March 22, 2001

Mr. J. Morris
Site General Manager
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 50-263/01-11(DRP)

Dear Mr. Morris:

On March 1, 2001, the NRC completed a team inspection at the Monticello Nuclear Generating Plant. The enclosed report documents the inspection findings which were discussed on March 2, 2001, with you, Mr. Mike Wadley, and members of your staff.

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

On the basis of the sample selected for review, the team concluded that problems were generally identified, evaluated, and corrected effectively. From our review, it was evident that you have made significant improvements to your corrective action program over the past year and have additional changes planned for the near future. These improvements and changes, if effectively implemented, should increase the overall effectiveness of your program.

There were two Green findings identified during this inspection. One finding involved the failure to verify the position of valves following calibration of individual instrument channels. The second finding involved inadequate corrective action for possible degraded relays. Both of these findings were determined to be violations of NRC requirements. However, because of their very low safety significance and because they have been entered into your corrective action program, the NRC is treating these issues as Non-Cited Violations, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny these Non-Cited Violations, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington D.C. 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at Monticello.

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

Sincerely,

/RA/

Bruce Burgess, Chief
Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 50-263/01-11(DRP)

cc w/encl: Plant Manager, Monticello
M. Wadley, Chief Nuclear Officer
S. Northard, Nuclear Asset Manager
M. Roth, Site Licensing Manager
J. Malcolm, Commissioner, Minnesota
Department of Health
J. Silberg, Esquire
Shaw, Pittman, Potts, and Trowbridge
R. Nelson, President
Minnesota Pollution Control Agency
Commissioner, Minnesota Pollution Control Agency
D. Gruber, Auditor/Treasurer
Wright County Government Center
Commissioner, Minnesota Department of Commerce
A. Neblett, Assistant Attorney General

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-263
License No:	DPR-22
Report No:	50-263/01-11(DRP)
Licensee:	Nuclear Management Company, LLC
Facility:	Monticello Nuclear Generating Plant
Location:	2807 West Highway 75 Monticello, MN 55362
Dates:	February 12 through March 1, 2001
Inspectors:	M. Kunowski, Project Engineer (Lead Inspector) S. Sheldon, Reactor Engineer K. Walton, Reactor Engineer
Approved by:	Bruce Burgess, Chief Projects Branch 2 Division of Reactor Projects

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner, which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

SUMMARY OF FINDINGS

IR 05000263-01-11(DRP), on 02/12 - 03/01/2001, Nuclear Management Company, LLC. Monticello Nuclear Generating Plant, annual baseline inspection of the identification and resolution of problems. Two violations of 10 CFR Part 50, Appendix B requirements were identified.

The inspection was conducted by two regional projects inspectors and a regional engineering inspector. Two Green issues of very low safety significance were identified during this inspection and were classified as Non-Cited Violations. These issues were evaluated using the significance determination process.

Identification and Resolution of Problems

The team identified that the licensee was generally effective at identifying problems and putting them into the corrective action program. A probing series of audits and self-assessments of the corrective action program and oversight by offsite and onsite review groups in the past year have resulted in the implementation of many program improvements and the planning of additional changes for the near future. These enhancements included strengthened procedural guidance, standardization of root cause evaluations, increased accountability for timeliness goals, and earlier involvement of licensed operators in the initial evaluation of equipment concerns. Notwithstanding these implemented and planned improvements, the team and NRC inspectors conducting reviews of the problem identification and resolution process as part of the routine baseline inspection program, have continued to identify examples of inadequate problem identification and evaluation, untimely problem evaluation and resolution, and ineffective corrective actions. The inspectors did not find any reluctance by station employees to raise safety concerns.

Cornerstone: Mitigating System

- Green. During observation of an instrument calibration, the inspectors identified that licensee procedures for calibration of the reactor SCRAM discharge volume high level instruments were inadequate in that they did not require verification of proper valve alignment after calibration of individual instruments. The failure to include the verification requirement in the procedure was considered a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings.”

  This finding was determined to have very low safety significance because verification of the position of the valves after all individual instruments were calibrated confirmed that they were properly aligned (Section 4AO2.a.(2)).

Cornerstone: Barrier Integrity

- Green. Corrective actions for an earlier problem with some Struthers-Dunn relays were not effective in preventing a similar failure of a Struthers-Dunn relay in October 2000 that rendered a train of the control room ventilation system inoperable. The failure to take effective corrective actions for the earlier event was determined to be a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action.”

  This finding was determined to have very low safety significance because the other train of control room ventilation remained operable (Section 4OA2.c.(2)).

Report Details

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

a. Effectiveness of Problem Identification

(1) Inspection Scope

The inspectors conducted plant tours, observed surveillance tests in progress, interviewed plant personnel, and reviewed inspection reports, condition reports (CRs) and associated corrective action program documents. In addition, selected maintenance work orders (WOs) for two high risk systems (HPCI (High Pressure Coolant Injection) and primary containment isolation) were reviewed to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The inspectors also reviewed several licensee audits and self-assessments. The effectiveness of the audits and assessments was evaluated by comparing the audit and assessment results against self-revealing and NRC-identified issues. Listings of the documents requested by the inspectors prior to the inspection and those documents reviewed during the inspection are included at the end of this report.

(2) Issues and Findings

One Non-Cited Violation (NCV) of very low safety significance (Green) was identified. From discussions with plant personnel and a review of records, particularly the audits and self-assessments conducted of the corrective action program during 2000, the inspection team concluded that the Monticello corrective action program was effective overall, but was a program in transition, where several deep-probing audits and assessments and rigorous oversight by CARB (Corrective Action Review Board) and SAC (Site Audit Committee, the offsite review group) have resulted in numerous recently or soon-to-be implemented improvements in the program.

The team determined that, in general, the licensee was effective at identifying problems and entering them into the corrective action program. Strong emphasis by station management in the past year or so has resulted in a large increase in the number of problems identified and entered into the corrective action program. However, continued strong emphasis appeared appropriate owing to the number of problems recently identified by the NRC. For example:

- During a plant tour, the inspectors identified a misalignment of limit switches associated with the scram inlet and outlet valves on several of the control rod drive hydraulic control units (CR 20010918).

- The inspectors' questions, raised during a plant tour, about two limit switches in the reactor core isolation cooling (RCIC) system resulted in the licensee identifying an error in its Component Master List equipment data base (CR 20010896).

- The resident inspectors identified that several snubbers did not have repair and replacement plans and NIS-2 forms and the licensee failed to promptly enter the appropriate LCO (Limiting Condition for Operation) when the snubbers were determined to be inoperable (CRs 20010344 and 20010431 and Inspection Report No. 50-263/01-02).

- On January 10, 2001, the resident inspectors observed during calibration (in accordance with Procedure 0006, SCRAM Discharge Volume Hi Level SCRAM Test and Calibration Procedure) of the SCRAM discharge volume high level instruments that independent verification of proper valve alignment was not performed until all 12 instruments had been calibrated instead of after each instrument had been calibrated. This was contrary to Administrative Work Instrument (AWI) Procedure 4 AWI-04.04.02, "Equipment Positioning, Witness Check, and Independent Verification Methods," Revision 4, and technically rendered multiple instruments simultaneously inoperable. This problem was entered into the licensee's corrective action system as CR 20010194 and subsequently reported to the NRC in Licensee Event Report (LER) 2001-001, Deficient Procedures Fail to Require Independent Verification Following Return to Service of Individual Channels During Instrument Surveillance.

  This issue was considered more than minor because mispositioning of the valves could have rendered these Technical Specification instruments inoperable, a credible impact on safety (in the mitigating systems cornerstone). However, in that the independent verification of the position of the valves conducted after all the instruments had been calibrated confirmed that they were properly aligned, the finding is considered to be of very low safety significance (Green).

  The failure of the licensee to include the independent verification requirement in the procedure is considered a violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which requires, in part, that procedures include appropriate qualitative acceptance criteria (such as, independent verification of valve position) for determining that important activities have been satisfactorily accomplished. This violation is being treated as a Non-Cited Violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 50-263/01-11-01).

  The resident inspectors reviewed the LER and determined that the licensee had not reported in the LER a previous example of an error in returning a Technical Specification required instrument channel to service. This previous example is documented in LER 1985-010, "Reactor SCRAM During MSL [Main Steam Line] Low Pressure Surveillance Test." Although this issue should be corrected and was entered into the licensee's corrective action program as CR 20010899, it constitutes a violation of minor significance (of 10 CFR 50.73(b)(5)) that is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy.

- In early February, a WO was written to replace certain suspect Struthers-Dunn relays that had been unexpectedly found in the reactor vessel water level low-low setpoint circuitry. After this WO had been reviewed at the station's daily meeting for reviewing newly generated WOs and CRs, the resident inspectors questioned whether the issue met the station's guidelines for initiating a CR. The licensee subsequently wrote a CR; however, it erroneously indicated that the relays were found as part of the extent-of-condition review conducted as part of resolution of a problem with Struthers-Dunn relays identified in October 2000 and documented in LER 2000-015, Relay Failure Results in Inoperable Control Room Ventilation (CRV)/Emergency Filtration (EFT) System. In addition, the inspectors noted that after the suspect relays in the low-low setpoint circuitry had been identified, the relays were not subjected to inspections that the licensee indicated in LER 2000-015 would be conducted of suspect Struthers-Dunn relays after weekly cycling.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors assessed the prioritization and evaluation of a selected sample of CRs to verify the appropriateness of the category assigned, operability and reportability determinations, extent of condition evaluations, cause investigations, and assigned corrective actions. As part of this assessment, the inspectors attended the station's daily management meeting where newly generated WOs and CRs were reviewed. The documents listed at the end of the report were used by the inspectors during the assessment of this area.

(2) Issues and Findings

The inspectors determined that, overall, the licensee was adequately prioritizing issues based on safety significance and that the corrective action program effectively addressed condition reports for operability and reportability. In general, the cause evaluations adequately addressed potential causes to the problems and corrective actions were adequate. The licensee has recently changed its root cause determination methodology and the inspectors were unable to determine its adequacy. Exceptions to the inspectors' conclusion of overall adequacy in the prioritization and evaluation of issues are listed below. Several of these examples also include an element of poor timeliness.

- In April 1999, a rupture disk associated with the drywell floor drain unexpectedly ruptured during routine sump operation (CR 19991172). The rupture disk, which had been installed in response to Generic Letter 96-06, Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions, was rated at 852 pounds per square inch (psi), well above the system pressure of 50 psi. The rupture disk was replaced and an evaluation of the piping determined that the rupture disk was appropriately rated to protect the piping, but there was no documented evaluation of the cause of the rupture. The ruptured disk had been sent offsite for analysis, but was lost by the laboratory.

  Another failure occurred in August 2000 (CR 20003279) and an offsite laboratory analysis did not identify any material defect with the ruptured disk. An evaluation

was then initiated to determine the cause of the pressure spike which ruptured the disk, however, the evaluation was in-progress when a third failure occurred in February 2001.

- Tritium was initially identified in the turbine building normal drain sump (TBNDS) in April 1999 (CR 19991972). The issue was investigated and narrowly focused corrective actions were implemented. Tritium was again identified in March 2000 (CR 20001330) and corrective action was developed as a part of the subsequent self-assessment in April 2000 (CR 20001475). The due date for the action was December 30, 2000, which was later changed to March 3, 2001. While the assessment and implementation of corrective actions were in-progress, there were four more instances, during July and August, of tritium in the sump (CR 20002668).

- In October 2000, a Struthers-Dunn relay failed in the "A" train of control room ventilation/emergency filtration (LER 2000-015) and several other relays were found to be degraded. In March 1988, five failed Struthers-Dunn relays were identified during testing of the emergency filtration system. Corrective action for the 1988 problem included the evaluation of the application, operability, and reliability of all Struthers-Dunn relays in the EFT system, and taking further corrective action as needed. The evaluation, which for some unknown reason was not completed until 1995, determined that a number of relays should be replaced periodically; included in this number were 5 of 10 degraded relays and the failed relay that were replaced after the failure in October 2000. However, the 1995 evaluation was revised later (possibly in 1996) reducing the number of relays identified for changeout. Eliminated from the list was the relay that eventually failed in December 2000 - in its 1996 re-evaluation, the licensee concluded that the failure of that relay would not affect system operability - and 5 other relays of the 10 that were changed out in December 2000.

- In January 2001, the resident inspectors identified operability and reportability problems with the inspector-identified issue regarding inservice inspection of safety-related snubbers (CRs 20010344 and 20010431 and Inspection Report 50-263/01-02).

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed condition reports to verify that corrective actions commensurate with the issues were identified and implemented in a timely manner, including corrective actions to address common cause or generic concerns. The documents listed at the end of the report were used during the review.

(2) Issues and Findings

One NCV of very low safety significance (Green) was identified. Through audits and self-assessments, the licensee has recognized the need to improve the timeliness of CR review and approval and the implementation of corrective actions. Changes to guidance in administrative procedures that were planned or implemented during the inspection should improve timeliness. In addition, the licensee had recently changed its procedure

to ensure that onshift licensed personnel promptly reviewed newly generated CRs to help ensure timely consideration of equipment operability, Technical Specification compliance, and reportability concerns. Delayed notification of control room personnel by other plant personnel assessing issues was identified by the resident inspectors for recent significant issues involving torus cooling (Event Number 37765) and ASME (American Society of Mechanical Engineers) Section XI inspection of snubbers (Inspection Report 50-263/01-02).

Formal effectiveness reviews of corrective actions for significant conditions adverse to quality were also in the planning stage or had just been implemented during the inspection. The licensee intended that future reviews would be conducted by the quality assurance organization. Notwithstanding the recentness of effectiveness reviews, the licensee has been generally effective in reviewing CRs and WOs in an effort to identify trends in problems that could indicate ineffective corrective actions. However, the identification by the licensee, after reviewing an observation by the resident inspectors, of a possible trend in the year 2000 for reportable events caused by conditions prohibited by Technical Specifications indicated that additional effort in the area of trending and the effectiveness of corrective actions was warranted (CR 20003792).

In general, corrective actions taken for conditions adverse to quality and significant conditions adverse to quality have generally been effective and timely. Exceptions are discussed below.

- For a problem with water filling the high pressure coolant injection turbine during testing, 11 months elapsed between the occurrence and the approval of the condition report (CR 20000691).

- For a problem with lower than expected flow during a 10-hour run on the “B” train of standby gas treatment (SBGT) due to an open damper, there had been nine different deadlines for completion of the review of the problem and approval of the completed condition report (CR 20001075).

- In March 2000, the reactor building inner railroad doors were chained closed due to a failure to consider high energy line break (HELB) implications and the use of the temporary modification process (CR 20001254). Before the completed CR associated with the problem was approved in November, the doors were again inappropriately secured (in September), this time with tie-wraps (CR 20003688). Although a subsequent analysis concluded that the doors were not needed to open during a HELB, the September event would likely have been prevented by timely completion of the review of the earlier, March event.

- As discussed above in Section a., in 1996, the licensee re-evaluated corrective actions for a problem in 1988 with some Struthers-Dunn relays. This reevaluation also eliminated from a replacement program one relay that subsequently failed and several other relays that were subsequently found to be degraded after an event in October 2000 in which the “A” train of the control room ventilation system was declared inoperable. This issue was considered more than minor because the failure of the control room ventilation system (part of the barrier integrity cornerstone) during an accident could result in unnecessary dose to control room personnel. However, in that only one train

failed and there was no accident at the time, the finding is considered to be of very low safety significance (Green).

The failure to take effective corrective actions for the 1988 event involving Struthers-Dunn relays is considered a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." This violation is being treated as a Non-Cited Violation consistent with Section VI.A.1of the NRC Enforcement Policy (NCV 50-263/01-11-02).

d. Assessment of Safety Conscious Work Environment

(1) Inspection Scope

The inspectors interviewed plant staff to assess whether there were impediments to the establishment of a safety conscious work environment. The inspectors also discussed the implementation of the Employee Concerns Program and reviewed selected results of recent cultural surveys.

(2) Issues and Findings

There were no findings identified in this area and the inspectors identified no impediments to the establishment of a safety conscious work environment. A corporate assessment of the Employee Concerns Programs at Monticello, Prairie Island, and Duane Arnold concluded that Monticello was a negative outlier regarding workforce alignment with the problem reporting system and the inspectors noted that plant employees made little use of the Employee Concern Program; however, the inspectors noted that appropriate actions had been planned or put in place to address these items. From the inspectors' review of records and interviews of plant personnel, it was apparent that plant workers were responding to station management expectations to report problems, either through Employee Observation Record cards, the computerized condition reporting system, or their supervisors. Efforts to re-emphasize the availability of the Employee Concerns Program were also in-progress. The inspectors concluded, based on information collected from personnel interviews and review of issues in the corrective action program, that there was no indication of a reluctance to identify safety issues.

4OA3 Event Follow-up

Cornerstones: Barrier Integrity and Mitigating Systems

.1 (Closed) Licensee Event Report (LER) 50-263/2000-015: Relay Failure Results in Inoperable Control Room Ventilation (CRV)/Emergency Filtration (EFT) System. This issue was determined to be a non-cited violation and is discussed in Sections 4OA2.a.(2), b.(2), and c.(2).

.2 (Closed) LER 50-263/2001-001: Deficient Procedures Fail to Require Independent Verification Following Return to Service of Individual Channels During Instrument Surveillance. This issue was determined to be a non-cited violation and is discussed in Section 4OA2.a.(2).

4OA6 Meeting(s)

.1 Exit Meeting

The inspectors presented the inspection results to Messrs. M. Wadley and J. Morris and other members of licensee management in an exit meeting on March 2, 2001. Licensee management acknowledged the findings presented and indicated that no proprietary information was provided to the inspectors.

PARTIAL LIST OF PERSONS CONTACTED

Nuclear Management Company (NMC)

J. Morris, Site General Manager
B. Day, Plant Manager
P. Burke, Project Manager, Safety Assessment
J. Grubb, General Superintendent, Engineering
R. Goranson, Senior Mechanical Engineer
T. LaPlant, Superintendent of Emergency Preparedness and General Training
B. Linde, Manager, Nuclear Security
S. Ludders, Principal Operations Specialist, Safety Assessment
T. Parker, Senior Consultant, Safety Assessment
D. Pennington, Senior Product Engineer
C. Schibonski, General Superintendent, Safety Assessment
D. Scott, Senior Production Engineer
K. Shriver, Production Engineer
E. Sopkin, General Superintendent, Operations
S. Vanevenhoven, Nuclear Engineer
L. Wilkerson, Manager, Quality Services

NRC

G. Grant, Director, Division of Reactor Projects
B. Burgess, Chief, Reactor Projects Branch 2
S. Burton, Senior Resident Inspector
D. Kimble, Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened and Closed

50-263/01-11-01	NCV	Inadequate procedure for verifying proper valve line-up (Section 4OA2.a.(2))
50-263/01-11-02	NCV	Inadequate corrective actions for faulty relays (Section 4OA2.c.(2))

Closed

50-263/2000-015	LER	Relay Failure Results in Inoperable Control Room Ventilation (CRV)/Emergency Filtration (EFT) System (Section 4OA3.1)
50-263/2001-001	LER	Deficient Procedures Fail to Require Independent Verification Following Return to Service of Individual Channels During Instrument Surveillance (Section 4OA3.2)

Discussed

None

LIST OF ACRONYMS USED

AO	Air-Operated Valve
ASME	American Society of Mechanical Engineers
AWI	Administrative Work Instruction
CARB	Corrective Action Review Board
CR	Condition Report
CRD	Control Rod Drive
CRV	Control Room Ventilation
CV	Control Valve
EDG	Emergency Diesel Generator
EM&P	Electric Maintenance and Protection
EFT	Emergency Filtration
EM&P	Electric Maintenance and Protection
EOP	Emergency Operating Procedure
HELB	High Energy Line Break
HPCI	High Pressure Coolant Injection
HPES	Human Performance Evaluation System
H_2	Hydrogen
INPO	Institute of Nuclear Power Operations
ISI	Inservice Inspection
IST	Inservice Testing
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
LST	Limiting Stroke Time
MO	Motor-Operated Valve
MRFF	Maintenance Rule Functional Failure
NCV	Non-Cited Violation
NMC	Nuclear Management Company
psi	Pounds Per Square Inch
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
SAC	Safety Audit Committee
SBGT	Standby Gas Treatment
SDP	Significance Determination Process
SLC	Standby Liquid Control
TBNDS	Turbine Building Normal Drain Sump
TS	Technical Specification
WO	Work Order

LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection. Inclusion of a document on this list does not imply that NRC inspectors reviewed the entire document, but, rather that selected sections or portions of the document were evaluated as part of the overall inspection effort. In addition, inclusion of a document on this list does not imply NRC acceptance of the document, unless specifically stated in the body of the inspection report.

Administrative Work Instructions (AWIs)

4 AWI-04.04.02, Equipment Positioning, Witness Check, and Independent Verification Methods, Revisions 4 and 5
4 AWI-10.01.01, Corrective Action Program, Revision 6
4 AWI-10.01.02, Employee Observation Reporting, Revision 2
4 AWI-10.01.03, Condition Report Process, Revisions 13 and 14
4 AWI-10.01.04, Operability Determination, Revision 4
4 AWI-10.01.05, Investigation of Level 1 Condition Reports, Revision 2
4 AWI-10.01.06, External Operating Experience, Revision 0
4 AWI-10.01.07, Cause Coding, Revision 0
4 AWI-10.02.01, Actions to Correct Conditions or Prevent Recurrence, Revision 0
4 AWI-10.04.01, "Trending & Analysis," Revision 0
4 AWI-10.05.01, "Management Assessment of Plant Performance," Revision 0
4 AWI-10.05.02, "Self Assessment Program," Revision 1

Other Procedures and Related Documents

0006, SCRAM Discharge Volume Hi Level SCRAM Test and Calibration Procedure, Revision 18
1047-03, Service Water Monitor Backflush, Revision 26
3336, HELB Barrier Start Up - Checklist, Revision 10
9015, Procedure for Inspection of New Fuel, Revision 19
B0412007, Closeout of RE-88-003
B0919029, Closeout of RE-88-003, Revision 1
Operations Manual Section B.03.02-05, HPCI System Operation, Revision 10
Operations Manual Section D.2-05, Reactor & Core Components Handling Equipment, Revision 7
RE 88-03, Missed Surveillance of EDG [Emergency Diesel Generator] Load Sequencing Due to Personnel Error

Condition Reports and Related Corrective Action Program Documents

19961032	RPV [Reactor Pressure Vessel] Vent Line Discrepancies
19962172	Training on Need for Prompt Shift Supervisor Notification When Technical Specification/Operability Related Conditions are Not Satisfied
19962199	Training to Engineering and Technical Staff Group on Lessons-learned in LER 96009 Regarding Proper Notifications and Technical Specification Compliance
19962254	Problems with Yard Hydrant Technical Specification Surveillance
19970099	Yard Hydrant Problems Discussed in Operators Operating Experience Class
19970570	Failure to Request Exemptions on ISI [Inservice Inspection] Welds Which Could Not be Completely Inspected

19970709	HELB Door Identification. Review of Rerate HELB Analysis Found Several Doors Were Being Credited as HELB Barriers That Were Not Being Controlled as HELB Barriers
19972838	HELB AWI Revised to Reflect Actions Consistent With Determining HELB Barriers and Master List Being HELB Startup Checklist
19972842	Updated Startup Checklist Expanded After Review of HELB Interactions. Checklist identified in AWI as Controlling Document
19981218	CRD [Control Rod Drive] Hydraulic Control Unit Description Discrepancies
19990230	Service Water Radiation Monitor Sample System Flush Line Concerns
19990966	Single Failure Vulnerability of the RHR [Residual Heat Removal] System When in Suppression Pool Cooling Mode
19991002	New Fuel Vault Potential Criticality Conditions
19991098	HPCI Declared Inoperable Due to Inlet Drain Pot High Level During Recovery From Procedure 0058
19991146	Reactor Scram 107, Low Reactor Water Level Scram Following Digital Feedwater Controller Failure
19991156	HPCI System Declared Inoperable Due to Moisture in the Turbine Steam Inlet Line
19991163	Reactor Water Level above Main Steam Lines Following Scram 107
19991172	Drywell Floor Drain Rupture Disk Ruptured During Operation. Disk Rating (852 psi) is Well Above System Pressure (50 psi)
19991229	Oxygen Analyzer for Division 1 H_2/O_2 [Hydrogen/Oxygen] Analyzer Failed to Respond When Switched to the Sample Mode
19991492	Locked High Radiation Door Found Unlocked
19991532	Inoperable Torus to Drywell Vacuum Breaker Considered to be a MRFF [Maintenance Rule Functional Failure]
19991566	HPCI to be Declared Inoperable with MO-2071 (HPCI Test Return Isolation Motor-Operated Valve) in the Open Position
19991695	H_2 Spike on Offgas System, Unexpected LCO Entry
19981912	OGH [Offgas] System Bypassed due to 4 percent Hydrogen Spike Following Swap to “A” Recombiner Train
19991972	Tritium Discovered in the TBNDS During Routine Sampling
19991981	Primary Containment Could be Outside its Design Basis Under Certain Conditions
19992003	Deficiencies in the Implementation of the FFD [Fitness For Duty] Guidelines
19992007	4 percent H_2 Spike of Operating Train Received During Swap from “A” to “B” Recombiner Requiring Unplanned LCO
19992331	HPCI has Exceeded its Maintenance Rule Unavailability Performance Criterion
19992386	Failure to Conform With Test 1339 Requirements Did Not Result in Submission of a Condition Report
19993134	During Performance of RCIC Test, RCIC Speed Could Not Be Adjusted In Auto or Manual
19993640	HPCI Support SR-708 Baseplate Loose
20000093	Basis for Volume F 1837 to the EOPs [Emergency Operating Procedures] Did Not Adequately Address Concerns About SBGT Operation
20000132	Local Leak Rates Exceed Technical Specifications Limits (2000 Refueling Outage) and Maintenance Rule Goal Not Met
20000304	Open Stroke Time for [Air-Operated Valve] AO-2380 Exceeded its LST [Limiting Stroke Time] Value of 44 Seconds With a Stroke Time of 44.3 Seconds
20000466	Events During 2000 Outage Revealed Process Issues Associated with Equipment Isolation and Configuration Control

20000544	Self Assess INPO [Institute of Nuclear Power Operations] “Principles of Effective Self-Assessment and Corrective Action Programs,” December 1999
20000627	Procedural Inadequacy Results in Two Automatic Closures of Recirculation Sample Containment Isolation Valves
20000635	Isolation Required Air Operated Valve To Be in the Open Position And Was Not Secured in That Position
20000691	HPCI Turbine Filled with Water During ECCS [Emergency Core Cooling System] Test After Steam Line Hydro [Hydrostatic Test]
20000903	SBGT Room Found To Be at Lower Pressure Than Reactor Building
20001070	Service Water Monitor Alarm Setpoint Does Not Meet TS [Technical Specification] 3.8.A.1.d When No Circulating Water Pumps Are in Operation
20001075	Lower Than Expected Flow Observed on FIC-2942 During 10 Hour Run of SBGT “B” Train Under Test 0253-2 Due to CHV-2946 Open
20001092	Fire Watch Patrol Not Completed Within 1 Hour Technical Specification Requirement
20001096	Primary Containment Isolation of TIP [Traversing Incore Probe] Ball Valves Does Not Function Independently of Normal Controls
20001218	Open Floor Drain in Division 1 4-KV [Kilovolt] Room Resulted in Incorrect Input Assumption for the FW [Feedwater] Break HELB Analysis
20001254	Inappropriate Securing of Inner RB [Reactor Building] RR [Railroad] Door Due to Failure to Consider HELB Implication and Use of the Temporary Modification Process
20001330	Tritium Identified in Condensate From V-AC-3A/B Which Was Directed to TBNDS
20001475	Recurrence of Events That Could Potentially Lead to Unplanned Release of Tritium Via the TBNDS
20001658	AO-2380, Torus to Reactor Building Vacuum Breaker Exceeded the LST in the Open Direction
20001713	Make the CR Software More User Friendly
20001717	CR Process Not Being Fully Utilized by All Sites Groups
20001718	Develop CR Performance Indicators
20001719	Improve Root Cause Techniques
20001720	Improve Investigation Techniques for the Corrective Action Program
20001721	Improve the Documentation of Investigation Activities
20001722	Provide Procedural Guidance on the Knowledge and Skills Required to Conduct Problem Analysis/Corrective Action Determination
20001723	Develop Performance Indicators for Timeliness
20001815	Consultant’s Comments on the Monticello Corrective Action Process
20001842	Develop a Long Range Schedule for Self Assessments
20001843	Revise 4 AWI-10.05.02 on Use of Less Experienced Staff, Outside Members or Management on Self Assessment Teams
20001844	Develop Written Instructions for Determining High Industry Standards or Benchmarking for the Self Assessment Process
20001845	Formalize Training Requirements for Self Assessment Team Members
20001846	Revise 4 AWI-10.05.02 to Add Additional Items to be Considered in Preparing for Focused Self Assessments
20001847	Provide Management Expectation for Completion of CR Actions That Meet Industry Standards
20001848	Revise 4 AWI-10.05.02 to Provide an Overall Review of Self Assessment Program Effectiveness
20001977	Minor Oil Leak on PCV-4214 Diaphragm

20002110	HPCI Overspeed Reset Time Not in Accordance With Technical Manual
20002176	Action 6: Develop Standards and Criteria for Operator Aids on HELB Doors, and Implement
20002214	Determine if 0307 Procedure Needs Upgrading to Note Possible Door Responses Such as Door 46 Opening Easily
20002221	Review 4 AWI-04.04.03, "Bypass Control," Add Chain Examples Under Section 2.1, and Other Changes as Evaluated
20002299	Incorporate Process to Prevent Lubricant Cross-Contamination in Lubrication Program Currently Under Development
20002329	Train Operations Personnel on the Capabilities of CHAMPS [computer software for writing CRS and WOs] Beyond Work Orders and Condition Reports, that is, Equipment Module
20002445	Technical Specification Surveillance Requirement for Containment Isolation Valves Not Performed
20002469	Scaffolding Stored Under Torus May Not be Seismically Analyzed for Impact on Nearby Instruments
20002471	MO-2032, RHR Discharge to Waste Surge Tank Inboard Failed PMT [Post-Maintenance Testing]
20002598	Unplanned Entry Into LCO Due to Inoperable Accident Monitoring Instrument
20002647	Isolation Error Found by Worker During Independent Verification
20002668	Tritium Discovered in the TBNDS During Routine Sampling
20003031	Failure to Meet Condition Report Process Performance Indicators for Timeliness - Identified at 8/7/00 CARB [Corrective Action Review Board] Meeting
20003033	The Equipment Performance Panel Identified Potentially Adverse Trends in Equipment Performance
20003071	Evaluation of Allowable Leak Rate for HPCI Minimum Flow Air Accumulator Check Valve AI-611, May Not Have Been Bounding
20003178	13 RHRSW [Residual Heat Removal Service Water] Pump Motor Heater Issue Not Communicated to Shift Management to Evaluate Operability Impact
20003180	13 RHRSW Pump Declared Inoperable Due to One of the Two Motor Heaters Not Operating
20003212	Develop a Process to Ensure Consistent Assignment of Cause Codes for WOs and CRs
20003279	Second Failure of Rupture Disk PSD-6047
20003281	MO-2373 Failure to Indicate Fully Open Upon Initiation From Control Room
20003291	Results of NMC Operations Assessment (June 26-30) Revealed Improvement Needs in the Area of Verification Practices at Monticello
20003293	To Enhance CR Process by Adding an Associated Field to CHAMPS [computer software for writing CRs and WOs] Issues Module Which Would Be Used to Document the Failed Equipment Type
20003469	Revise 4 AWI-04.04.02 Such That Requirements Are Explicit for the Conduct of Independent Verification and to Prevent Pre-Conditioning Issues
20003587	Equipment Performance Panel Identified a High Number of Corrective Work Orders on the Offgas Compressors
20003610	SLC [Standby Liquid Control] Test Tank Not Recycled Monthly - Not Consistent With Technical Specification Requirements
20003688	Reactor Building Railroad Door 46 Isolated With Tie-Wraps Preventing Doors From Opening Freely
20003722	Conduct Follow-up Monitoring of Policy 00-03 to Verify Adequate Understanding Among Operators

20003724 Include a Section in Operations Training on Jumper Bypass Applicability, and the Use of 4 AWI-10.01.04
20003725 Ensure Adequate Guidance is Available on Which System Engineer to Contact When Questions Arise
20003727 Walkdown HELB Doors and Doors That Impact HELB Analysis to Verify the Doors Conform to Design and Licensing Requirements
20003792 Trend on Recent LERs Caused by Conditions Prohibited by the Technical Specifications
20004033 Negative Trend in Vibration Reaching Alert Level on Various Pieces of Site Equipment
20004042 Route a Read and Sign to All Shifts to Ensure All Operations is Aware What is Considered "Blocking" a HELB Door
20004071 Equipment Performance Panel Identified That Oil Filter Presses Do Not Receive Scheduled Filter Replacement and Are Used with Multiple Oil Types
20004098 Degraded Struthers-Dunn Relays Found in Both Divisions of EFT Unplanned 24 Hour LCO Entered per TS 3.17.A.3.a & 3.17.B.1.b
20004381 Monticello SAC [Safety Audit Committee] Corrective Action Subcommittee Report (10/17/00) Identified Areas for Improvements
20004382 Determine a Management Expectation for the Resources Needed to Assess a Level 2 CR and Communicate Expectation
20004383 Develop a Process to Review Level 2 CRs
20004384 Consider Publishing the CAP [corrective action program] Indicators Once They Represent a True Picture of the Program Health
20004386 Consider a Requirement to Generate a CR for Each Red Performance Indicator Window
20004459 Analyze Previous HELB Events Related to CR 20001254
20004484 Concern with Potential Ineffective Interim Corrective Actions and/or Untimely Evaluations and Actions to Prevent Recurrence Should Be Evaluated in the Assessment of the Second Event [Securing of HELB Door]
20004485 Implement Process for QA [Quality Assurance] to Perform Effectiveness Reviews
20004620 Consider Additions to Peer Checking and Verification Training Materials Based on Findings From the 3rd Quarter Operations Self-Assessment
20004721 Determine If the Goals in the Condition Reports Have Been Met. If Not, Consider Additional Actions
20004793 EM&P (Electric Maintenance and Protection Department) Personnel Records, Eye Tests and Periodic Reviews Out of Date
20004794 EM&P Personnel Are Not Maintaining a Calibrated Tool Usage Log
20004842 CARB Should Review the Proposed Timeliness Goals
20004843 Improve Timeliness of OC [Operations Committee] Review of Level 1 Condition Reports
20004845 Determine if Additional Personnel Should be Trained on CHAMPS [computer software for writing CRs and WOs]
20004876 There is No Timeliness Expectation or Guidelines in 4 AWI-10.01.03 for the Completion of CR Assessments
20004881 Condition Reports Found Where Reviews and Final Approval Were Inadequate by Not Identifying or Correcting Documentation
20004883 Examples of Provision for Due Date Extensions for Condition Reports Not Being Used
20004934 Increase Site Personnel Awareness of the CARB Performance Indicators

20004935	Re-emphasize the Fact That Condition Report Actions Need Not be Completed Prior to Completing the Assessment
20005136	Torus Purge Inboard Isolation Valve AO-2378 Stroke Time was Too Fast in the "Close" Direction per Test 0255-10-IA-1
20010194	Deficient Procedures Fail to Require Independent Verification Following Return to Service of Individual Channels During Instrument Surveillance
20010344	NIS-2 Forms Not Filled Out in Accordance With 1986 ASME Section XI Requirements for Snubber Replacements
20010431	Appropriate LCOs Not Entered When Available Information Indicated That Snubbers Were Inoperable
20010445	Reinforce the Blue Card [Employee Observation Report] Process to the Management Team
20010446	Reinforce the Blue Card Process to the Plant Maintenance Personnel
20010504	SRV [Safety Relief Valve] Topworks Changeout Not Reviewed by ANII [Authorized Nuclear Inservice Inspector] Per Section XI Thereby Initiating Plant Shutdown Per Technical Specification Requirements
20010613	Unexpected Drywell Floor Drain Sump Level Increase
20010614	Initiation of Torus Cooling for Small Break LOCA [Loss of Coolant Accident] Is Not Consistent With Design Basis Event Assumptions
20010810	Examine and Address Technique and Technical Difficulties in Obtaining Consistent CRD Pump Gearbox Vibration Analysis Data
20010874	#11 CRD Pump Tripped When HPCI Started for Surveillance Test
20010896	Switch Model Identification on PS-13-72A/B Do Not Match CML [Component Master List] Information
20010899	LER 2001-001 Submitted to NRC Contained an Inaccurate Statement in the Safety Significance Section
20010900	Contrary to AWIs a CR Was Not Initiated When an Equipment Issue Was Identified Resulting in Delayed Notification of SM [Shift Manager]
20010914	Revise Engineering Standards Manual Sections and Form 3653 to Strengthen Vibration Considerations
20010915	Self Assessment or Benchmark of Monticello Nuclear Generating Plant Maintenance Practices for the Following Activities
20010918	HCU [Hydraulic Control Unit] Scram Valve Limit Switch State (Some are Vulnerable to False Indication) Not Assessed for Impact on OPS ATWS [Operations Anticipated Transient Without SCRAM] Procedures
20011044	NRC Review of List of Relays Identified for Future Replacement Found 4 Relays Which Had Already Been Replaced, as Verified by WO and Visual Inspection

<u>Work Orders</u>

9904937	Inspect and Clean Seats
9904971	Perform Diagnostics on AO-2378
9908298	Replace XR-10-4 and XR-10-2
0000217	Replace 1/4" Copper Tube with 3/8" Copper Tube
0000309	Investigate Slow Stroke Time for AO-2379
0000495	Replace/Adjust Pneumatic Seal System Components
0000558	Install Packing in New XR-10-4 and XR-10-2
0000657	Verify Flange Studs are Sufficiently Torqued
0000672	Replace Gasket Downstream of XR-10-4
0000779	Resolve Stroke Timing Issue for PCAC Valves
0000976	Replace XR-10-4 and XR-10-2 During 2001 RFO [Refueling Outage]

0005027 Perform Diagnostics on AO-2378
0005322 AO-2378 Closing Time Out Side Acceptance Band

Audits and Self-Assessments

Corrective Action Process Self Assessment Evaluation Report, November 27, 2000
Corrective Action Review Board Minutes, January 5, 2001
Equipment Performance Panel Trending and Analysis Reports, 1st, 2nd, and 3rd Quarters of 2000
Generation Quality Services (Quality Assurance) Observation Report 2000186, Corrective Action Program Review
Generation Quality Services Observation Report 2000187, Condition Report Process
Generation Quality Services Observation Report 2000188, Root Cause Evaluation and Training
Generation Quality Services Observation Report 2000189, Corrective Actions, Trends and Reporting
Generation Quality Services Observation Report 2000190, Condition Report Program Self Assessments
Generation Quality Services Observation Report 2000193, EM&P Audit
Generation Quality Services Observation Report 2000203, Calibration and Control of Measuring and Test Equipment
Generation Quality Services Observation Report 2000204, EM&P Self-Assessment
Generation Quality Services Observation Report 2001002, Equipment Status Control and Isolation
Independent Assessment of the Effectiveness of the Operations Improvement Plant, October 2000
Maintenance Rule Periodic Assessment Report, 1st Quarter of 2000
NMC 2000 Employee Concerns Program: Self-assessment Report of DAEC [Duane Arnold Energy Center], Prairie Island and Monticello Nuclear Generating Plants, January 26, 2001
Operations Annual Effectiveness Report for 2000
Operations Department Quarterly Effectiveness Reports of 2000
Operations Self-Assessment for the 2nd Quarter of 2000, Outage Practices
Operations Self-Assessment for the 3rd Quarter of 2000, Equipment Positioning
Operations Self-Assessment for the 4th Quarter of 2000, Plant Status and Configuration Control, Control of Equipment and System Status, and Component Verification
Self-Assessment of INPO Principles For Effective Self-Assessment and Corrective Action Programs, December 1999

Other Documents Reviewed

Emergency Plan Drill Critique Report Conducted November 1, 2000
Maintenance Department Quarterly Effectiveness Report, 3rd Quarter 2000
HPES 99-01, Scram 4/22/99 with Steam Line Flooding, June 17, 1999
Root Cause Analysis Project Team Report (Scrams 107 & 108), October 25, 1999

Licensee Event Reports

1985-010, Reactor SCRAM During MSL [Main Steam Line] Low Pressure Surveillance Test
1988-003, Missed Surveillance of EDG Load Sequencing Due to Personnel Error
1996-009, Failure to Perform the Required Actions Within One Hour Following the Discovery of Water in a Fire Hydrant Barrel
1997-004, Failure to Submit Relief Requests for Limited Inservice Inspection [ISI] Examinations

1997-010, Failure to Include Some Supports on the Reactor Head Vent Line in the ISI Program in the 2nd 10 Year Interval Due to Inaccurate Drawings and Failure to Report This Event in a Timely Manner Due to Personnel Error
2000-014, Missed Standby Liquid Control (SLC) System Surveillance Test
2000-015, Relay Failure Results in Inoperable Control Ventilation (CRV)/Emergency Filtration (EFT) System
2001-001, Deficient Procedures Fail to Require Independent Verification Following Return to Service of Individual Channels During Instrument Surveillance

DOCUMENTS REQUESTED FROM THE LICENSEE PRIOR TO ONSITE INSPECTION

Administrative procedures related to:

- the corrective action process
- the condition reporting process
- actions to correct conditions and prevent recurrence
- trending and analysis
- management assessment of plant performance
- self-assessment program
- investigations
- cause coding
- external operating experience
- operability determinations
- employee observation reporting
- work control process
- controlled document improvement process
- temporary procedure change process
- electrical construction testing discrepancy process
- training remediation process
- fitness for duty process

Audits and self-assessments conducted in 2000 in the following areas:

- corrective action process
- maintenance/work control
- operations

Maintenance rule reports issued for 2000

The year 2000 quarterly “Trend and Analysis Reports” from the “Human Performance, Equipment, and Process Panels”

The operational quality assurance plan

Corrective action effectiveness reviews conducted in 1999 and 2000

Assessments or trending for 2000 as required by the above administrative procedures

Human performance assessments/evaluations conducted in 2000

A listing of:

- root cause evaluations completed in the past two years
- condition reports generated in the past two years related to corrective actions
- work order and condition reports generated in the past two years related to HPCI and primary containment isolation
- temporary modifications
- operability determinations

An index/listing of documents provided