter prevents a flow bias scram signal (Sections 4OA3.1 and 4OA7)

Discussed

None.

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Drawings and Prints:
- M-106; Sheet 2; Condensate and Feedwater; Revision AQ
- M-106-1; RFP [Reactor Feed Pump] Shaft Seal Injection and Drain System, and RFP Lube Oil System; Revision D
- M-112; RHR Service Water and Emergency Service Water Systems; Revision BJ
- M-120; Residual Heat Removal System; Revision BJ
- M-121; Residual Heat Removal System; Revision BM
- M-122; Core Spray System; AJ
- M-123; HPCI (Steam Side); Revision AM
- M-123-1; HPCI Hydraulic Control and Lubrication; Revision C
- M-124; HPCI Water Side; Revision AC
- M-125; RCIC Steam Side; Revision AP
- M-126; RCIC Water Side; Revision AC
- M-133; Sheet 1; Diesel Oil System; Revision AD
- M-811; Service Water System and Make-up Intake Structure; Revision CE
- NF-36298-1; Electric Load Flow; Revision P
- NF-36298-2; DC Electric Load Distribution; Revision C

Operations Manual:
- B.2.3; Reactor Core Isolation Cooling System
- B.3.1; Core Spray System
- B.3.2; High Pressure Coolant Injection System
- B.3.4; Residual Heat Removal System
- B.6.5; Condensate and Reactor Feedwater Systems
- B.6.5.1; Reactor Feedwater Pump Seal System
- B.8.1.2; EDG Emergency Service Water
- B.9.8; Emergency Diesel Generators

1R05 Fire Protection

Pre-Fire Fighting Procedures and Strategies:
- A.3-01-A; No. 12 RHR and Core Spray Pump Room; Revision 2*
- A.3-01-B; No. 11 RHR and Core Spray Pump Room; Revision 2*
- A.3-01-F; Torus Area - Elevations 896' and 923'; Revision 5
- A.3-06; Refuel Floor; Revision 5
- A.3-08; Cable Spreading Room; Revision 7
- A.3-31-B; EFT Building 1st Floor (Division II); Revision 6
- A.3-32-A; EFT Building 2nd Floor (Division I); Revision 3
- A.3-32-B; EFT Building 2nd Floor (Division II); Revision 4
- A.3-33; EFT Building 3rd Floor; Revision 4

Operations Manual:
- B.3.1; Core Spray System
- B.3.4; Residual Heat Removal System
- B.8.5; Fire Protection Systems

Condition Reports:
- 03001663; CR Reportability Documentation Inadequate to Answer Follow up Questions Related to Torus Area App R Issue
- 03002955; Scaffold Wood in 'B' RHR Exceeded UFHA Listed Amount

1R06 Flood Protection Measures

NSPNAD-92003; Monticello Individual Plant Examination (IPE); Revision 0

T-8; Design Basis Document - Internal Flooding [Proprietary]; Revision 2

Condition Report 03000263; Current PRA Model Does Not Contain SW [Service Water] Flood Scenario in the Turbine Building 931' West Upper 4 kV / Stator Water Cooling Room

E-Mail From Craig Nierode To Greg Brevig (and others); RE: PRA Baseline Change; Saturday, February 22, 2003, 1346 CST

1R11 Licensed Operator Requalification Program

Licensee Event Report 2001-005; Ten Minute Torus Cooling Design Assumption Not Achievable; April 19, 2001

AWI-01.01.01; Administrative Controls Program; Revision 10

RQ-SS-22; Loss of RPIS [rod position indication system] with An ATWS [anticipated transient without scram]; Revision 11

RQ-SS-29; Steam Break Requiring Blowdown; Revision 10

RQ-SS-02; Loss of All High Pressure Injection With A Recirc Break Inside The Drywell; Revision 21

RQ-SS-12; Station Blackout With Drywell Break and Emergency Blowdown; Revision 20

A.2-101; Classification of Emergencies; Revision 29

5790-104-04; Emergency Call List - Alert/Site Area/General; Revision 79

MTF-8100-028; Requal Exam Summary; Revision 2; Forms for Each Operator Examined

Form ES-604-1; Simulator Scenario Review Checklist; NUREG-1021; Revision 8; One for Each Scenario Used During The Requalification Exam

Condition Report 01006493; Post-scram Operating Crew Performance Issues Require Further Investigation and Assessment to Support Disposition; October 24, 2001

Condition Report 03002302; Alternate Path JPM's Used During Requal Exams Do Not Result In Forcing Operator To Take Other Courses of Action; February 28, 2003

Condition Report 03002286; 2002 Operations Requalification Written Exam Contains Direct Look Up Questions; February 28, 2003

Condition Report 03002242; Simulator Scenarios Used In Requal Exams May Not Have The Required Number of Malfunctions To Satisfy Guidelines; February 28, 2003

Condition Report 03002240; Corrective Lens Report Did Not List All Individuals Who Needed Glasses; February 28, 2003

Condition Report 03002225; Operations Training Program Does Not Include Verification of Torus Cooling Procedure Completion Within 10 Minutes Time Limit; February 28, 2003

Condition Report 03002193; License Maintenance Practice Questioned By NRC With Respect To Versus 12 Hour Shift Credit For Duty Time; February 28, 2003

Condition Report 03002192; Active License Status Tracking May Be Inadequate and Represents A Potential To Not Track All License Holders; February 28, 2003

Condition Report 03002303; Current Procedures Do Not Support 15 Minute Notifications To State and County On Escalating Classifications; February 28, 2003

Condition Report 0100108; Motion Detector in Operations Exam Security room at the MTC [Monticello Training Center] appears to be installed incorrectly; January 8, 2001

Condition Report 00001273; NRC Exam Room Door Electronic System Intermittent Miss-Operation; March 21, 2000

Condition Report 02006724; Determine Policy Regarding Observation of Other Crew's Simulator Evaluations, Without Jeopardizing Exam Security; July 22, 2002

Condition Report 02004275; Identified a Situation Which Could Have Lead to Potential Compromise of Exam Security for the 2002 NRC License Exam; May 3, 2002

NRC Inspection Report 50/263-01-15; dated September 17, 2001

NRC Inspection Report 50/263-01-16; dated December 14, 2001

OWI-01.08; Form 1440; NRC License Active Status Maintenance, first quarter of 2001 through last quarter of 2002

OWI-01.08; Form 2070; NRC License Active Status Data, first quarter of 2001 through last quarter of 2002

JPM-B.05.01.02-002; APRM [average power range monitor] Functional; Revision 6

JPM-B.05.11-001; Perform the Service Water Effluent Monitor Functional Test; Revision 7

JPM-E.04-07-002; Restore LC-103 from LC-104; Revision 3

JPM-B.02.04-001; Open the MSIVs [main steam isolation valves] Following a Group 1 Isolation; Revision 9

JPM-B.04.02-003; Manually Initiate SBGT [standby gas treatment] Train A; Revision 5

JPM-A.2-101-015; Classify Event According to Emergency Classification Guidelines; Revision 2

M8117S-502; Simulator Exercise Guide - APRM Failure; Revision 0; Simulator Scenario Based Testing

M8117S-602; Simulator Exercise Guide - Decreasing Condenser Vacuum; Revision 0; Simulator Scenario Based Testing

M8117S-900; Simulator Exercise Guide - EDG [emergency diesel generator] Start Caused by Human Error; Revision 0; Simulator Scenario Based Testing

TZ01 - Manual Scram; Simulator Transient Performance Test 2002

TZ05 - Simultaneous Trip of All Recirculation Pumps; Simulator Transient Performance Test 2002

TZ06 - Main Turbine Trip from Maximum Power Level Which Does Not Result in Immediate Reactor Scram; Simulator Transient Performance Test 2002

TZ08 - Design Basis LOCA [loss of coolant accident]/Loss of Offsite Power; Simulator Transient Performance Test 2002

MTCP-02.01; SIMULATOR PROCEDURES; Revision 5

MTCP-02.02; MONTICELLO PLANT MODIFICATION REVIEW; Revision 5

MTCP-02.03; SIMULATOR IMPROVEMENT; Revision 3

MTCP-02.04; SETPOINT CHANGE REVIEW PROCEDURE; Revision 5

MTCP-02.05; SIMULATOR MODIFICATION PROCEDURES; Revision 5

MTCP-02.08; SIMULATOR TECHNICAL REVIEW COMMITTEE (STRC); Revision 6

MTCP-02.11; DISCREPANCY REPORT; Revision 7

MTCP-02.12; SIMULATOR TESTING; Revision 5

MTCP-03.36; JPM Development; Revision 4

MTCP-03.32; Requalification Examination Control; Revision 11

MTCP-03.35; Initial and Requalification Examination Security; Revision 3

MTCP-03.38; RQ-SS and RQ-SS-E Development; Revision 5

SIMULATOR TECHNICAL REVIEW COMMITTEE Meeting Minutes First Quarter 2001 through Fourth Quarter 2002

Monticello Simulator Open Modification Report; February 24, 2003

Monticello Simulator Open Discrepancy Report; February 24, 2003

Monticello Simulator Closed Change Report (1/25/2002 - 2/22/2003); February 24, 2003

Monticello Licensed Operator Requalification Annual Sample Plan For 2002 Operating Examination

Monticello Licensed Operator Requalification Biennial Sample Plan For 2000-2001 Written Examination

Generation Quality Services Observation Report 2000056; Monticello Operations Personnel Training 3/8/2000 - 4/10/2000

M-81175-050; Abnormal Shutdown; Revision 0

1R12 Maintenance Effectiveness

Documents and Procedures:
- 0305929; Post Maintenance Testing Activities Control Cover Sheet for WO 0305929; Revision 11
- Instrument Calibration Worksheet for FCP-2-152C Recirc Loop 11 Flow Sq Root Conv
- 0224; APRM Time Response Test Procedure; Revision 7
- 1153; APRM Flow Signal Filter Response Test; Revision 4
- 4532K25-001; Figure 12 - GEMAC Type 565 Converter, Square Root Converter Schematic Diagram
- NX-7831-93-1; Instrument Diagram - Nuclear Boiler Process Instrumentation; Revision S
- NX-7834-67-8; Instrument Diagram - Reactor Protection System; Revision T

Operations Manual:
- B.8.13; Control Room Heating and Ventilation and Emergency Filtration Train

Updated Safety Analysis Report; Revision 19:
- 2.9.1; Toxic Chemical Spills
- 6.7; Main Control Room, Emergency Filtration Train Building and Technical Support Center Habitability

Condition Reports:
- 03000278; During Work Activities Associated with Rec Flow Bias Square Root Device Found Undocumented Filter on Input Circuit
- 03000274; 1 of 2 Channels for A Ricirc Loop Drive Flow Drifting Low Affecting APRM Setpoints and APRM Rod Block
- 03001096; Unplanned LCO per TS 3.17.A.2.a for Trip of V-EAC-14A Compressor on Low Oil Pressure
- 03001302; Maintenance Rule NIP Performance Criteria Are Inadequate W/O Also Relying on the PPS Performance Criteria
- 03001523; 13 RHR Pump Failed to Start for Torus Cooling. No Breaker Flags were Found. WO 0307244
- 03001568; V-EAC-14A Tripped on Low Oil Pressure. Entered 30 Day LCO per TS 3.17.A
- 03001577; Performance of EFT-CRV (V-EAC-14A and 14B) Does not Meet Management Expectations of System Health - Adverse Trend
- 03002500; A CRV Declared Inoperable, Air Compressor V-EAC-14A Tripped on Low Oil Pressure

Work Orders:
- 0305929; Recirc Flow Indication Drifting Low
- 0307244; No. 13 RHR Pump Will Not Start

2-025-001; AC&R Components Inc., Oil Level Control Booklet - Installation and Service Instructions; Revision M

1R13 Maintenance Risk Assessments and Emergent Work Control

Documents and Procedures:
- 4AWI-04.01.01; General Plant Operating Activities; Revision 33
- SWI-14.01; Risk Management of On-line Maintenance; Revision 0
- 0187-02; 12 Emergency Diesel Generator / 12 Emergency Service Water Pump System Tests; Revision 42
- 2204; Shutdown Checklist; Revision 24
- Event Notification Worksheet; December 30, 2002
- Control Room Logs; December 30-31, 2002
- Event Notification Worksheet (Retraction); January 27, 2003
- 1069; HPCI Flow Control System Dynamic Procedure; Revision 10
- 7132; HPCI Turbine Speed Control Calibration; Revision 15
- 0255-06-IA-1; HPCI Pump Flow and Valve Tests; Revision 59
- NSPNAD-92003; Monticello Individual Plant Examination (IPE); Revision 0
- T-8; Design Basis Document - Internal Flooding [Proprietary]; Revision 2
- 4222-01-PM; Traveling Water Screens Rebuild; Revision 7
- 4141-PM; RHR Service Water Strainer [BS-1951]; Revision 5

Condition Reports:
- 02012488; #12 Emergency Diesel Generator Did Not Shutdown after First Stop Signal Given for Test 0187-02
- 02012489; Electric Motor Driven Fuel Oil Pump on 12 EDG Failed During Monthly Test 0187-2

- 02012493; #12 Emergency Diesel Fuel Oil Motor Has Cracks in the Case Threads Where the Pump Is Mounted to the Motor
- 02012509; Replacement for 12 EDG Electric Fuel Oil Pump Has a Different Model Number Than Installed Motor. Alt Req'd
- 02012515; DC Fuel Oil Transfer Pump PMT Needed to Be Revised to Be Consistent with Standby Conditions
- 02012517; Received 12 EDG Start Failure Alarm, and Engine Cranking Alarms upon Initial Start of 12 EDG Following Maint.
- 02012524; Need Clarification on Actual Power Reduction Requirement per TS 3.9.b.a.2 with 2 EDGs Inop., One per Surveillance
- 03000128; Indication of an Unexpected Small Decrease in Steam Flow
- 03001593; HPCI Controller Erratic When Controller Placed in "Balance" During HPCI Shutdown Sequence. HPCI Remains Inoperable
- 03000263; Current PRA Model Does Not Contain SW Flood Scenario in the Turbine Building 931' West Upper 4 kV / Stator Water Cooling Room
- 03002164; Dropped Wire Rope Choker into Service Water Bay During Stop Log Installation at No. 11 Traveling Screen
- 03002672; A RHRSW Strainer Hi D/P Alarm Received While Performing RHRSW Pump and Valve Test 0255-05-IA-1
- 03002673; RHRSW Strainer dP Increased Significantly During Execution of Test 0255-05-IA-1 With Both 11 and 13 RHRSW Pumps Running
- 03002705; Work Order Not Temp Changed as Required
- 03002747; Dewatering of No. 11 Traveling Screen Results in Introduction of Foreign Material into RHRSW System

Work Orders:
- 0205812; 12 EDG DC Motor Driven Fuel Pump Problem
- 0205816; Replacement of 12 EDG DC Fuel Pump
- 0205821; Loose Crimp On Connections for Spare Motor
- 0205828; Replace 12 EDG Speed Sensing Panel DG2/SSP2
- 0307264; HPCI Controller Running Erratic During HPCI Run
- 0307276; Replace HPCI Speed Control System EG-M Box
- 0306108; Dewater/Repair/Replace Components as Needed on No. 11 Screen
- 0307549; Clean RHRSW Basket Strainer BS-1951

E-Mail From Craig Nierode To Greg Brevig (and others); RE: PRA Baseline Change; Saturday, February 22, 2003, 1346 CST

Drawings and Prints:
- M-811; Service Water System and Make-Up Intake Structure; Revision CE

Station Narrative Logs for 3/10/03, 3/11/03, and 3/12/03

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

Documents and Procedures:
- Troubleshooting Guideline for WO 0306191
- Level 1 Investigation Report for CR 3001187 Multiple Isolations of 11 SJAE Suction Valve AO-1085A Resulted in Significant Operational Transients

Condition Reports:
- 03000614; Failure of PC-1248 (SJAE 11 Supply Pressure Cntrl) and Subsequent Actions Caused by Power Reduction from 100% to 65%
- 03001187; CV-1242 Failed Resulting in a Loss of #11 SJAE and HWC Trip

Work Orders:
- 0306191; Investigate/Repair Cause of 11 SJAE Trip

1R15 Operability Evaluations

Condition Reports:
- 02011808; NRC Questions Orientation of Pleating on Downstream HEPA Filters in the SBGT System (Horizontal vs Vertical)
- 03000174; NRC Resident Questions Regarding CR 02011808 Assessment of Horizontal Pleats in SBGT HEPA Filters
- 02012499; 11 EDG Electric Fuel Oil Pump Coupling Is 20 to 25% Engaged
- 03001523; 13 RHR Pump Failed to Start for Torus Cooling. No Breaker Flags Were Found. WO 0307244
- 03001585; Operability Evaluation Associated with 13 RHR Pump Breaker Issue Lacked Definition Indicating Indeterminate Status
- 03002071; Several Pipe Support Baseplates Were Found with Gaps Between Baseplates and Wall

Documents and Procedures:
- ASME N510; Testing of Nuclear Air Treatment Systems; 1989 Edition
- EQ - Part B; Environmental Specifications; Revision 5*

Operations Manual:
- B.03.02; High Pressure Coolant Injection

Calculations:
- CA-96-020; HPCI Room Transient Temperature; Revisions 1, 2, and 3

Design Basis Documents:
- B.03.02; High Pressure Coolant Injection; Revision 3
- T.04; Environmental Qualification; Revision B

1R16 Operator Workarounds

Documents and Procedures:
- 3271, Operations Memo - 03001388; Lessons Learned from Plant Response to Loss of 11 SJAE; Revision 49
- Monticello Operational Challenges List; February 10, 2003
- OWA 03-009; 11 SJAE Pressure Controller CV-1242 Is Isolated Due to a Steam Leak
- OWA 02-062; 12 SJAE Pressure Controller CV-1243 Is Isolated Due to a Steam Leak

Condition Reports:
- 03001187; CV-1242 Failed Resulting in a Loss of #11 SJAE and HWC Trip

1R19 Post-Maintenance Testing

Documents and Procedures:
- 0187-01; 11 Emergency Diesel Generator / 11 Emergency Service Water Pump System Tests; Revision 43
- OWI-0.3.01; Valve and Motor Operating Instructions; Revision 6
- 4AWI-09.04.01; Inservice Testing Program Implementation; Revision 12
- 0255-08-IA-1; RCIC System Pump Flow and Valve Tests; Revision 52
- 7130; HPCI System Instrument Maintenance; Revision 17*
- 0255-06-IA-1; HPCI Pump Flow and Valve Tests; Revision 59

Condition Reports:
- 02012499; 11 EDG Electric Fuel Oil Pump Coupling Is 20 to 25% Engaged

Drawings and Prints:
- M-125; RCIC (Steam Side); Revision AP
- M-126; RCIC (Water Side); Revision AC

Work Orders:
- 0205822; Adjust/Replace 11 EDG Electric Fuel Oil Pump
- 0205826; Oil Leak from 11 EDG Oil Filter
- 0200568; RCIC MO-2110 Routine PM
- 0201029; RCIC Steam Line Drain Trap ST-2081 PM
- 0200934; Replace RCIC Turbine Exhaust Rupture Disks, PSD 2089/2090
- 0200575; RCIC MO-2107 PM
- 0200574; RCIC MO-2106 PM
- 0307242; HPCI Torus Suction Valve Interlock
- 0204719; Perform I&C PM 7130 on HPC-1 Instruments
- 0200675; PM HPCI Turbine Exhaust Rupture Discs (PSD-2038/2039)
- 0200774; PM 49001-1 for MO-2063, HPCI CST Suction Valve

Control Room Logs; December 30-31, 2002

1R22 Surveillance Testing

Documents and Procedures:
- 0011-A; Turbine Control Valve Fast Closure Scram Test and Calibration (>30% of Rated Power); Revision 3
- 0098; Core Spray Header Differential Pressure Test; Revision 12
- Operations Manual B.3.1; Core Spray Cooling System
- 7714-1; Setpoint Change Request - 11 CS Sparger Break Detection for WRA-93-5-0054-1; Revision 2
- 7130; HPCI System Instrument Maintenance; Revision 17*
- 0255-06-IA-1; HPCI Pump Flow and Valve Tests; Revision 59
- B.3.2; Operations Manual - High Pressure Coolant Injection
- 0028-01; Reactor Lo-Lo Level ECCS Initiation and Hi Level RCIC/HPCI Turbine Trips Transmitter Calibration Procedure; Revision 7

Calculations:
- CA-95-005; Low Low Water Level ECCS Initiation Setpoint Calculation; Revision 0
- CA-95-011; HPCI/RCIC Hi Level Turbine Trip Setpoint Calculation; Revision 0
- CA-98-040; Rosemount Pressure Transmitters 1153 Series B; Revision 8

Updated Safety Analysis Report; Revision 19:
- 6.2.2; Core Spray System
- 6.2.4; HPCI

Technical Specifications and Bases:
- 4.5.A.5; Core and Containment Spray Cooling Systems

Drawings and Prints:
- NX-8435-150-1; Turbine Control Diagram; Revision B
- NX-8435-150-2; Turbine Control Diagram; Revision G
- NH-36249; HPCI Steam Side; Revision AM
- NH 36250; HPCI Water Side; Revision AC

Condition Reports:
- 03001506; Apparent Discrepancy in Core Spray Ops Manual B.3.1-03 DPIS 14-43A/B Setpoint Listed as 3.6 psid vs. 4.0 psid in CML
- 03001521; During Calibration of LS-23-91A and LS-23-91B per Procedure 7130, Primary Containment Was Breached for about 3 Minutes

4OA2 Identification and Resolution of Problems

Operations Manual:
- B.8.13; Control Room Heating and Ventilation and Emergency Filtration Train

Updated Safety Analysis Report; Revision 19:
- 2.9.1; Toxic Chemical Spills
- 6.7; Main Control Room, Emergency Filtration Train Building and Technical Support Center Habitability

Condition Reports:
- 03001096; Unplanned LCO per TS 3.17.A.2.a for Trip of V-EAC-14A Compressor on Low Oil Pressure
- 03001568; V-EAC-14A Tripped on Low Oil Pressure. Entered 30 Day LCO per TS 3.17.A
- 03001577; Performance of EFT-CRV (V-EAC-14A and 14B) Does not Meet Management Expectations of System Health - Adverse Trend
- 03002500; A CRV Declared Inoperable, Air Compressor V-EAC-14A Tripped on Low Oil Pressure

2-025-001; AC&R Components Inc., Oil Level Control Booklet - Installation and Service Instructions; Revision M

4OA3 Event Follow-up

Condition Report 02009434; Surveillance 0026 Appears to Violate TS Table 3.1.1-4 Momentarily During Transmitting Valve-out Activity

Procedure 0026; APRM-Recirc Flow Instrumentation Calibration; Revision 29

LIST OF ACRONYMS USED

APRM	Average Power Range Monitor
ASME	American Society of Mechanical Engineers
AWI	Administrative Work Instruction
CDF	Core Damage Frequency
CFR	Code of Federal Regulations
CR	Condition Report
CRV	Control Room Ventilation
CY	Calendar Year
CST	Condensate Storage Tank
DC	Direct Current
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EFT	Emergency Filtration Train
EPRI	Electric Power Research Institute
ESW	Emergency Service Water
EWI	Engineering Work Instruction
GE	General Electric
HEPA	High Efficiency Particulate Air
HPCI	High Pressure Core Injection
HWC	Hydrogen Water Chemistry
ICM	Interim Compensatory Measure
IMC	Inspection Manual Chapter
INPO	Institute of Nuclear Power Operations
IP	Inspection Procedure
IR	Inspection Report
JPM	Job Performance Measure
kV	Kilovolt
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LORT	Licensed Operator Requalification Training
MRFF	Maintenance Rule Functional Failure
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
OWI	Operations Work Instruction
PM	Planned or Preventative Maintenance
PRA	Probabilistic Risk Assessment
psid	Pounds Per Square Inch Differential
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
SBGT	Standby Gas Treatment
SDP	Significance Determination Process
SIL	Service Information Letter
SJAE	Steam Jet Air Ejector
SW	Service Water
SWI	Scheduling Work Instruction
TS	Technical Specification

USAR	Updated Safety Analysis Report
WO	Work Order