September 12, 2001

Mr. J. Forbes
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 INSPECTION REPORT 50-263-01-07(DRP)

Dear Mr. Forbes:

On August 14, 2001, the NRC completed an inspection at your Monticello Nuclear Generating Plant. The results of this inspection were discussed on that day with you and other members of your staff. The enclosed report presents the results of that inspection.

The inspection was an examination of activities conducted under your license as they relate to reactor safety, verification of performance indicators, event followup, and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC identified three issues of very low safety significance (Green) involving three violations of NRC requirements. The violations involved instances of: (1) failure to maintain proper design controls associated with high-energy line break barrier walls in the plant's turbine building as required by Appendix "B" of 10 CFR 50, (2) the failure to conduct appropriate ASME Code check valve testing in accordance with Technical Specification 4.15.B, and (3) the failure to comply with all aspects of the ASME Code for safety relief valve topworks replacement activities in accordance with Technical Specification 3.15.A.1. If you deny these Non-Cited Violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III, 801 Warrenville Road, Lisle, Illinois 60532-4351; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspectors' Office at the Monticello Nuclear Generating Plant.

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Sincerely,

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

Docket No. 50-263
License No. DPR-22

Enclosure: Inspection Report 50-263-01-07(DRP)

cc w/encl: J. Purkis, Plant Manager
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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| Docket No: | 50-263 |
| License No: | DPR-22 |
| Report No: | 50-263-01-07(DRP) |
| Licensee: | Nuclear Management Company, LLC |
| Facility: | Monticello Nuclear Generating Plant |
| Location: | 2807 West Highway 75<br>Monticello, MN 55362 |
| Dates: | July 1 through August 14, 2001 |
| Inspectors: | S. Burton, Senior Resident Inspector<br>D. Kimble, Resident Inspector<br>M. Mitchell, Radiation Specialist |
| Approved by: | Bruce L. Burgess, Chief<br>Branch 2<br>Division of Reactor Projects |

## SUMMARY OF FINDINGS

IR 05000263-01-07(DRP), on 07/01-08/14/2001; Nuclear Management Company, LLC; Monticello Nuclear Generating Plant; Resident Operations Report; Event Follow-up.

The inspection was conducted by resident inspectors and regional inspectors. The report covers a 6½-week period of resident inspection. The inspection identified three green findings encompassing three Non-Cited Violations, plus one licensee-identified Non-Cited Violation discussed in section 4OA7 of this report. The significance of all findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "no color" or by the severity of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector-Identified Findings

**Cornerstones: Mitigating Systems and Initiating Events**

- Green. The inspectors reviewed a licensee event report (LER) which discussed inadequate high-energy line break (HELB) barrier walls in the plant turbine building. The lack of proper design control for these walls constituted a Non-Cited Violation (NCV) of 10 CFR, Part 50, Appendix “B” requirements. This finding was of very low safety significance because of the low probability associated with the postulated HELB event and consequential failures of both divisions of essential 480 Vac power (Section 4OA3.1).

- Green. The inspectors reviewed a LER associated with a February 24, 2001, plant shutdown and cooldown to cold shutdown required by Technical Specifications (TS). The licensee identified multiple check valves in various safety-related systems which had been inadequately tested, rendering the associated systems or system trains inoperable. The failure to perform appropriate check valve testing as required was determined to constitute a NCV of the licensee's TS, Section 4.15.B. This finding was of very low safety significance because the licensee's subsequent testing demonstrated that all the components in question would have been capable of performing their safety functions during accident conditions (Section 4OA3.2).

- Green. The inspectors reviewed an LER associated with a January 29, 2001, plant shutdown initiated due to TS. The licensee identified that safety relief valve topworks replacement activities had not been performed in compliance with the ASME Boiler and Pressure Vessel Code, rendering all the safety relief valves (SRVs) inoperable. The failure to conduct SRV topworks replacement activities in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code was determined to constitute a NCV of the licensee's TS, Section 3.15.A.1. This finding was of very low safety significance because the

licensee's subsequent analyses demonstrated that the SRVs would have been capable of performing their safety functions during accident conditions (Section 4OA3.4).

B. Licensee-Identified Findings

Violations of very low significance identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. These violations are listed in Section 4OA7 of this report.

## Report Details

### Summary of Plant Status

The unit began the inspection period operating at or near full power. On July 11, 2001, the unit initiated a shutdown required by Technical Specifications when the licensee discovered that shipping bolts were left installed in the drywell-to-torus vent bellows protective cover and primary containment was declared inoperable (Sections 1R14 and 4OA7). The power reduction was terminated at approximately 90 percent and the unit returned to full power operation that same day following removal of the shipping bolts. Plant operation continued at or near full power until July 13, when power was reduced to approximately 84 percent to meet State of Minnesota discharge canal permit temperature limits. Power was restored to approximately 100 percent later that same day and remained at that level until it was reduced to approximately 80 percent on July 22 and 23 for a rod pattern adjustment. Following the rod pattern adjustment, the unit was returned to approximately 100 percent power. On August 1, 2001, high ambient temperatures resulted in power being reduced to approximately 90 percent for several hours to meet the State of Minnesota discharge canal permit temperature limits. Power reductions, followed by restoration to full power, were made each day from August 4 through August 9 when discharge canal temperatures exceeded State of Minnesota limits. Following the power reduction on August 9, the unit returned to operation at or near full power until August 12, when power was reduced to approximately 75 percent for turbine and main steam valve testing. Following this testing, the unit was returned to approximately 100 percent power and remained there through the end of the inspection period.

## 1. REACTOR SAFETY

**Cornerstones: Initiating events, Mitigating Systems, and Barrier Integrity**

### 1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed a partial walkdown of the following redundant equipment trains to verify operability and proper equipment lineup while the counterpart train was disabled due to planned maintenance. These systems were selected due to the increase in core damage frequency caused by rendering one train of emergency core cooling system (ECCS) out-of-service for maintenance.

- Division I ECCS while Division II residual heat removal (RHR) system was out of service for maintenance

- High pressure coolant injection (HPCI) while reactor core isolation cooling (RCIC) was out of service for maintenance

The inspectors verified the position of critical redundant equipment and looked for any discrepancies between the existing equipment lineup and the required lineup.

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 any fire protection issues. The inspectors selected areas containing systems, structures, or components that the licensee identified as important to reactor safety.

- Fire Zone 1C, RCIC Pump Room
- Fire Zone 1D, Reactor Building Tank Room
- Fire Zone 1E, HPCI Room
- Substation Battery House

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.

## 1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed the licensee's testing of emergency diesel generator (EDG) system heat exchangers to verify that any potential deficiencies did not mask the licensee's ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee's observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact of instrument inaccuracies on test results. Inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing criteria.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the Maintenance Rule (10 CFR 50.65) to ensure rule requirements were met for the selected systems. The following systems were selected based on being designated as risk significant under the Maintenance Rule, or being in the increased monitoring (Maintenance Rule category a(1)) group:

- High Pressure Coolant Injection System
- Reactor Manual Control
- Secondary Containment

The inspectors verified the licensee's categorization of specific issues, including evaluation of the performance criteria. The inspectors reviewed the licensee's implementation of the maintenance rule requirements, including a review of scoping, goal-setting, and performance monitoring; short-term and long-term corrective actions; functional failure determinations associated with the condition reports reviewed; and current equipment performance status.

b. Findings

No findings of significance were identified.

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 maintenance.

- Weekly Scheduling and Planning Meetings
- Outage Planning and Emergent Work Review

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 verified that the licensee's control of activities considered assessment 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 verified that the licensee entered the appropriate risk category for the evolutions.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events (71111.14)

a. Inspection Scope

On July 11, 2001, the inspectors observed a Technical Specification (TS) required shutdown that was initiated when the licensee discovered that shipping bolts were left installed in the drywell-to-torus vent bellows protective cover and primary containment was declared inoperable. The inspectors reviewed procedural actions for the less than 10 percent power maneuver and actions to remove the suspect bolts and restore operability to the vent bellows. Subsequently, the inspectors reviewed corrective actions and past operability determinations (Section 1R15) and the associated 10 CFR 50.72 notification and retraction. Also, a partial review of calculations was performed that supported the licensee's conclusion.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following operability evaluations to determine the impact on TS, the significance of the evaluations, and to ensure that adequate justifications were documented.

- Evaluation of leaking standby liquid control system pump discharge relief valve impact on system operation
- Evaluation of drywell-to-torus vent pipe bellows operability when shipping bolts were found installed
- Evaluation of bracing installed on service water pumps to reduce vibrations
- Evaluation of torus cooling initiation criteria
- Evaluation of past operability for primary containment with vent-bellows shipping bolts installed

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.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed the following modifications to verify that the design basis, licensing basis, and performance capability of risk-significant systems were not degraded by the installation of the modification. The inspectors also verified that the modifications did not place the plant in an unsafe configuration.

- Fuel Zone Instrumentation Reference Leg
- Procedural Changes for Implementing Torus Cooling

The inspectors considered the design adequacy of the modification by performing a review, or partial review, of the modification's impact on plant electrical requirements, material requirements and replacement components, response time, control signals, equipment protection, operation, failure modes, and other related process requirements.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected post-maintenance testing of safety-related snubber maintenance for review. Activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors verified by witnessing the test or reviewing the test data 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, TS applicability, system restoration, and evaluation of test data. Also, the inspectors verified that maintenance and post-maintenance testing activities adequately ensured that the equipment met the licensing basis, TS, 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 impact upon risk that an unidentified performance degradation of the structure, system, or component could have if unresolved for long periods of time.

- Standby Liquid Control System Pump and Valve Inservice Test, performed on July 3

- Turbine Control Valve Fast Closure Scram Test and Calibration, performed on July 11

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, TS applicability, impact of testing relative to performance indicator reporting, and evaluation of test data.

b. Findings

No findings of significance were identified.

## 2. RADIATION SAFETY

**Cornerstone: Public Radiation Safety**

2PS3 Radiological Environmental Monitoring and Radioactive Material Control Programs (71122.03)

.1 Review of Environmental Monitoring Reports and Data

a. Inspection Scope

The inspector reviewed the Annual Radiological Environmental Monitoring Report for the year 2000, along with the monthly progress reports for the first two quarters of 2001. Sampling location commitments, monitoring and measurement frequencies, land use census, the vendor laboratory's inter-laboratory comparison program, and data analysis were assessed to verify that the Radiological Environmental Monitoring Program (REMP) was implemented as required by the Offsite Dose Calculation Manual (ODCM) and associated Technical Specifications. Anomalous results including data, missed samples, inoperable or lost equipment were evaluated to assure they did not negatively affect the licensee's ability to monitor the impacts of radioactive effluent releases on the environment. Additionally, the inspector reviewed the environmental monitoring station and thermoluminescent dosimeter (TLD) locations to verify that they were located consistent with the ODCM.

b. Findings

No findings of significance were identified.

.2 Walkdowns Of Radiological Environmental Monitoring Stations and Meteorological Tower

a. Inspection Scope

The inspector conducted a walkdown of the environmental air sampling stations and selected TLDs to verify that they were located as described in the ODCM, and to evaluate the equipment material condition. The inspector reviewed selected data from 2000 and the first two quarters of 2001 including equipment operability reports for the onsite meteorological monitoring program's data recovery rates, routine calibration and maintenance activities, and non-scheduled maintenance activities in order to confirm that the equipment was acceptably maintained and operable. The inspector observed readouts of wind speed, wind direction, and atmospheric stability measurements, available in the Control Room, to verify that the equipment was operable.

b. Findings

No findings of significance were identified.

.3 Review of REMP Sample Collection and Analysis

a. Inspection Scope

The inspector accompanied a REMP technician to observe the collection and preparation of a variety of environmental samples, including surface water, air filters (particulate), and charcoal cartridges (iodine), for the purpose of verifying that representative samples were being collected in accordance with plant procedures and the ODCM. The inspector observed the technician perform air sampler field check maintenance to verify that the air samplers were functioning acceptably. Selected air sampler calibration and maintenance records for 2000 and 2001 were reviewed to verify that the equipment was being maintained as required by the licensee's procedures. Additionally, the inspector reviewed results of the vendor laboratory's inter-laboratory comparison program and quality assurance program to verify that the vendor was capable of making adequate radio-chemical measurements.

b. Findings

No findings of significance were identified.

.4 Unrestricted Release of Material From the Radiologically Controlled Area

a. Inspection Scope

The inspector evaluated the licensee's controls, procedures, and practices for the unrestricted release of material from radiologically controlled areas. Specifically, the inspector reviewed documentation to verify that: (1) radiation monitoring instrumentation used to perform surveys for unrestricted release of materials was appropriate; (2) instrument sensitivities were consistent with NRC guidance contained in

Inspection and Enforcement (IE) Circular 81-07 and Health Physics Positions in NUREG/CR-5569 for both surface contaminated and volumetrically contaminated materials; (3) criteria for survey and release conformed to NRC requirements; (4) licensee procedures were technically sound and provided clear guidance for survey methodologies; and (5) radiation protection staff adequately implemented station procedures.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspector selectively reviewed year 2000 to 2001 licensee quality assurance audits and Chemistry and Radiation Protection Departments' self-assessments which were used to evaluate, identify, characterize, and prioritize problems with the REMP. This review was conducted to verify that radiological effluent and REMP issues were adequately addressed. The inspector also reviewed condition reports related to the REMP generated in years 2000 and 2001 to date, to confirm that identified problems were entered into the licensee's corrective action program and were timely and appropriately resolved.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

**Cornerstones: Initiating Events and Barrier Integrity**

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours

a. Inspection Scope

The inspectors verified the accuracy and completeness of the "Unplanned Scrams per 7000 Critical Hours" performance indicator data submitted by the licensee from July 1, 2000, through June 30, 2001. The inspectors reviewed data reported to the NRC since the last verification. The review was accomplished, in part, through evaluation of the TS requirements, plant records, procedural reviews, and reactor coolant sample data.

b. Findings

No findings of significance were identified.

.2 Scrams with Loss of Normal Heat Removal

a. Inspection Scope

The inspectors verified the accuracy and completeness of the "Scrams with Loss of Normal Heat Removal" performance indicator data submitted by the licensee from July 1, 2000, through June 30, 2001. The inspectors reviewed data reported to the NRC since the last verification. The review was accomplished, in part, through evaluation of the TS requirements, plant records, procedural reviews, and reactor coolant sample data.

b. Findings

No findings of significance were identified.

.3 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

The inspectors verified the accuracy and completeness of the "Unplanned Transients per 7000 Critical Hours" performance indicator data submitted by the licensee from July 1, 2000, through June 30, 2001. The inspectors reviewed data reported to the NRC since the last verification. The review was accomplished, in part, through evaluation of the TS requirements, plant records, procedural reviews, and reactor coolant sample data.

b. Findings

No findings of significance were identified. However, on January 29, 2001, the licensee performed a power reduction to 86 percent reactor power to comply with a TS-required shutdown. The power reduction was terminated when a notice of enforcement discretion (NOED) was issued (Section 4OA3.4). This performance indicator is defined as the number of unplanned changes in reactor power of greater than 20 percent of full power per 7000 hours of critical operation. Furthermore, the term "unplanned change" in reactor power is defined as change initiated in less than 72 hours following discovery of an off-normal condition, and that results in, or requires a change in power level of greater than 20 percent full-power to resolve. Because this change "required" a reactor shutdown, but was terminated as a result of a NOED, the inspectors were uncertain as to the application of the above definition. A question regarding this has been submitted to NRC Headquarters for resolution and is being treated as an unresolved item (URI 50-263/01-07-05(DRP)).

.4 Reactor Coolant System Leak Rate

a. Inspection Scope

The inspectors verified the accuracy and completeness of the "Reactor Coolant System Identified Leak Rate" performance indicator data submitted by the licensee from July 1, 2000, through June 30, 2001. The inspectors reviewed data reported to the NRC since the last verification. The review was accomplished, in part, through evaluation of the TS requirements, plant records, procedural reviews, and reactor coolant sample data.

b. Findings

No findings of significance were identified.

.5 Radiological Effluent Technical Specifications (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrence Performance Indicator

a. Inspection Scope

The inspector conducted a review to verify that the licensee had accurately assessed data and reported the performance indicator (PI) for the public radiation safety cornerstone consistent with guidance in NEI 99-02. Additionally, the inspector reviewed the licensee's condition reports for calendar year 2000, and offsite dose calculations (January 2000 through December 2000) to ensure that there were no PI occurrences that were not identified by the licensee.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

.1 (Closed) Licensee Event Report (LER) 50-263/2001-008: "High Energy Line Break Barriers Found in an Unanalyzed Condition"

a. Inspection Scope

The inspectors evaluated LER 50-263/2001-008, "High Energy Line Break Barriers Found in an Unanalyzed Condition."

b. Findings

A finding of very low safety significance (Green) and an associated Non-Cited Violation (NCV) was identified by the inspectors for a failure to maintain adequate design controls.

On March 12, 2001, with the reactor in cold shutdown, plant personnel identified an unanalyzed condition related to the structural adequacy of two high-energy line break (HELB) barrier walls located on the 931 foot elevation of the turbine building. The HELB barriers separated two redundant divisions of essential 480 Vac motor control centers (MCC), and were required to withstand differential pressure forces due to a postulated HELB. The licensee concluded that a postulated HELB of a feedwater pump discharge line or a main steam line in the turbine building and a subsequent failure of these walls could damage both divisions of 480 Vac essential power. Prior to unit restart, the licensee completed significant modifications to the walls to ensure that the HELB barriers would withstand postulated pressure forces.

Upon inspection of the issue, inspectors ascertained that the condition had a credible impact on plant safety in that a single HELB event could reasonably disable both divisions of 480 Vac essential power, and thus, was more than a minor issue. Further, the inspectors determined that the condition affected the mitigating systems cornerstone of safety because the operability of various safety-related components in both divisions was jeopardized by the lack of proper HELB design controls.

The inspectors entered the significance determination process (SDP) to determine the potential risk significance of the inadequate HELB barrier walls inspection finding. Because of the low probability associated with the postulated HELB event and consequential failures of both divisions of essential 480 Vac power, the inspectors concluded that this finding was of very low significance and within the licensee's response band (Green). The licensee entered this issue into their corrective action program as Condition Report (CR) 20011481.

Appendix “B” to 10 CFR 50, Section III, "Design Control," states in part that: “Measures shall be established to assure that the applicable regulatory requirements and the design basis, as defined in §50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions.” Contrary to this requirement, appropriate measures were not established to assure that appropriate design basis information was correctly translated into the applicable specifications, drawings, procedures, and instructions for the initial construction of the two HELB barrier walls located on the 931 foot elevation of the turbine building. Appropriate design measures were not applied to ensure that both walls were designed to withstand postulated HELB forces as specified in the original design basis. This violation is being treated as a NCV consistent with Section VI.A of the NRC Enforcement Policy (NCV 50-263/01-07-01(DRP)).

.2 (Closed) Licensee Event Report 50-263/2001-007: “Failure to Comply with Technical Specification and ASME [American Society of Mechanical Engineers] Code Section XI Inservice Testing Requirements”

a. Inspection Scope

The inspectors evaluated LER 50-263/2001-007, “Failure to Comply with Technical Specification and ASME Code Section XI Inservice Testing Requirements.”

b. Findings

A finding of very low safety significance (Green) and an associated NCV was identified by the inspectors for a failure to comply with a plant TS and 10 CFR 50.55a, "Codes and Standards."

On February 24, 2001, with the reactor at full power operation, plant personnel identified that check valves in the HPCI system, as well as both trains of the low pressure coolant injection (LPCI) mode of RHR, had not been adequately tested as required by the 1986 Edition of Section XI of the ASME Boiler and Pressure Vessel Code (hereafter referred to as the Code). The licensee concluded that the HPCI system and both trains of RHR for the LPCI mode were inoperable, and that an immediate plant shutdown and cooldown to cold shutdown were required by TS. The plant entered cold shutdown conditions on February 25, 2001. Prior to unit restart, the licensee completed appropriate Code testing on the identified check valves, as well as an extent-of-condition review to identify and correct other Code noncompliances.

Upon inspection of the issue, inspectors ascertained that not appropriately testing safety system check valves had a credible impact on plant safety and was more than minor because of the multiple ECCS system components that were determined to be inoperable and the unplanned TS shutdown which resulted. Additionally, the inspectors determined that not properly testing safety system check valves affected the initiating events cornerstone of safety. The objective of this cornerstone is to limit the frequency of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. The unit being forced into a shutdown and cool down evolution without advance planning or preparation met this criteria.

The inspectors entered the SDP to determine the potential risk significance of the inadequate Code testing inspection finding. During the plant shutdown period, the licensee was able to demonstrate that all the ECCS check valves in question would have been capable of performing their requisite safety functions if called upon during accident conditions. Because of this, the inspectors concluded that this finding was of very low significance and within the licensee's response band (Green). The licensee entered this issue into their corrective action program as CR 20011082.

At the time of the discovery of the condition, the licensee's TS, Section 4.15.B, stated: “Inservice Testing of Quality Group A, B, and C pumps and valves shall be performed in accordance with the requirements for ASME Code Class 1, 2, and 3, pumps and valves, respectively, contained in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g) except where relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55(a)(g)(6)(i), or where alternate testing is justified in accordance with Generic Letter 89-04." Contrary to this requirement, the licensee failed to conduct proper inservice testing of ECCS check valves as specified in the ASME Code. This violation is being treated as a NCV consistent with Section VI.A of the NRC Enforcement Policy
(NCV 50-263/01-07-02(DRP)).

.3 <u>(Closed) Licensee Event Report 50-263/2001-001, Revision 1</u>: “Deficient Procedures Fail to Require Independent Verification Following Return to Service of Individual Channels During Instrument Surveillance”

a. <u>Inspection Scope</u>

The inspectors evaluated Revision 1 to LER 50-263/2001-001, “Deficient Procedures Fail to Require Independent Verification Following Return to Service of Individual Channels During Instrument Surveillance.” Revision 0 of the LER had been previously inspected and closed in NRC Report 50-263/01-11, dated March 22, 2001.

b. Findings

The inspectors determined that Revision 1 of the LER contained only editorial changes to the original revision. No additional actions were required.

.4 (Closed) Licensee Event Report 50-263/2001-002, Revisions 0 and 1: "Failure to Comply with Technical Specification and ASME Code Section XI Inservice Inspection Requirements"

a. Inspection Scope

The inspectors evaluated Revisions 0 and 1 of LER 50-263/2001-002, "Failure to Comply with Technical Specification and ASME Code Section XI Inservice Inspection Requirements."

b. Findings

A finding of very low safety significance (Green) and an associated NCV was identified by the inspectors for a failure to comply with a plant TS and 10 CFR 50.55a, "Codes and Standards."

On January 29, 2001, with the reactor at full power operation, plant personnel identified that safety relief valve (SRV) topwork replacements were previously performed without complying with all inservice inspection (ISI) Code requirements. Specifically, various requirements in the Code relating to the review of ASME component replacement activities by the Authorized Nuclear Inservice Inspector (ANII) had been omitted. This discovery by the licensee came about as part of an extent-of-condition review related to ISI Code compliance issues associated with snubber replacements previously identified by the inspectors. The licensee concluded that all SRVs were inoperable, and that an immediate plant shutdown and cooldown to cold shutdown were required by TS. The plant shutdown was halted on January 30, 2001, at 86 percent power when the licensee received a NOED, No. 01-6-002, for the TS and ISI Code requirements relating to the ANII. The licensee completed an operability determination which demonstrated that the SRVs were capable of performing their safety functions, and indicated that they would submit a license amendment request to move the ISI Code requirements from TS to a licensee controlled program.

Upon inspection of the issue, inspectors ascertained that the condition had a credible impact on plant safety and was more than minor because of the multiple SRVs that were declared inoperable and the commencement of an unplanned TS shutdown which resulted. Additionally, the inspectors determined that the condition affected the initiating events cornerstone of safety. The objective of this cornerstone is to limit the frequency of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. The unit being forced into a shutdown transient without advance planning or preparation met this criteria.

The inspectors entered the SDP to determine the potential risk significance of the inspection finding. As a condition of the NOED, the licensee was required to perform operability evaluations for the SRVs and other components in similar situations discovered as a result of their extent-of-condition review. Engineering analyses performed by the licensee indicated that the components in question would have been capable of performing their requisite safety functions if called upon. Because of this, the inspectors concluded that this finding was of very low significance and within the licensee's response band (Green). The licensee entered this issue into their corrective action program as CR 20010344.

At the time of the discovery of the condition, the licensee's Technical Specifications, TS 3.15.A.1 stated, "To be considered operable quality group A, B, and C components shall satisfy the requirements contained in Section XI of the ASME Boiler and Pressure Vessel Code and Applicable Addenda for continued service of ASME Code Class 1, 2, and 3 components, respectively, except where relief has been granted by the Commission pursuant to 10 CFR Part 50, Section 50.55a(g)(6)(i)." Contrary to this requirement, the licensee did not satisfy specific requirements contained in Section XI of the code related to the involvement of the ANII in SRV topworks replacement activities and did not seek relief from the Commission. This violation is being treated as a NCV consistent with Section VI.A of the NRC Enforcement Policy (NCV 50-263/01-07-03(DRP)).

.5 <u>(Closed) Licensee Event Report 50-263/2001-003</u>: “Inadequate Procedures Result in Failure to Recognize Entry into 36-Hour Limiting Condition for Operation Required When Standby Gas Treatment System Doors Opened for Access”

a. <u>Inspection Scope</u>

The inspectors evaluated LER 50-263/2001-003, “Inadequate Procedures Result in Failure to Recognize Entry into 36-Hour Limiting Condition for Operation Required When Standby Gas Treatment System Doors Opened for Access.”

b. <u>Findings</u>

On February 20, 2001, with the plant operating at full power, the licensee discovered that maintenance procedures for the standby gas treatment (SBGT) system unintentionally rendered both trains of that system inoperable. Specifically, the proceduralized maintenance created a pathway by which air flow could bypass required filtration units. Subsequently, the licensee has revised the applicable maintenance procedures to correct the deficiency.

The licensee's analysis of the condition indicated that even with conservative assumptions, the condition would not result in more than 10 percent of the 10 CFR 100 dose offsite, nor more than 60 percent of the guideline dose to control room personnel set forth in Appendix "A" of 10 CFR 50. A similar condition evaluated by the inspectors in a previous report (NRC Inspection Report 50-263/00-04, Section 4OA3.1), culminated in a Phase 3 SDP analysis which supports the licensee's conclusions. As a result, the inspectors concluded that the failure to enter the appropriate TS limiting condition for operation (LCO) for SBGT system constituted a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the Enforcement Policy. The licensee entered this issue into their corrective action program as CR 20010846.

.6 (Closed) Licensee Event Report 50-263/2001-004: "Testing of Recombiner Space Heaters Not Performed Due to Inadequate Procedures"

a. Inspection Scope

The inspectors evaluated LER 50-263/2001-004, "Testing of Recombiner Space Heaters Not Performed Due to Inadequate Procedures."

b. Findings

On February 16, 2001, with the plant operating at full power, the licensee discovered that maintenance procedures for the combustible gas control (CGC) system did not test the recombiner reaction chamber and the recombiner blower motor as required by TS. Specifically, the maintenance procedures did not call for a resistance to ground test on all heater electrical circuits as required. Subsequently, the licensee has revised the applicable maintenance procedures to correct the deficiency.

The licensee's analysis of the condition revealed that at the time of discovery all heater indicating lights for the CGC system showed the heaters to be functioning properly. Additionally, after discovery of the issue the licensee tested all heaters for resistance to ground and found no abnormalities. As a result, the inspectors concluded that the failure to perform the appropriate TS resistance to ground measurements for the CGC system heaters constituted a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the Enforcement Policy. The licensee entered this issue into their corrective action program as CR 20010904.

.7 (Closed) Licensee Event Report 50-263/2001-009: "Construction Error Results in Failure to Perform Periodic Testing of One Instrument Line Excess Flow Check Valve"

a. Inspection Scope

The inspectors evaluated LER 50-263/2001-009, "Construction Error Results in Failure to Perform Periodic Testing of One Instrument Line Excess Flow Check Valve."

b. Findings

On March 28, 2001, with the plant shutdown, the licensee discovered a discrepancy between plant drawings and the as-built piping associated with the "B" reactor vessel fuel zone water level instrument channel. Two instrument lines between instrument racks on the 935 foot and 962 foot elevations in the reactor building had been crossed in a vertical run during original plant construction. As a result, some instrumentation which was thought to be connected to a particular containment penetration via one excess flow check valve was actually connected to a different excess flow check valve, and vice versa. Following discovery of the condition, a licensee review of instrument testing procedures revealed that excess flow check valve XFV-57 was not being tested as required by TS, Section 4.7.D.1.b, and that this condition had existed since original plant construction.

Subsequently, the licensee modified the as-built instrumentation piping to match plant drawings, and removed and tested excess flow check valve XFV-57 to verify proper operation. Additionally, the licensee conducted an extent-of-condition review to verify that no other similar conditions existed in the plant with any other instrumentation piping lines. The licensee's analysis of the condition showed that, despite the crossed instrument lines, no instrumentation or other equipment had been rendered inoperable by the construction error. As a result, the inspectors concluded that the failure to perform the appropriate TS testing of excess flow check valve XFV-57 constituted a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the Enforcement Policy. The licensee entered this issue into their corrective action program as CR 20011860.

.8 (Closed) Licensee Event Report 50-263/2001-010: “Standby Gas Treatment System Train "A" Fails to Meet In-Place Halogenated Hydrocarbon Leakage Test Acceptance Criterion Due to Slight Distortions in Filter Frame”

a. Inspection Scope

The inspectors evaluated LER 50-263/2001-010, “Standby Gas Treatment System Train "A" Fails to Meet In-Place Halogenated Hydrocarbon Leakage Test Acceptance Criterion Due to Slight Distortions in Filter Frame.”

b. Findings

During normal plant operation on April 11, 2001, SBGT Train "A" failed to meet TS acceptance criteria during testing. Upon examination, the licensee discovered that some charcoal filter units in place in that train had small gaps and irregularities between the filter frames and the gasketed seating surfaces of the trays in which the filter frames sat. This allowed excessive leakage of air past the filter units and resulted in TS limits being exceeded. Subsequently, the licensee repaired the charcoal filter units and retested the SBGT train successfully.

The licensee's analysis of the condition indicated that even with conservative assumptions, the condition would not result in more than a 2 percent increase in the thyroid dose offsite documented in the Updated Safety Analysis Report (USAR), and still remained well below 10 CFR 100 limits. Similarly, the condition was analyzed to result in no more than a 0.5 percent increase in the USAR thyroid dose to control room personnel, and still remained well below the 10 CFR 50, Appendix "A," limits. A similar condition evaluated by the inspectors in a previous report (NRC Inspection Report 50-263/00-04, Section 4OA3.1), culminated in a Phase 3 SDP analysis which supports the licensee's conclusions. As a result, the inspectors concluded that the failure of the SBGT "A" Train to meet the applicable TS acceptance criteria for leakage constituted a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the Enforcement Policy. The licensee entered this issue into their corrective action program as CR 20012154.

.9 (Closed) Unresolved Item 50-263/01-02-04: “The requirements of the ASME Boiler and Pressure Vessel Code, Section XI, as required by 10 CFR 50.55a”

a. Inspection Scope

The inspectors reviewed personnel performance, recovery actions, and licensee response to the initiation of a plant shutdown required by TS due to non-compliance with the Code requirements for reactor SRVs. The inspectors also reviewed the licensee's application for an associated NOED, and, to the extent practicable, verified the licensee's actions following receipt of the NOED.

b. Findings

On January 29, 2001, during a review of the extent of condition for Code non-compliance issues, the licensee identified that replacement of SRV actuator assemblies were not controlled in accordance with Code requirements. The licensee had determined that ANII involvement and completion of required NIS-2 forms had not been accomplished for replacement of SRV actuator assemblies. This resulted in the licensee declaring all SRVs inoperable and conducting a power reduction as required by TS 3.6.E.1.

Technical Specification 3.15.A.1 stated, "To be considered operable quality group A, B, and C components shall satisfy the requirements contained in Section XI of the ASME Boiler and Pressure Vessel Code and Applicable Addenda for continued service of ASME Code Class 1, 2, and 3 components, respectively, except where relief has been granted by the Commission pursuant to 10 CFR Part 50, Section 50.55a(g)(6)(i)." The licensee concluded that application for a NOED relative to this TS, and submittal of an exigent TS amendment to move ISI requirements to a licensee controlled document, would provide the ability to disposition the SRV non-compliance, as well as any future non-compliance issues, using the corrective action program and the Generic Letter 91-18 operability determination process.

The licensee requested enforcement discretion from the requirements of TS 3.15.A.1 until an exigent TS amendment could be processed. Concurrently with the request for a NOED, the licensee performed operability determinations to demonstrate functionality of the SRVs. The issues were addressed by the licensee in an application for a NOED that was completed in parallel with the unit shutdown activities. The licensee discontinued plant shutdown activities after being granted a NOED (No. 01-6-002) and completion of operability determinations for the SRVs that demonstrated that the valves remained operable but degraded with respect to Code compliance issues.

The inspectors reviewed the circumstances that led to the need for a NOED, and the extent of the condition with respect to Code compliance. The results of this inspection are documented in this report under the closeout of the associated LER 50-236/2001-02 (Section 4OA3.4). The licensee entered this issue into their corrective action program as CR 20010344. The licensee continues to evaluate the ISI program against the requirements of the Code, and to take actions in accordance with their plan to restore Code compliance.

.10 (Closed) Licensee Event Report 50-263/2001-005: "Ten Minute Torus Cooling Design Assumption Not Achievable"

a. Inspection Scope

The inspectors evaluated LER 50-263/2001-005, "Ten Minute Torus Cooling Design Assumption Not Achievable."

b. Findings

The licensee identified several issues associated with assumptions related to the initiation of torus cooling. Specifically, 1) the ability of operators to place torus cooling in service within ten minutes as required by the safety analysis report was in doubt; 2) an emergency operating procedure requirement to wait until the reactor vessel was refilled, during certain accident conditions, impacted the time when torus cooling could be placed in service; and 3) vessel level instrumentation that had a slightly higher probability for reference leg flashing which affected the time when the transfer to torus cooling would be made during post accident conditions.

The licensee modified the instrument reference legs to remove the concerns associated with reference leg flashing (Section 4OA3.7). Additionally, the licensee entered the remaining issues into their corrective action program as CR 20010614, "Initiation of Torus Cooling for Small Break LOCA [Loss of Coolant Accident] Is Not Consistent with Design Basis Event Assumptions." The inspectors reviewed CR 20010614 (Section 1R15) and the modification to associated vessel level instrumentation (Section 1R17) and concluded the design control and procedural issues were violations of minor significance that were not subject to enforcement action in accordance with Section IV of the Enforcement Policy.

4OA6 Meeting

Exit Meeting

The inspectors presented the inspection results to Mr. Forbes and other members of licensee management on August 14, 2001. 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.

The inspectors presented the preliminary Radiological Material Control Program and Radiological Environmental Monitoring Program inspection results to Mr. Morris, Site Vice President, on July 19, 2001. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On July 11, 2001, the NRC presented the End of Cycle Assessment results to licensee management in a public meeting. Handouts used during the meeting are included as an attachment to this report.

4OA7 Licensee-Identified Violation

The following finding of very low significance 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. If you deny this NCV, you should provide a response with the basis of your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Monticello facility.

| NCV Tracking Number | Requirement Licensee Failed to Meet |
|---|---|
| NCV 50-263/01-07-04 | On July 11, 2001, the licensee identified that shipping bolts had been left installed on the drywell-to-torus vent bellows protection cover. The licensee documented this in CR 20014046, "Drywell to Torus Vent Pipe Bellows May Have Shipping / Installation Attachments That Partially Impede Axial Motion." The failure to remove shipping bolts required by the torus design basis, as indicated in the applicable construction drawings, is a violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," and is being treated as a Non-Cited Violation. |

## KEY POINTS OF CONTACT

Licensee

J. Forbes, Site Vice President
J. Grubb, General Superintendent, Engineering
K. Jepson, General Superintendent, Chemistry and Radiation Services
B. Linde, Superintendent, Security
G. Mathiasen, Site Health Physicist and Acting Radiation Protection Manager
D. Neve, Acting Licensing Project Manager
J. Purkis, Plant Manager
B. Sawatzke, General Superintendent, Maintenance
C. Schibonski, General Superintendent, Safety Assessment
E. Sopkin, General Superintendent, Operations
L. Wilkerson, Manager, Quality Services

NRC

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

## ITEMS OPENED, CLOSED, AND DISCUSSED

Open

| | | |
|---|---|---|
| 50-263/01-07-01 | NCV | Design Control Issue Associated with Turbine Building HELB Barrier Walls (Section 4OA3.1) |
| 50-263/01-07-02 | NCV | Failure to Follow Technical Specifications Relating to the Inservice Testing of ECCS Check Valves (Section 4OA3.2) |
| 50-263/01-07-03 | NCV | Failure to Follow Technical Specifications Relating to Inservice Inspection and Replacement of SRV Topworks (Section 4OA3.4) |
| 50-263/01-07-04 | NCV | Failure to Remove Torus Bellows Shipping Bolts (Section 4OA7) |
| 50-263/01-07-05 | URI | Unplanned Transients per 7000 Critical Hours Performance Indicator (Section 4OA1.3) |

Closed

| | | |
|---|---|---|
| 50-263/01-07-01 | NCV | Design Control Issue Associated with Turbine Building HELB Barrier Walls (Section 4OA3.1) |
| 50-263/01-07-02 | NCV | Failure to Follow Technical Specifications Relating to the Inservice Testing of ECCS Check Valves (Section 4OA3.2) |
| 50-263/01-07-03 | NCV | Failure to Follow Technical Specifications Relating to Inservice Inspection and Replacement of SRV Topworks (Section 4OA3.4) |
| 50-263/01-07-04 | NCV | Failure to Remove Torus Bellows Shipping Bolts (Section 4OA7) |
| 50-263/2001-01 Revision 1 | LER | Deficient Procedures Fail to Provide Proper Independent Verification (Section 4OA3.3) |
| 50-263/2001-02 Revisions 0 and 1 | LER | Failure to Comply with Technical Specification and ASME Code Section XI Inservice Inspection Requirements (Section 4OA3.4) |
| 50-263/2001-03 | LER | Failure to Enter 36-Hour LCO for Standby Gas Treatment System (Section 4OA3.5) |
| 50-263/2001-04 | LER | Testing of Recombiner Space Heaters Not Performed Due to Inadequate Procedures (Section 4OA3.6) |
| 50-263/2001-05 | LER | Ten Minute Torus Cooling Design Assumption Not Achievable (Section 4OA3.10) |
| 50-263/2001-07 | LER | Failure to Comply with Technical Specification and ASME Code Section XI Inservice Testing Requirements (Section 4OA3.2) |
| 50-263/2001-08 | LER | High Energy Line Break Barriers Found in an Unanalyzed Condition (Section 4OA3.1) |
| 50-263/2001-09 | LER | Construction Error Results in Failure to Perform Periodic Testing of One Instrument Line Excess Flow Check Valve (Section 4OA3.7) |
| 50-263/2001-10 | LER | Standby Gas Treatment System Train "A" Fails to Meet In-Place Halogenated Hydrocarbon Leakage Test Acceptance Criterion Due to Slight Distortions in Filter Frame (Section 4OA3.8) |
| 50-263/01-02-04 | URI | The requirements of the ASME Boiler & Pressure Vessel Code, Section XI, as required by 10 CFR 50.55a (Section 4OA3.9) |

Discussed

None.

LIST OF ACRONYMS USED

| | |
|---|---|
| ANII | Authorized Nuclear Inservice Inspector |
| ASME | American Society of Mechanical Engineers |
| CGC | Combustible Gas Control |
| CR | Condition Report |
| DRP | Division of Reactor Projects |
| ECCS | Emergency Core Cooling System |
| EDG | Emergency Diesel Generator |
| HELB | High Energy Line Break |
| HPCI | High Pressure Core Injection |
| IR | Inspection Report |
| ISI | Inservice Inspection |
| LCO | Limiting Condition for Operation |
| LER | Licensee Event Report |
| LOCA | Loss of Coolant Accident |
| LPCI | Low Pressure Coolant Injection |
| MCC | Motor Control Centers |
| NCV | Non-Cited Violation |
| NOED | Notice of Enforcement Discretion |
| NUMARC | Nuclear Management and Resources Council |
| ODCM | Offsite Dose Calculation Manual |
| PI | Performance Indicator |
| RCIC | Reactor Core Isolation Cooling |
| REMP | Radiological Environmental Monitoring Program |
| RHR | Residual Heat Removal |
| SBGT | Standby Gas Treatment |
| SDP | Significance Determination Process |
| SRV | Safety Relief Valve |
| TLD | Thermoluminescent Dosimeter |
| TS | Technical Specification |
| URI | Unresolved Item |
| USAR | Updated Safety Analysis Report |
| Vac | Volts Alternating Current |

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

| | | |
|---|---|---|
| NH-36249 | HPCI Steam Side | Revision AF |
| NH-36250 | HPCI Water Side | Revision Y |
| Section B.8.1.3 | Design Basis Document for RHR Service Water | Revision 2 |
| | Operations Manual: | |
| Section B.3.2 | - High Pressure Coolant Injection | |
| Section B.3.4 | - Residual Heat Removal System | |
| Section B.8.1.3 | - RHR Service Water System | |
| M-120 | [Division 2] Residual Heat Removal System | Revision BH |
| M-121 | [Division 1] Residual Heat Removal System | Revision BK |
| M-112 | RHR Service Water and Emergency Service Water System | Revision BF |
| M-811 | Service Water and Make-up Water Intake Structure | Revision C |
| | Technical Specifications and Bases: | |
| TS 3/4.5 | - Core and Containment Spray/Cooling Systems | |
| | Updated Safety Analysis Report (USAR): | Revision 18 |
| Section 6.2.3 | - Residual Heat Removal System | |
| Section 10.4.2 | - Residual Heat Removal Service Water System | |

1R05 Fire Protection

| | | |
|---|---|---|
| NX-16991 | Technical Manual, Monticello Updated Fire Hazards Analysis | |
| | Monticello Fire Strategies: | |
| A.3-03-B | - Standby Liquid Control Area | Revision 4 |

| | | |
|---|---|---|
| | Procedures and Administrative Work Instructions (AWIs): | |
| 4AWI-08.01.01 | - Fire Prevention Practices | Revision 16 |
| 4AWI-08.01.02 | - Combustion Source Use Permit | Revision 6 |
| 0271 | - Fire Hose Station and Yard Hydrant Hose House Equipment Inspection | Revision 27 |
| 0275-2 | - Fire Barrier Wall, Damper, and Floor Inspection | Revision 16 |
| 0274 | - Fire Hose Hydrostatic Test Interior Hose Stations | Revision 18 |
| 0275-1 | - Fire Barrier Penetration Seal Visual Inspection<br>- Fire Barrier Wall, Damper, and Floor Inspection | Revision 9 |
| QUAD-5-80-009 | Quadrex Corporation Report, Specifications for Installation of Electrical and Mechanical Penetration Seals at the Monticello Nuclear Generating Plant | Revision 7 |
| | Technical Specifications and Bases: | |
| TS 3/4.13 | - Fire Detection and Protection Systems | |
| A.3-01-C | Fire Zone 1C, RCIC Pump Room | Revision 2* |
| A.3-01-D | Fire Zone 1D, Reactor Building Tank Room | Revision 3 |
| A.3-01-E | Fire Zone 1E, HPCI Room | Revision 4 |

1R07 Heat Sink Performance

| | | |
|---|---|---|
| CA-01-144 | EDG Heat Exchanger Thermal Performance Rebaseline Calculation | |
| CR 20003631 | Nonconservative Heat Transfer Rate Used In EDG Bounding Calculation and Hx Jacket Flow Not Verified In Hx Performance Test | |
| CA-01-114 | EDG ESW Heat Exchanger Performance Test - Summer 2001 | |
| 3034, No. 01-31 | Install Temperature Recorder to Run Annual Test on 12 EDG | Revision 20 |
| 3278 | 10 CFR 50.59 Screening for 1404-1/2 EDG ESW Heat Exchanger Performance Test Instrument Installation | |

1R12 Maintenance Rule Implementation

| | | |
|---|---|---|
| | NUMARC [Nuclear Management and Resources Council]: | |
| 93-01 | - Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants | Revision 2 |
| 93-01, Section 11 | - Assessment of Risk Resulting from the Performance of Maintenance Activities | February 22, 2000 |
| | Regulatory Guides: | |
| 1.160 | - Monitoring the Effectiveness of Maintenance at Nuclear Power Plants | Revision 2 |
| 1.182 | - Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants | May 2000 |
| 05.02.01 | Engineering Work Instruction, Monticello Maintenance Rule Program Document | Revision 3 |
| | Monticello Maintenance Rule Periodic Assessment Report | 1st Quarter - 2001 |
| | Operations Manual: | |
| Section B.3.2 | - High Pressure Coolant Injection (HPC) | |
| Section B.5.5 | - Reactor Manual Control (RMC) | |
| Section B.4.2 | - Secondary Containment (SCT) | |
| | Maintenance Rule Program System Basis Document: | |
| Section B.3.2 | - HPC | Revision 1 |
| Section B.5.5 | - RMC | Revision 2 |
| Section B.4.2 | - SCT | Revision 0 |
| | USAR: | Revision 18 |
| Section 6.2 | - ECCS (Emergency Core Cooling Systems) | |
| Section 7.2 | - Reactor Control Systems | |
| Section 5.3 | -Secondary Containment | |
| | Work Orders: | |
| WO 0000785 | Repair HPCI-90, Valve Will Not Close | |
| WO 0105685 | Perform 18 Month PMs and Tests on SBGT a Train | |
| WO 0003653 | Loss of Control Power for Div. I of OG Dilution | |
| WO 0003445 | Stack Total Air Flow Measurements Not Within Tolerance | |
| CR 20001612 | Unplanned HPCI LCO due to Under-voltage on D31206 Due to Failure of the Under-voltage Coil | |

1R13 Maintenance Risk Assessments and Emergent Work Control

| | | |
|---|---|---|
| | Procedures: | |
| 4AWI-04.01.01 | - General Plant Operating Activities | Revision 28 |
| SWI-14.01 | - Risk Management of On-line Maintenance | Revision 0 |

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events

| | | |
|---|---|---|
| CR 20014681 | Evaluate Past Operability of Primary Containment With the Shipping Bolts Installed as Was Found on 7/11/2001 | |
| | Control Room Logs 7/11/2001 | |
| | Shift Supervisor Logs 7/11/2001 | |
| 30.330.06 | Nutech Calculation - Vent Line Bellows Analysis | |
| CA-01-164 | Determination of Vent Line Bellows Differential Displacements | |
| CA-01-165 | Determination of Limiting Accident Scenarios for Vent Line Bellows Displacement | |
| 8874 | Torus Vent Line Expansion Bellows Shipping Bolt Clearance Determination | Revision 0 |

1R15 Operability Evaluations

| | | |
|---|---|---|
| Section B.03.05 | Operations Manual - Standby Liquid Control | |
| TS 3/4.4 | Technical Specification and Basis - Standby Liquid Control | |
| CR 98002229 | Relief Valves Lifting Early | |
| N386-C001 | Senior Flexonics Inc. - Bellows Design Calculation | Revision 0 |
| CR 19990745 | 11 Service Water Pump Experienced High Vibrations Following Pump Overhaul | |
| | P-102A Equipment Vibration Traces | |
| N386-C001 | Senior Flexonics Inc. - Bellows Design Calculation | Revision 1 |

| | | |
|---|---|---|
| CR 20010614 | Initiation of Torus Cooling for Small Break LOCA is Not Consistent with Design Basis Event Assumptions | |
| CR 20011494 | Review of Assumptions in Accidents and Licensee Bases Events for Control or Plant Initial Conditions & Operator Actions | |
| CR 20014681 | Evaluate Past Operability of Primary Containment With the Shipping Bolts Installed as Was Found on 7/11/2001 | |

1R17 Permanent Plant Modifications

| | | |
|---|---|---|
| 1Q075 | Design Change - Fuel Zone Level Instrumentation | |
| B.03.04 | Residual Heat Removal System | |

1R19 Post-Maintenance Testing

| | | |
|---|---|---|
| CA-01-144 | EDG Heat Exchanger Thermal Performance Rebaseline Calculation | |
| CA-01-114 | EDG ESW Heat Exchanger Performance Test - Summer 2001 | |
| 3034, No. 01-31 | Install Temperature Recorder to Run Annual Test on 12 EDG | Revision 20 |
| 3278 | 10 CFR 50.59 Screening for 1404-1/2 EDG ESW Heat Exchanger Performance Test Instrument Installation | |
| | Technical Information Bulletin, Hydraulic and Sway Arrester GE SF 1154 Silicone Fluid | |
| N94-235 | Non-Conformance Report - Functional Test Failure SS-707 | |
| CR 19941077 | Snubber Lubricant Degradation In High-temperature | |

1R22 Surveillance Testing

| | | |
|---|---|---|
| 0255-02-III | SBLC Pump Inservice Test | Revision 33 |
| 0255-02-IA-1 | SBLC Valve Inservice Test | Revision 33 |

| | | |
|---|---|---|
| 4 AWI-09.04.01 | Inservice Testing Program Implementation | |
| B.03.05 | Operations Manual - Standby Liquid Control | |
| | Technical Specifications and Bases: | |
| TS 3/4.4 | - Standby Liquid Control | |
| TS 3/4.1 | - Protective Instrumentation | |
| CR 98002229 | Relief Valves Lifting Early | |
| 0011-A | Turbine Control Valve Fast Closure Scram Test and Calibration (>30% of Rated) | Revision 3 |

2PS3 REMP

| | | |
|---|---|---|
| CR 19992460 | Sewage Lift Station Radiation Monitor | Aug. 20, 1999 |
| CR 20004269 | Trash Truck Radiologically Surveyed Prior to Leaving Site. Should Others be Surveyed? | July 19, 2001 |
| CR 20004630 | Erratic MET Wind Speed and Direction Indications Due to Frost, Snow and Ice | Nov. 29, 2000 |
| CR 20010459 | Composite Tank Sample Line | Jan. 28, 2001 |
| CR 20010795 | Install Met One Model 50.5 Wind Sensors on MET Train B and MET Backup | Feb. 12, 2001 |
| CR 20012138 | Sewage Lift Station Monitor | April 11, 2001 |
| CR 20012155 | Create Abnormal Procedure to Direct Operations During Failure or Apparent Failure of the Sewage Lift Station Monitor | April 11, 2001 |
| CR 20012354 | Sewage Lift Station Remote Alarm C-249-A-1 | April 21, 2001 |
| CR 20012484 | Hydrolazing TB Drains Resulted in Radioactivity Reaching TBNWS. | July 10, 2001 |
| CR 20012540 | Evaluate Need for Training for Modification 00Q385 | May 4, 2001 |
| CR 20012806 | Procedure 0498 Wording is not Consistent with Tech. Spec. Procedure has Typo. | May 23, 2001 |
| CR 20013022 | Elevated Stack Release Rates for 20 Hours | June 1, 2001 |
| CR 20013397 | Received Sewage Lift Station Alarm | June 15, 2001 |
| WO 0108317 | REMP Air Sample Cartridge Holders Need Gaskets | July 18, 2001 |

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|---|---|---|
| AG 2000-S-2 | REMP/Radioactive Waste and Sealed Sources | July 24, 2000 |
| OR 2000092 | Observation Report Monticello Radiation Protection Program | April. 4 - 28, 2000 |
| OR 2000093 | Observation Report Monticello Radiation Protection Program | May 2 - 12, 2000 |
| OR 2000094 | Observation Report Monticello Radiation Protection Program | May 10 - 18, 2000 |
| OR 2001061 | Observation Report Monticello Sealed Source Control | May 23 - 31, 2001 |
| OR 2001063 | Observation Report Monticello Sealed Source Control | May 15 - June 4, 2001 |
| Self-Assessment | Chemistry and Radiation Protection Effectiveness Report- 3rd Quarter 2000 | Dec. 6, 2000 |
| Self-Assessment | Chemistry and Radiation Protection Effectiveness Report- 4rd Quarter 2000 | March 28, 2001 |
| Self-Assessment | Chemistry and Radiation Protection Effectiveness Report-1st Quarter 2001 | May 15, 2001 |
| | 2000 Annual Radiation Environmental Monitoring Report | April 27, 2001 |
| | Effluent and Waste Disposal Semi-Annual Report for January Through June, 2000 | Aug. 25, 2000 |
| | Effluent and Waste Disposal Semi-Annual Report for July Through December, 2000 | Feb. 26, 2001 |
| MNGP 1.05.01 | Turbine Building Normal Drain Sump Sampling | Revision 6 |
| MNGP 1.05.02 | Service Water Sampling | Revision 7 |
| MNGP 1.05.03 | Discharge Canal Sampling | Revision 11 |
| MNGP 1.05.15 | Sumps and Tanks Sample Procedure | Revision 4 |

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|---|---|---|
| MNGP 1.05.22 | Sewer Lift Station Sampling | Revision 2 |
| MNGP 1.06.10 | Abnormal Release Determination | Revision 12 |
| MNGP 1.06.12 | Meteorological/Radiological Data Review | Revision 2 |
| MNGP 11.11 | Sampling Frequencies | Revision 5 |
| MNGP R.06.02 | Unconditional Release of Equipment or Material | Revision 10 |
| MNGP R.06.05 | Conditional Release of Radioactive Material | Revision 9 |
| MNGP R.06.09 | Storage and Inventory of Radioactive Material Outside the Power Block | Revision 7 |
| MNGP 0492-01 | Weekly Radiological Environmental Monitoring Procedure (REMP) | Revision 9 |
| MNGP 0495 | Quarterly Environmental Ground Water Sampling | Revision 6 |
| MNGP 0498 | Environmental Milk Sampling | Revision 4 |
| MNGP 0498 | Environmental Milk Sampling | Revision 6 |
| MNGP 1323 | Sewer Radiation Monitor Calibration | Revision 1 |
| MNGP 5791-403-1 | Weekly Sampling Schedule | Revision 4 |
| MNGP 5829 | REMP Air Sampler Calibration | Revision 3 |
| MNGP 7320 | Meteorological Station Calibration Procedure | Revision 8 |
| MNGP 7320 | Meteorological Station Calibration Procedure | Revision 9 |

4OA1 Performance Indicator Verification

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|---|---|---|
| NEI 99-02 | Regulatory Assessment Performance Indicator Guideline | Revision 1 |
| 0000-J | Operations Daily Log - Part J, Outplant | Revision 80 |
| 3530-11 | NRC Performance Indicator Initiating Events Worksheet | Revision 1 |
| 3530-12 | NRC Performance Indicator Drywell Equipment Drain Leakage Worksheet | Revision 0 |
| 3530-13 | NRC Performance Indicator Unplanned Power Changes Per 7000 Critical Hours Worksheet | Revision 0 |

Monthly Effluent Release and Offsite Dose Summarys 2000 and 2001

4OA3 Event Follow-up

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| CR 20011481 | Bechtel Calculation Used Incorrect Load Combination for the HELB Barrier Over Turbine Building Stairwell No. 1 | |
| CR 20011082 | Plant Shutdown Commenced due to HPCI and Both LPCI Injection Paths Inoperable. Unplanned LCO and 48 Hour Notification. | |
| CR 20010344 | NIS-2 Forms Not Filled out in Accordance with 1986 ASME Section XI Requirements for Snubber Replacements | |
| CR 20011236 | MNGP Section XI IST Extent of Condition Assessment | |
| CR 20010846 | Past SBGT On Line Maintenance Failed to Enter 36-Hour LCO When Doors Were Opened for Access Within Each Filter Unit | |
| CR 20010904 | Technical Specification 4.7.E Requirement to Perform Resistance to Ground Check on All Heaters Not Done for CGC System Trickle Heaters | |
| CR 20011860 | Construction Error Results in Failure to Perform Periodic Testing of One Instrument Line Excess Flow Check Valve | |
| CR 20012154 | "A" SBGT Failed Technical Specification Surveillance Associated With Charcoal Filters | |
| Appendix I | USAR - Evaluation of High Energy Line Breaks Outside Containment | Revision 18 |
| | Monticello Inservice Inspection Examination Plan, Third Interval June 1, 1992, through May 31, 2002 | Revision 3 |