January 22, 2004

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

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT
NRC INTEGRATED INSPECTION REPORT 05000263/2003006

Dear Mr. Palmisano:

On December 31, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Monticello Nuclear Generating Plant. The enclosed integrated inspection report documents the inspection findings, which were discussed on January 15, 2004, with you and other members of your staff.

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

Based upon the results of this inspection no findings of significance were identified.

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

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000263/2003006
w/Attachment: Supplemental Information

See Attached Distribution

DOCUMENT NAME: C:\ORPCheckout\FileNET\ML040230462.wpd

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RIII			
NAME	BBurgess:ags			
DATE	01/22/04			

OFFICIAL RECORD COPY

cc w/encl: J. Cowan, Executive Vice President
and Chief Nuclear Officer
Manager, Regulatory Affairs
J. Rogoff, Vice President, Counsel and Secretary
Nuclear Asset Manager, Xcel Energy, Inc.
Commissioner, Minnesota Department of Health
R. Nelson, President
Minnesota Environmental Control Citizens
Association (MECCA)
Commissioner, Minnesota Pollution Control Agency
D. Gruber, Auditor/Treasurer,
Wright County Government Center
Commissioner, Minnesota Department of Commerce
Manager - Environmental Protection Division
Minnesota Attorney General's Office

ADAMS Distribution:
WDR
DFT
LMP
RidsNrrDipmIipb
GEG
HBC
SXB3
C. Ariano (hard copy)
C. Pederson, DRS (hard copy - IR's only)
DRPIII
DRSIII
PLB1
JRK1

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-263
License No:	DPR-22
Report No:	05000263/2003006
Licensee:	Nuclear Management Company, LLC
Facility:	Monticello Nuclear Generating Plant
Location:	2807 West Highway 75 Monticello, MN 55362
Dates:	October 1 through December 31, 2003
Inspectors:	S. Burton, Senior Resident Inspector R. Orlikowski, Resident Inspector C. Brown, Clinton Resident Inspector S. Ray, Braidwood Senior Resident Inspector M. Jordan, Reactor Engineer D. Nelson, Radiation Specialist R. Gibbs, Senior Risk Analyst T. Ploski, Senior Emergency Preparedness Analyst
Observers:	None
Approved by:	B. L. Burgess, Chief Branch 2 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000263/2003006; 10/01/2003 - 12/31/2003; Monticello Nuclear Generating Plant ,Routine integrated Inspection Report.

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

A. Inspector-Identified and Self-Revealed Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Monticello operated at full power for the entire assessment period except for brief down-power maneuvers to accomplish rod pattern adjustments and to conduct planned surveillance testing activities.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Emergency Preparedness

1R01 Adverse Weather (71111.01)

a. Inspection Scope

The inspectors performed a detailed review of the licensee's procedures and a walkdown of two systems to observe the licensee's preparations for adverse weather, including conditions that could result from freezing temperatures. The inspectors focused on plant specific design features for the systems and implementation of the procedures for responding to or mitigating the effects of adverse weather. Inspection activities included, but were not limited to, a review of the licensee's adverse weather procedures, preparations for the winter season, and a review of analysis and requirements identified in the Updated Safety Analysis Report (USAR). The inspectors also verified that actions specified by plant specific procedures were appropriate. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors evaluated readiness for seasonal susceptibilities for the following systems for a total of two samples:

- condensate storage tanks, during the week ending November 22, 2003; and
- intake structure, during the week ending November 22, 2003.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdown

a. Inspection Scope

The inspectors performed partial walkdowns of accessible portions of trains of risk-significant mitigating systems equipment. The inspectors reviewed equipment alignment to identify any discrepancies that could impact the function of the system and potentially increase risk. Identified equipment alignment problems were verified by the

inspectors to be properly resolved. The inspectors selected redundant or backup systems for inspection during times when equipment was of increased importance due to unavailability of the redundant train or other related equipment. Inspection activities included, but were not limited to, a review of the licensee's procedures, verification of equipment alignment, and an observation of material condition, including operating parameters of equipment in-service. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors selected the following equipment trains to verify operability and proper equipment line-up for a total of three samples:

- Division 1 residual heat removal (RHR) system walkdown with Division 2 RHR system out-of-service for maintenance, during the week ending November 8, 2003;
- reactor core isolation cooling (RCIC) system, during the week ending November 22, 2003; and
- 11 emergency diesel generator emergency service water (EDG ESW) with 12 EDG ESW out-of-service for maintenance, during the week ending December 6, 2003.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors performed a complete walkdown of mitigating systems equipment. The Inspectors walked down the system to verify mechanical and electrical equipment line-ups, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspection activities included, but were not limited to, a review of past and outstanding work orders (WOs) to verify that any deficiencies did not significantly affect the system function. In addition, the inspectors reviewed the corrective action database to verify that any system equipment alignment problems were being identified and appropriately resolved. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors selected the following system to verify operability and proper equipment line-up for a total of one sample:

- high pressure coolant injection system (HPCI), for the weeks ending November 8, 2003 and November 15, 2003.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors walked down risk significant fire areas to assess fire protection requirements. The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and had implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems or features. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events (IPEEE), the potential to impact equipment which could initiate or mitigate a plant transient, or the impact on the plant's ability to respond to a security event. The inspection activities included, but were not limited to, the control of transient combustibles and ignition sources, fire detection equipment, manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, compensatory measures, and barriers to fire propagation. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors selected the following areas for review for a total of one sample:

- Fire Zone 15-A, No. 12 DG room, during the week ending October 4, 2003.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors performed an annual review of flood protection barriers and procedures for coping with internal and external flooding. The inspection focused on verifying that flood mitigation plans and equipment were consistent with design requirements and risk analysis assumptions. The inspection activities included, but were not limited to, a review and/or walkdown to assess design measures, seals, drain systems, contingency equipment condition and availability of temporary equipment and barriers, performance and surveillance tests, procedural adequacy, and compensatory measures. The inspectors utilized the documents listed in Attachment 1 to accomplish the objectives of the inspection procedure.

The inspectors selected the following equipment for a total of two samples:

- RHR system "A" and "B" pump rooms, during the week ending November 22, 2003; and
- condensate storage tanks, during the week ending November 22, 2003.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors performed an annual review of the licensee's testing of both EDG and both RHR heat exchangers. The inspection focused on potential deficiencies that could mask the licensee's ability to detect degraded performance, identification of any common cause issues that had the potential to increase risk, and ensuring that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspection activities included, but were not limited to, a review of 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. The inspectors utilized the documents listed in Attachment 1 to accomplish the objectives of the inspection procedure.

The inspectors selected the following equipment for a total of two samples:

- EDG heat exchanger, for the week ending October 10, 2003; and
- RHR "A" and "B" heat exchangers, for the week ending October 10, 2003.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

The inspectors performed a quarterly review of licensed operator requalification training. The inspection assessed the licensee's effectiveness in evaluating the requalification program, ensuring that licensed individuals operate the facility safely and within the conditions of their license, and evaluated licensed operator mastery of high-risk operator actions. The inspection activities included, but were not limited to, a review of high risk activities, emergency plan performance, incorporation of lessons learned, clarity and formality of communications, task prioritization, timeliness of actions, alarm response actions, control board operations, procedural adequacy and implementation, supervisory oversight, group dynamics, interpretations of technical specifications, simulator fidelity,

and licensee critique of performance. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors observed the following requalification activity for a total of one sample:

- a training crew during an evaluated simulator scenario that included a loss of all high pressure injection with a recirculation line break inside the drywell, which resulted in entry into several emergency operating procedures for reduced reactor level, emergency reactor pressure vessel depressurization, and drywell and torus spray initiation, during the week ending December 6, 2003.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Maintenance Effectiveness Inspection

a. Inspection Scope

The inspectors reviewed systems to assess maintenance effectiveness, including maintenance rule activities, work practices, and common cause issues. Inspection activities included, but were not limited to, the licensee's categorization of specific issues including evaluation of performance criteria, appropriate work practices, identification of common cause errors, extent of condition, and trending of key parameters. Additionally, the inspectors reviewed implementation of the Maintenance Rule (10 CFR 50.65) requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations associated with reviewed condition reports, and current equipment performance status. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors performed the following maintenance effectiveness reviews for a total of two samples:

- an issue/problem-oriented review of the stator water cooling system because it was designated as risk significant under the Maintenance Rule and the system experienced a repeat failure of the cooling water pump, during the weeks ending October 11, 2003, through November 1, 2003; and
- an issue/problem-oriented review of the motor-operated valves in the RHR and other systems where valves were installed that were designated as risk significant under the Maintenance Rule, because a valve in the RHR system failed due to improper torque switch settings, during the weeks ending November 8, 2003, and November 15, 2003.

b. Findings

No findings of significance were identified.

.2 Biennial Periodic Evaluation of Maintenance Effectiveness

a. Inspection Scope

The inspectors examined the periodic evaluation report completed for the time period of December 8, 2003 through December 12, 2003. To evaluate the effectiveness of 10 CFR 50.65(a)(1) and 10 CFR 50.65(a)(2) activities, the inspectors examined a number of Monticello (a)(1) Action Plans, Functional Failures, and Condition Reports. These same documents were reviewed to verify that the threshold for identification of problems was at an appropriate level and the associated corrective actions were appropriate. Also, the maintenance rule program documents were reviewed.

The inspectors verified that the periodic evaluation was completed within the time restraints defined in 10 CFR 50.65 (once per refueling cycle, not to exceed two years). The inspectors also ensured that the licensee reviewed its goals, monitored structures, systems, and components performance, reviewed industry operating experience, and made appropriate adjustments to the maintenance rule program as a result of the above activities. In addition, the inspectors reviewed maintenance rule self-assessments that addressed the maintenance rule program implementation.

The inspectors also verified the following items:

- the licensee properly balanced reliability and unavailability during the previous refueling cycle, including a review of safety significant structures, systems and components (SSCs).
- (a)(1) goals were met, corrective action was appropriate to correct the defective condition, including the use of industry operating experience, and that (a)(1) activities and related goals were adjusted as needed.
- that the licensee had established (a)(2) performance criteria, examined any SSCs that failed to meet their performance criteria, and reviewed any SSCs that had suffered repeated maintenance preventable functional failures, including a verification that failed SSCs were considered for (a)(1).
- that the licensee had established (a)(2) performance criteria, examined any SSCs that failed to meet their performance criteria, and reviewed any SSCs that had suffered repeated maintenance preventable functional failures, including a verification that failed SSCs were considered for (a)(1).

The inspectors focused the inspection on the following systems for a total of four samples:

- RHR system;
- RHR service water system (RHRSW);
- RCIC system; and
- HPCI system.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed maintenance activities to review risk assessments (RAs) and emergent work control. The inspectors verified the performance and adequacy of RAs, management of resultant risk, entry into the appropriate licensee-established risk bands, and the effective planning and control of emergent work activities. The inspection activities included, but were not limited to, a verification that licensee RA procedures were followed and performed appropriately for routine and emergent maintenance, that the RAs for the scope of work performed were accurate and complete, that necessary actions were taken to minimize the probability of initiating events, and that activities to ensure that the functionality of mitigating systems and barriers were performed. Reviews also assessed the licensee's evaluation of plant risk, risk management, scheduling, configuration control, and coordination with other scheduled risk significant work for these activities. Additionally, the assessment included an evaluation of external factors, the licensee's control of work activities, and appropriate consideration of baseline and cumulative risk. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors observed maintenance or planning for the following activities or risk significant systems undergoing scheduled or emergent maintenance for a total of two samples:

- replacement of the No. 11 stator water cooling pump, during the weeks ending October 25, 2003, and November 1, 2003; and
- routine schedule maintenance for RHR system, during the week ending November 8, 2003.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed personnel performance to planned and unplanned non-routine evolutions to review operator performance and the potential for operator contribution to the evolution or transient. The inspectors observed or reviewed records of operator performance during the evolution. Reviews included, but were not limited to, operator logs, pre-job briefings, instrument recorder data, and procedures. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors observed the following for a total of two samples:

- planned single rod scram testing for work performed on a hydraulic control unit, during the weeks ending October 25, 2003, and November 1, 2003; and
- response to an unplanned trip of instrument air compressor No. 11, during the week ending December 13, 2003.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors performed operability evaluations of degraded or non-conforming systems that potentially impacted mitigating systems or barrier integrity. The inspectors reviewed operability evaluations affecting mitigating systems or barrier integrity to ensure that operability was properly justified and that the component or system remained available. The inspection activities included, but were not limited to, a review of the technical adequacy of the operability evaluations to determine the impact on technical specifications (TS), the significance of the evaluations to ensure that adequate justifications were documented, and that risk was appropriately assessed. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors reviewed the following operability evaluations for a total of one sample:

- torus return valve from the RHR system fails to establish required flow during routine surveillance, during the week ending December 13, 2003.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (OWAs) (71111.16)

.1 Semiannual Review of Cumulative Effects of Operator Workarounds

a. Inspection Scope

The inspectors performed a semiannual review of the cumulative effects of OWAs for a total of one sample. The inspectors reviewed OWAs to identify any potential effect on the functionality of mitigating systems. The inspection activities included, but were not limited to, a review of the cumulative effects of the OWAs on the availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents. Additionally, reviews were conducted to determine if the workarounds could increase the possibility of an initiating event, if the workarounds were contrary to training, required a change from

long standing operational practices, created the potential for inappropriate compensatory actions, impaired access to equipment, or required equipment uses for which the equipment was not designed. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

b. Findings

No findings of significance were identified.

.2 Routine Review of Operator Workarounds

a. Inspection Scope

The inspectors reviewed OWAs and focused on verification of the selected workarounds impact on the functionality of a mitigating system. The inspection activities included, but were not limited to, a review of the selected workarounds to determine if the functional capability of the system or human reliability in responding to an initiating event was affected, including a review of the impact of the workarounds on the operators' ability to execute emergency operating procedures. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors reviewed the following OWAs for a total of two samples:

- Operator Challenge 03-037; inconsistency between AN2 manifold pressure isolation setpoint and bottle change criteria, during the week ending October 24, 2003; and
- Operator Challenge 03-048; evaluation of torus cooling line downstream from MO-2008 for pipe thinning did not include system mission time, during the week ending October 24, 2003.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors verified that the post-maintenance test procedures and activities were adequate to ensure system operability and functional capability. Activities were selected based upon the structure, system, or component's ability to impact risk. The inspection activities included, but were not limited to, witnessing or reviewing the 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, 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. As part of this inspection, the

documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors selected the following post-maintenance activities for review for a total of five samples:

- replaced relay 27-33 in the low pressure coolant injection (LPCI) swing bus, during the week ending October 4, 2003;
- replaced control room ventilation instrumentation, during the week ending October 11, 2003;
- replaced stator water cooling water pump, during the week ending October 25, 2003;
- replaced control rod drive accumulator, during the weeks ending October 25, 2003, and November 1, 2003; and
- replaced residual heat removal service water pump, during the week ending November 22, 2003.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed surveillance testing activities to assess operational readiness and ensure that risk-significant structures, systems, and components were capable of performing their intended safety function. Activities were selected based upon risk significance and the potential risk impact from an unidentified deficiency or performance degradation that a system, structure, or component could impose on the unit if the condition were left unresolved. The inspection activities included, but were not limited to, a review 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. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors selected the following surveillance testing activity for review for a total of one sample:

- operations reactor side checklist weekly procedure, during the weeks ending October 11, 2003, and October 25, 2003.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed temporary modifications to assess the impact of the modification on the safety function of the associated system. The inspection activities included, but were not limited to, a review of design documents, safety screening documents, USAR, and applicable TS to determine that the temporary modification was consistent with modification documents, drawings, and procedures. The inspectors also reviewed the post-installation test results to confirm that tests were satisfactory and the actual impact of the temporary modification on the permanent system and interfacing systems were adequately verified. As part of this inspection, the documents in Attachment 1 were utilized to evaluate the potential for an inspection finding.

The inspectors selected the following temporary modifications for review for a total of four samples:

- MET fiber splice rack damaged at training center, during the week ending October 24, 2003;
- temporarily rescale recombiner flow meters, during the week ending October 24, 2003;
- RHR service water temporary seismic restraint, during the week ending November 8, 2003; and
- closure of the FP- 37 (fire header valve), during the week ending October 11, 2003

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed Revisions 21 through 24 of the Monticello Nuclear Generating Plant Emergency Plan versus Revision 20 of the Plan, as well as “summary/bases of changes” information submitted by the licensee, in order to determine if any of the changes identified in these revisions reduced the Plan’s effectiveness, pending on-site inspection of the implementation of these changes.

b. Findings

The inspectors identified one revised Emergency Action Level (EAL) that was apparently based on NUMARC/NESP-007 (NUMARC-007) EAL guidance, although the licensee’s standard emergency classification scheme was based on the guidance of NUREG-0654/FEMA-REP-1 (NUREG 0654). This EAL revision was implemented without prior NRC approval. The inspectors also noted that the prior version of this EAL, as found in Revisions 20 and 21of the Plan, differed from the corresponding guidance of NUREG 0654. It was uncertain whether the version of this EAL in Revisions 20 and 21

had received NRC approval prior to its implementation. The aforementioned concerns were identified as an Unresolved Item (URI) pending determination of whether any violation of NRC requirements occurred, and a determination of the significance if a violation is determined to have occurred.

Specifically, during an in-office review of the aforementioned revisions of the licensee's emergency plan, it was identified that the Unusual Event EAL for an on-site fire was revised beginning in Revision 22 and through Revision 24 of the Plan. The relevant EAL guidance of NUREG 0654 was as follows: "Fire within the plant lasting more than 10 minutes."

The licensee's interpretation of this regulatory guidance, as found in Subsection 4.2.12 of Revisions 20 and 21 of the emergency plan, was as follows:

> "Fire within the plant lasting more than 10 minutes after initiation of fire fighting.
>
> > EAL 1. Shift Manager determination based on report from the Fire Brigade leader after initial use of extinguishing equipment."

The revised EAL, as found in Subsection 4.2.12 of Revisions 22 through 24 of the emergency plan, was as follows:

> "Fire within the plant not extinguished within 15 minutes of detection.
>
> > NOTE: Verification of the alarm in this context means those actions taken in the Control Room to determine that the Control Room alarm is not spurious.
> >
> > EAL 1. Fire in buildings or areas contiguous to any of the following areas not extinguished within 15 minutes of Control Room notification or verification of a Control Room alarm: Reactor, Turbine, Radwaste, Plant Administrative, Intake Structure, Diesel Generator, Heating Boiler, Recombiner; EFT, Condensate Storage Tanks."

Corresponding EAL guidance of NUMARC-007 was as follows:

> "Fire within Protected Area boundary not extinguished within 15 minutes of detection.
>
> > Example EAL 1. Fire in buildings or areas contiguous to any of the following (site-specific) areas not extinguished within 15 minutes of Control Room notification or verification of a Control Room alarm."

The technical bases of this NUMARC-007 guidance clarified that the purpose of this EAL was to address fires that may be potentially significant precursors to damage of safety systems and that this EAL guidance only applied to buildings and areas contiguous to plant vital areas or other significant buildings or areas. The NUMARC-007 bases guidance also indicated that verification of the alarm meant those actions taken in the Control Room to determine that the alarm was not spurious.

The inspectors concluded that the revised Unusual Event for an on-site fire, as found in Subsection 4.2.12 of Revisions 22 through 24 of the licensee's emergency plan, was an apparent interpretation of the aforementioned NUMARC-007 guidance. In response to the inspectors' questions on the revised Unusual Event for an on-site fire and two revised EALs on abnormal liquid radiological effluent, the licensee submitted additional "bases of changes" information on all three EALs. Although the additional information resolved the inspectors' concerns on the revised liquid effluent EALs, this submittal contained no information on the bases for the licensee's selection of the 10 on-site areas listed in its revised EAL for an on-site fire, or bases for not including other on-site areas in this listing.

The inspectors also noted that the licensee's Unusual Event EAL for an on-site fire, as stated in Subsection 4.2.12 of Revisions 20 and 21 of the licensee's emergency plan, differed from NUREG 0654's EAL guidance for an on-site fire. The inspectors did not know when this interpretation of the NUREG's guidance was initially implemented in the licensee's emergency plan. The inspectors were also uncertain whether other EALs in Revisions 20 through 24 of the licensee's emergency plan may have been inappropriately modified by the licensee prior to Revision 20 and subsequent to NRC's last approval of the licensee's emergency plan, as documented in a Safety Evaluation Report.

Title 10 CFR 50.47 (b)(4) states, in part, that, "a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee." Revision 3 of Regulatory Guide (RG) 1.101 was the publication used by NRC to document endorsement of the NUMARC-007 EAL guidance as an acceptable alternative to the EAL guidance of NUREG 0654. However, Revision 3 of RG 1.101 also indicated that, "licensees may use either NUREG 0654/FEMA REP-1 or NUMARC/NSEP-007 in developing their EAL scheme but may not use portions of both methodologies."

The apparent intermingling of NUMARC-007 guidance in the revised Unusual Event EAL for an on-site fire, as found in Revisions 22 through 24 of the Plan, and the uncertain adequacy of the interpretation of NUREG 0654 guidance in the version of this EAL in Revisions 20 and 21 of the Plan, were considered a URI pending review by Office of Nuclear Reactor Regulation (NRR) specialists. Once NRR staff determine the adequacy of both versions of this EAL, the safety significance of both versions would be determined in accordance with Inspection Manual Chapter 0609. Pending completion of these activities, the aforementioned concerns are considered a URI (URI 50-263/03-06-01). The licensee initiated Condition Report (CR) 03013347 in response to the inspectors' concerns.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

1. Plant Walkdowns and Radiation Work Permit (RWP) Reviews

a. Inspection Scope

The inspectors reviewed records to determine if airborne radioactivity areas with the potential for individual worker internal exposures of >50 millirem committed effective dose equivalent (CEDE) had been identified within the facility. Work areas having a history of, or the potential for, airborne transuranics were also evaluated to verify that the licensee had considered the potential for transuranic isotopes and provided appropriate worker protection. (This review represented one sample.)

The inspectors reviewed the adequacy of the licensee's internal dose assessment process for internal exposures > 50 millirem CEDE. (This review represented one sample.)

The inspectors also reviewed the licensee's physical and programmatic controls for highly activated and/or contaminated materials (non-fuel) stored within spent fuel or other storage pools. (This review represented one sample.)

b. Findings

No findings of significance were identified.

.2 Radiation Worker Performance

a. Inspection Scope

The inspectors reviewed radiological problem reports, which found that the cause of the event was due to radiation worker errors, to determine if there was an observable pattern traceable to a similar cause and to determine if this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. These problems, along with planned and taken corrective actions were discussed with the radiation protection manager. (This review represented one sample.)

b. Findings

No findings of significance were identified.

2OS2 As-Low-As-Is-Reasonably-Achievable (ALARA) Planning And Controls (71121.02)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed plant collective exposure history, current exposure trends, ongoing and planned activities in order to assess current performance and exposure challenges. This included determining the plant's current three-year rolling average for collective exposure in order to help establish resource allocations and to provide a perspective of significance for any resulting inspection finding assessment. (This review represented one sample). The inspectors determined site specific trends in collective exposures and source-term measurements. (This review represented one sample).

b. Findings

No findings of significance were identified.

.2 Problem Identification and Resolutions

a. Inspection Scope

The licensee's corrective action program was reviewed to determine if repetitive deficiencies and/or significant individual deficiencies in problem identification and resolution had been addressed. (This review represented one sample.)

b. Findings

No findings of significance were identified.

.3 Source-Term Reduction and Control

a. Inspection Scope

The inspectors verified that the licensee had developed an understanding of the plant source-term, that this included knowledge of input mechanisms to reduce the source term and that the licensee had a source-term control strategy in place that included a cobalt reduction strategy and shutdown ramping and operating chemistry plan which was designed to minimize the source-term external to the core. Other methods used by the licensee to control the source term including component and system decontamination, and use of shielding were evaluated. (This represented one sample).

The licensee's identification of specific sources was reviewed along with exposure reduction actions and the priorities the licensee had established for implementation of those actions. The results that had been achieved against these priorities since the last refueling cycle were reviewed. For the current assessment period, source reduction evaluations were verified along with actions taken to reduce the overall source-term compared to the previous year. (This represented one sample).

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Cornerstones: Mitigating Systems, Public Radiation Safety, and Occupational Radiation Safety.

.1 Reactor Safety Strategic Area

a. Inspection Scope

The inspectors review of performance indicators (PI) used PI guidance and definitions contained in Nuclear Energy Institute (NEI) Document 99-02, Revision 2, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the PI data. The inspection activities included, but were not limited to, conditions and data from logs, licensee event reports, condition reports, and calculations for each PI specified. As part of the inspection, the documents listed in Appendix 1 were utilized to evaluate the accuracy of PI data.

The following PIs were reviewed for a total of two samples:

- safety system unavailability for high pressure injection system, for the period of October, 2002 through September, 2003; and
- safety system unavailability for heat removal systems, for the period of October, 2002 through September, 2003.

b. Findings

No findings of significance were identified.

.2 Radiation Safety Strategic Area

a. Inspection Scope

The inspectors review of performance indicators used PI guidance and definitions contained in (NEI) Document 99-02, Revision 2, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the PI data. The inspection activities included, but were not limited to, conditions and data from logs, licensee event reports, condition reports, and calculations for each PI specified. As part of the inspection, the documents listed in Appendix 1 were utilized to evaluate the accuracy of PI data.

The following PIs were reviewed for a total of two samples:

- occupational exposure control effectiveness, for the period of July 1, 2002, through September 30, 2003; and
- RETS/ODCM radiological effluent occurrence, for the period of July 1, 2002, through September 30, 2003.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

For inspections performed and documented in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action system at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Minor issues entered into the licensee's corrective action system as a result of inspectors' observations are included in the list of documents reviewed attached to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. Palmisano and other members of licensee management on January 15, 2004. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Radiation Protection Inspection with Mr. Kevin Jepsen on October 24, 2003.
- Radiation Protection Inspection with Mr. Kevin Jepsen on December 2, 2003.
- Maintenance Effectiveness Periodic Evaluation with J. Purkis on December 12, 2003.
- Emergency Preparedness inspection with Mr. S. Blegen on December 31, 2003.

4OA7 Licensee-Identified Violations

None.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
T. Palmisano, Site Vice President
J. Purkis, Plant Manager
R. Baumer, Licensing
G. Bregg, Manager, Quality Services
K. Jepsen, Radiation Protection Manager
D. Neve, Regulatory Affairs Manager
E. Sopkin, Director of Engineering
D. Nordell, Site Maintenance Rule Coordinator
G. Holthaus, Emergency Preparedness Coordinator

Nuclear Regulatory Commission
B. Burgess, Chief, Reactor Projects Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000263/200306-01	URI	Intermingling of NUMARC-007 guidance in the revised Unusual Event EAL for an on-site fire, as found in Revisions 22 through 24 of the Plan, and the uncertain adequacy of the interpretation of NUREG 0654 guidance in the version of this EAL in Revisions 20 and 21 of the Plan.

Closed

Temporary Instruction (TI) 2515/154: Spent Fuel Material Control and Accounting at Nuclear Power Plants. The inspectors accomplished the subject TI to gather site specific material control and accounting (MC&A) information regarding spent nuclear fuel.

Discussed

None.

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection reports.

1R01 Adverse Weather

Drawings and Prints:
NH-36259; Auxiliary & Heating Steam System Turbine Building; Revision R
NH-36665; Service Water System and Make-Up Intake Structure; Revision CE
NH-36665-2; Service Water System and Make-Up Intake Structure; Revision G
NH-36489; Circulating Water System; Revision AC
NH-36489-2; Circulating Water System; Revision M

Updated Safety Analysis Report:
Section 5.3; Secondary Containment System and Reactor Building
Section 8.3; Auxiliary Power Systems
Section 8.4; Plant Standby Diesel Generator Systems
Section 8.5; DC Power Supply Systems
Section 10.2; Reactor Auxiliary Systems
Section 12.2; Plant Principal Structures and Foundations

Operations Manual:
Form 3226; Surveillance Testing Program Change Request Form; Revision 19
1447; Plant Unit Heater Checks; Revision 2; reviewed on September 9, 2003
4 AWI-02.02.055; Temporary Change Process; Revision 12
1151; Winter Checklist; Revision 43; initiated September 10, 2003
4 AWI-04.07.02; Flagging and Submittal Processes for Operations Committee Review Items; Revision 10
Ops Man B.08.07-05; Heating and Ventilation - System Operation; Revision 3
Ops Man B.09.08-05; Diesel Generators; Revision 16
Ops Man B.08.07-01; Heating and Ventilating; Revision 5

Condition Reports:
03011781; Winter Checklist Contains Reference to Perform Unit Heater Checks per 1447 Which is a Retired Procedure
03011924; 1151 (Winter Checklist). Step 26 was N/A'd w/o temp change (NRC-identified issue)

1R04 Equipment Alignment

Documents and Procedures:
7250; Fire Protection System Instrumentation PM - Performed on 10/02/03; Revision 18
A.3-15-A; Strategy; Fire Zone 15A - No. 12 DG Room; Revision 5
2154-12; Residual Heat Removal System Prestart Valve Checklist; Revision 37

2120; Plant Prestart Checklist RHR System; Revision 8
0058; HPCI Steam Line High Area Temperature Test and Calibration Procedure; Revision 14
2154-35; HPCI Hydraulic Control and Lubrication System Prestart Valve Checklist; Revision 8
2154-10; High Pressure Coolant Injection System Prestart Valve Checklist; Revision 26
2118; Plant Prestart Checklist HPCI System; Revision 13
ANSI B31.1; American National Standard for Power Piping; 1977 Edition
SM 21; NEMA Standards Publication for Multistage Steam Turbines for Mechanical Drive Service; 1970 Edition
GE 257HA354; High Pressure Coolant Injection System; Revision 2
GE 21A1079; Standard Equipment for Auxiliary Steam Turbine Drives (HPCI); Revision 2
2206; Plant Prestart Checklist EDG - Emergency Service Water System; Revision 3
2154-22; EDG Emergency Service Water System Prestart Valve Checklist; Revision 20
Safety Review Item 92-020; Demonstration of Procedure for Loss of Alternating Current Power Concurrent with a High Energy Line Break Near Reactor Feed Pumps; Revision 0
7250; Fire Protection System Instrumentation PM - Performed On 10/02/03; Revision 18
A.3-15-A; Strategy; Fire Zone 15A - No. 12 DG Room; Revision 5
2154-12; Residual Heat Removal System Prestart Valve Checklist; Revision 37
2120; Plant Prestart Checklist RHR System; Revision 8
8136; Secondary Containment Penetrations; Revision 10

Drawings and Prints:
NH-36664; RHR Service Water and Emergency Service Water Systems; Revision BJ
NH-36264; Residual Heat Removal System; Revision BK
NH-36247; Residual Heat Removal System; Revision BN
NH-36249; P&ID (Steam Side) High Pressure Coolant Injection System; Revision AM
NH-36249-1; HPCI Hydraulic Control and Lubrication System P&ID; Revision C
NH-36250; P&ID (Water Side) High Pressure Coolant Injection System; Revision AC
NH-36664; RHR Service Water & Emergency Service Water Systems; Revision BJ
NH-36665; Service Water System and Make-up Intake Structure; Revision CE
NH-36664; RHR Service Water and Emergency Service Water Systems; Revision BJ
NH-36264; Residual Heat Removal System; Revision BK
NH-36247; Residual Heat Removal System; Revision BN
NH-36251; Reactor Core Isolation Cooling (Steam Side); Revision AQ
NH-36252; Reactor Core Isolation Cooling (Water Side); Revision AD
M-125; RCIC Steam Side; Revision AP
M-126; RCIC Water Side; Revision AC
M-811; Service Water System and Make-up Intake Structure; Revision CE

Updated Safety Analysis Report:
6.2.4; High Pressure Coolant Injection System (HPCI); Revision 19
Section 10.4.4; Emergency Service Water System; Revision 19
Section 6.2; Engineered Core Cooling Systems; Revision 19
Section 10.2.5; Reactor Core Isolation Cooling System; Revision 19

Operations Manual:
B.3.2; High Pressure Coolant Injection System; Revision 5
B.8.1.2; EDG Emergency Service Water
B.2.3; Reactor Core Isolation Cooling System; Revision 3

Condition Reports:
03010262; Received Annunciator C03-B-10 (HPCI Turbine Inlet Hi Drain Pot Level)
03008910; HPCI Exhaust Check Valve HPCI-9 Found Without Insulated Bonnet. HPCI Room Heatup Calc Assumes Bonnet is Insulated
02006719; Air Line for CV-3503 (HPCI Test Return) Held in Place With Seal Wire, Rubbing on Other Equip in Area
02007611; Air Line Failed on HPCI Test Return Valve CV-3503 Resulting in Aborted Test and Extended HPCI LCO Time. WO Initiated
03011333; Capscrews on the HPCI Stop Valve Pilot Valve Inlet Were Found to Not be Fully Threaded Through the Connecting Flange (NRC-identified issue)

Work Orders:
0306334; Perform PM 7250 on Fire System FIR-1
0310769; Insulate Bonnet on HPCI-9
0203728; Restraints for Air Line on CV-3503 Need Work/Fix
0306334; Perform PM 7250 on Fire System FIR

1R05 Fire Protection

Pre-Fire Fighting Procedures and Strategies:
Fire Zone 15-A; No. 12 DG Room; Revision 5
7250; Fire Protection System Instrumentation PM; Revision 18

Work Orders:
0306334; Perform PM 7250 on Fir-1

1R06 Flood Protection Measures

Documents and Procedures:
NSPNAD-92003; Monticello Individual Plant Examination (IPE); Revision 0
T-8; Design Basis Document - Internal Flooding [Proprietary]; Revision 2
4 AWI-04.02.01; Housekeeping; Revision 9

Drawings and Prints:
M-120; Residual Heat Removal System; Revision BJ
M-121; Residual Heat Removal System; Revision B

Operations Manual:
B.3.4; Residual Heat Removal System

Condition Reports:
03011859; NRC Visiting Inspector Brought up Concerns Regarding Anti-C Containers and Contamination Barriers (Loose Material Issue) (NRC-Identified Issue)

1R07 Heat Sink Performance

Documents and Procedures:
1404-01; 11 EDG ESW Heat Exchanger Performance Test- 7/11/03; Revision 6
1404-02; 12 EDG ESW Heat Exchanger Performance Test- 7/11/03 and 7/28/03; Revision 6
1136; RHR Heat Exchanger Efficiency Test -11/19/02 and 2/16/03; Revision 22

1R11 Licensed Operator Requalification Program

Documents and Procedures:
Simulator Evaluation Guide RQ-SS-02; Loss of All High Pressure Injection With a Recirc Break Inside the Drywell; Revision 21

1R12 Maintenance Effectiveness

Documents and Procedures:
Monticello Maintenance Rule Program System Basis Document - Stator Cooling; Revision 1
Monticello Maintenance Rule Program System Basis Document - Residual Heat Removal; Revision 4
Maintenance Rule Performance Improvement Plan for 4KV-1AR Transformer; Revision 2; dated March 20, 2003
Maintenance Rule Performance Improvement Plan for Primary Containment (PCT) Leakage-Local Leak Rate Testing (LLRT) Main Steam Isolation Valves (MSIV) Combined Leakage Test; Revision 2; dated April 14, 2003
Maintenance Rule Performance Improvement Plan for Reactor Service Water (RSW) on Reactor Heat Removal Service Water (RHRSW) for train A; dated February 28, 2002
Maintenance Rule Performance Improvement Plan for Safety System Water (SSW); Revision 0; dated July 15, 2003
EWI-05.02.01; Monticello Maintenance Rule Program Document; Revision 7
PEI-06.01; Maintenance Rule Coordinator Activities; Revision 0
SCR-02-0268; 10 CFR 50.59 Screening on MO-2076 Failed to Fully Open During Step 41 of Test 0062 for RCIC; Revision 00
1385; Periodic Structural Inspection; Revision 3; dated September 23, 2003
Monticello Maintenance Rule Program System Basis Document for Residual Heat Removal (RHR); Revision 4
Monticello Maintenance Rule Program System Basis Document for RHR Service Water System; Revision 1
Monticello Maintenance Rule Program System Basis Document for Reactor Core Isolation Cooling (RCIC); Revision 1
Monticello Maintenance Rule Program System Basis Document for High Pressure Coolant Injection (HPCI); Revision 1
Maintenance Rule Reliability Calculations Using Demands per 2 Years as Defined in System Basis Documents
Licensee Event Report (LER) 2002-006; Surveillance Activity to Isolate Transmitter Prevents a Flow Bias Scram Signal; Revision 0
Maintenance Rule Statue Board (Showing Which Systems Were in a(1) and a(2) Status); dated November 13, 2003

MNGP-System Health Report for RHR Residual Heat Removal; dated November 13, 2003
MNGP-System Health Report for RSW Residual Heat Removal Service Water; dated November 13, 2003
MNGP- System Health Report for HPCI High Pressure Coolant Injection; dated October 10, 2003
MNGP- System Health Report for RCIC Reactor Core Isolation Cooling; dated November 4, 2003
Monticello Maintenance Rule Periodic Assessment Report; April, 2001 - September 2002;
Monticello Maintenance Rule Periodic Assessment Report; October, 2002 - May, 2003;
Monticello Maintenance Rule Periodic Update for November, 2003; dated December 3, 2003
Monticello Maintenance Rule Periodic Update for October, 2003; dated November 6, 2003
Expert Panel Meeting Notes for April 27, 2001, June 27,2001, July 20, 2001, December 12, 2001, January 21, 2002, February 01, 2002, March 12, 2003, and March 29, 2003

Drawings and Prints:
B.06.02.04-06; Figure 1 Diagram of External [Stator cooling] System; Revision 2
NH-36246; M-120; P&ID Residual Heat Removal System; Revision BK
NH-36247; M-121; P&ID Residual Heat Removal System; Revision BN

Operations Manual:
B.06.02.04; Generator - Stator Cooling
B.03.04; Residual Heat Removal System

Condition Reports:
03009623; #11 Stator Cooling Pump Oil Leak
03010555; Review of Stator Cooling Water Pump Repair WO Identified Bearing Interference Fit was Too Tight, Resulting in Change to Schedule
03006424; High Conductivity on Stator Cooling Demineralizer Effluent
03011338; Unable to Establish Required Flow With MO-2009 Division 2 RHR Pump and Valve Tests 0255-04-IA-1-2
03011335; MO-2009 As-found Thrust at Torque Switch Trip and As-found Maximum Thrust Exceeded Target Criteria
02005794; Failure of RHR (Residual Heat Removal) MO (Motor Operated Valve)-1987 K-37 Relay Causes ASDS (Alternate ShutDown Safety Panel) Tech Spec LCO (Limiting Condition of Operation) Entry Questionable; dated June 24, 2002
02000629; MO-2076 Declared Inoperable, Duel Indication Showed on Valve When Given an Open Signal; dated January 25, 2002
02003642; MO-2076 Failed to Fully Open During Step 41of Test 0062, RCIC (Reactor Core Isolation Coolant) Steam Line High Area Temperature and Calibration; dated April 16, 2002
01002804; Declared RCIC Inoperable and Entered Unplanned LCO Due to Indicated Turbine Inlet Drain Pot High Level; dated May 23, 2001
01003425; Entered Unplanned LCO Due to Failure of MO-2008 to Cycle During Performance of Test 0255-04-1A-1; dated June 15, 2001

02007611; Air Line Failed on HPCI (High Pressure Coolant Injection) Test Return Valve CV-3503 Resulting in Aborted Test and Extended HPCI LCO Time; dated August 15, 2002
01003425; Entered Unplanned LCO Due to Failure of MO-2008 to Cycle During Performance of Test 0255-04-IA-1; dated June 15, 2001
02007677; Airline Failed on HPCI Test Return Valve CV-3503 Resulting in Aborted Test and Extended HPCI LCO Time; dated August 15, 2002
03001593; HPCI Controller Erratic When Controller Placed in "Balance" During HPCI Shutdown Sequence; dated February 12, 2003
02009434; Surveillance 0026 Appears to Violate Technical Specifications (TS) Table 3.1.1-4; Momentarily During Transmitter Valve-out Activity; dated October 8, 2002

Work Orders:
0310953; Replace Rotating Assembly for Stator Cooling Pump
0310827; Inspect Spare STC Pump Bearing Housing

1R13 Maintenance Risk Assessments and Emergent Work Control

Documents and Procedures:
4001-04; Small Pump Data Sheet for WO 0310953; Revision 4
4001-06; Alignment Data Sheet for WO 0310953; Revision 2
EY 371D; GE Industrial & Power Systems - Stator Cooling Liquid Pumps; revised February 1979
4301; Job Walkdown Checklist for WO 0310953; Revision 6
MMP-004; Small Pump Rebuilding Instructions; Revision 3
Plant Status Reports; October 22 through October 24, 2003
Work Week Schedule for week 3407; October 19 - October 25, 2003
Risk Evaluations and Daily Work Plan for Residual Heat Removal System; Work Week 3409; November 2 - November 8, 2003
Work Week Schedule Update; Week 3409 - Tuesday; November 2 - November 8, 2003

Drawings and Prints:
NH-36246; M-120; P&ID Residual Heat Removal System; Revision BK
NH-36247; M-121; P&ID Residual Heat Removal System; Revision BN

Operations Manual:
B.06.02.04; Generator - Stator Cooling
B.03.04; Residual Heat Removal System

Work Orders:
0310953; Replace Rotating Assembly for Stator Cooling Pump
0310827; Inspect Spare STC Pump Bearing Housing

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

Documents and Procedures:
0081; Control Rod Drive Scram Insertion Time Testing; Revision 43
QCIN 2003-6643; Quality Control Inspection Record for WO 0307722

4010-PM; HCU Water Accumulator Replacement; Revision 10

C.4-B.08.04.01.A; Loss of Instrument Air; Revision 12

Drawings and Prints:
NH-36244; M-118; P&ID Control Rod Drive Hydraulic System; Revision AX
NH-36245; M-119; P&ID Control Rod Drive Hydraulic System; Revision U

Technical Specifications:
3.3/4.3; Control Rod System

Operations Manual:
B.08.04.01; Instrument and Service Air

Condition Reports:
03012495; Trip of 11 Air Compressor Results In Air System Transient and Entry Into C.4-B.08.04.01.A (Loss of Instrument Air)

1R15 Operability Evaluations

Documents and Procedures:
0255-04-IA-1-2; Division 2 RHR Pump and Valve Tests; Revision 61
CA-03-191; Opening Torque for Self Actuating Motor Operated Globe Valves; Revision 0

Condition Reports:
03011338; Unable to Establish Required Flow With MO-2009 During the Division 2 RHR Pump and Valve Tests Surveillance 0255-04-IA-1-2

1R16 Operator Workarounds

Documents and Procedures:
Operator Challenge 03-037; Inconsistency Between AN2 Low Manifold Pressure Isolation Setpoint and Bottle Change Out
Operator Challenge 03-48; Evaluation of Torus Cooling Downstream From MO-2008 for Pipe Thinning
Operations Memo 03-34; Fire Protection Compensatory Action; dated September 10, 2003
Operations Memo 03-23; Apparent Thinning of Torus Cooling Line Downstream of Valve MO-2008; dated 8/15/03
Volume F Memos index; dated October 15 2003
Operations Memo index; dated October 17, 2003
4 AWI-02.02.06; Volume F Memorandums; Revision 10; dated April 10 2003
4 AWI-04.01.03; Operations Memos; Revision 5
Monticello Operator Challenges List; dated October 22, 2003
Monticello Operator Challenges List Acceptable As-Is Report; dated October 23, 2003
Monticello Nuclear Generating Plant Operations Quarterly Effectiveness Report for 2nd Quarter 2003; Section 7. Operational Challenges
Group Weighting Factor for Operator Challenges

Operations Manual:
C.4.1; Plant Flooding; Revision 2

Condition Reports:
03009237; Potential Break of Fire Water Main in Admin Bldg Could Cause Both Divisions of Safe Shutdown Equipment to be Inoperable
03006177; Inconsistency Between AN2 Low Manifold Pressure Isolation Setpoint and Bottle Change Criteria
03006099; Evaluation of Torus Cooling Line Downstream From MO-2008 for Pipe Thinning Did Not Include System Mission Time

1R19 Post-Maintenance Testing

Documents and Procedures:
Post Maintenance Testing Activities Control Cover Sheet for WO 0310953
Post Maintenance Testing Activities Control Cover Sheet for WO 0307722
Post Maintenance Testing Activities Control Cover Sheet for WO 0311329
Post Maintenance Testing Activities Control Cover Sheet for WO 0310626
PMT Attachment - 12 RHRSW Pump Pre-Service Test for WO 0311329
4010-PM; HCU Water Accumulator Replacement; Revision 10
Design Basis Document - 480 V AC System; Revision C

Drawings and Prints:
NE-36402 SHT. 6A; Elementary Diagram for LPCI Bus Transfer; Revision C
NH-118996; Panel C327 Internal Wiring and Connection Diagram; Revision A
NH-118997; Panel C327 External Wiring and Connection Diagram; Revision A

Operations Manual:
B.06.02.04; Generator - Stator Cooling

Condition Reports:
03010094; Adverse Trend - High Number of CRV Compressor Instruments Out of “As Found” Tolerance During Calibration
03010129; FIC-9116A EFT Filter V-EF-11 Suction Flow Controller Output Flow Indicator Found Out-Of-Tolerance Low
03005460; “A” EFT Failed to Pressurize Control Room During Test 0472. Negative Pressure Between Control Room and PAB H&V Room
03010128; TS-4431A V-EAC-14A Compressor Hi/Lo Oil Temperature Switch Out of As Found Adjusted to Within As Left
03010094; Adverse Trend - High Number of CRV Compressor Instruments out of “As Found” Tolerance During Calibration
03009104; Relay 27-33 in the LPCI Swing Bus Was Inadvertently Replaced With a Standard Part Rather Than a Safety -Related Part
03008091; During Routine PM in LPCI Swing Bus Relays, Loss of Voltage Timing and Rest Relays 27-33 and 62-33 Were Slightly Out of Band
03009972; As-left Data for Relay 27-33 Was Not Recorded

Work Orders:
0310953; Replace Rotating Assembly for Stator Cooling Pump
0306276; Perform Instrument PM on EFT-5A Instruments
0307722; Replace Accumulator on HCU 26-27
0310626; Replace Loss of Voltage Relay 27-33 for Motor Control Center MCC-133B
0311329; Replace 12 RHRSW Pump

1R22 Surveillance Testing

Documents and Procedures:
1047-3; Operations Reactor Side Checklist Weekly Procedure; Revision 40

1R23 Temporary Plant Modifications

Documents and Procedures:
3494; Calculation/Analysis Control Form for Revision 1 of CA-94-026; Revision 1
3034; Jumper Bypass Form for WO 0201596; Revision 22
Attachment to WO 0201596 - Instructions for Replacing #14 RHRSW Pump

Work Orders:
0201968; Electrical Support of #14 RHRSW Pump Replacement
0201596; Replace #14 RHRSW Pump

1EP4 Emergency Action Level and Emergency Plan Changes

Monticello Nuclear Generating Plant Emergency Plan; Revisions 20,21,22,23, and 24

2OS1 Access Control to Radiologically Significant Areas

Documents and Procedures:
RWP #514; Drywell All Elevations; Revision 0
RWP #524; 933 Drywell - General Area; Revision 0
RWP #73; Radiological Controlled Areas Excluding Locked High Radiation Areas; Revision 5
RWP #166; Recombiner Instrument Room; Revision 0
3530-06; Performance Indicator Radiation Safety Worksheets; Revision 2; 3rd Quarter 2002, 4th Quarter 2002, 1st Quarter 2003, 2nd Quarter 2003, 3rd Quarter 2003
Fuel Pool and Miscellaneous Items Inventory; dated May 28, 2003
RWP #253; 1027 Reactor - Spent Fuel Pool, 1027 Reactor - General Area; Revision 1
NUKEM Corporation Procedure; Removal of Material From the Spent Fuel Pool at Monticello Nuclear Generating Plant; Revision 0

Condition Reports:
03005177; Exp Control: Individual Entered LHRA Posted Area Without an Electronic Dosimeter; dated May 12, 2003
03005093; Exp Control: Individual Entered Drywell on Wrong RWP; dated May 10, 2003

03002894; Individual Received an ED Dose Alarm While Building Scaffolding for

Shielding at “B” Recombiner Entrance; dated March 18, 2003
03004920; Individuals Entered Drywell on Wrong RWP and One Individual was Incorrectly Suited up IAW RWP; dated May 7, 2003
03005655; Exposure Control: Individual Received a Dose Alarm After Entering DW in Wrong RWP; dated May 22, 2003

2OS2 As Low As Is Reasonably Achievable Planning And Controls (ALARA)

Documents and Procedures:
Site Exposure Data 1999 - 2004
Rx Coolant Data; Cycle 22
16 Point Area Dose Rate Survey; 1989 - 2004
Recirc Piping Contact Exposure Rates; January 1993 - January 2002
Average Contact on 28-inch Recirc Lines
Monticello Nuclear Generating Plant; Long Term Dose Reduction Plan 2004 - 2007

4OA1 Performance Indicator Verification

Documents and Procedures:
3530-10; NRC Performance Indicators Mitigating Systems Worksheet; Revision 2; for the 4th Quarter 2002 and 1st, 2nd, and 3rd Quarters 2003, for HPCI
3530-10; NRC Performance Indicators Mitigating Systems Worksheet; Revision 2; for the 4th Quarter 2002 and 1st, 2nd, and 3rd Quarters 2003, for RCIC

Condition Reports:
03001593; HPCI Controller Erratic When Controller Placed in “Balance” During HPCI Shutdown Sequence; February 12, 2003
030001749; Failure of HPCI Flow Controller FIC-23-108 May Have Generic Implications Affecting Other Safety Related Systems; February 17, 2003
03001829; Review HPCI Flow Controller Failure and Result of Root Cause Evaluation to Determine SSFF Status; February 18, 2003
03004690; During Overhaul of MO-2107 (RCIC Pump Discharge Inboard), One Housing Cover Bolt Hole was Identified as Being Damaged; May 3, 2003
03005772; Resolve HPCI/RCIC Equipment Performance Issues Adversely Affecting Unavailability; May 24, 2003
03012388; CR 030004690 Does Not Adequately Disposition Historical Operability Associated with As-Found Housing Damage; December 5, 2003 (NRC-identified issue)

4OA2 Identification and Resolution of Problems:

Condition Reports:
03011195; ALARA - NRC Resident Questioned the Positioning of an ALARA “Do Not Loiter” Sign Next to a Posted P&ID in “A” RHR Room (NRC-identified issue)
03012546; NRC Resident Questions Concerning Rec Seal Inj RV-4201B Leak (NRC-identified issue)
03012388; CR 03004690 Does Not Adequately Disposition Historical Operability Associated With As-Found Housing Damage (NRC-identified issue)
03012180; Operability Concerns When New Info is Found During Assessment. SM Notification and Document Needs More Control (NRC-identified issue)

03012165; Pressure Gauge Instrument Designator was not Recorded in the Equipment Section for WO-0311329 PMT
03011942; Adverse Trend: Level of Detail in Some Corrective Action Documents is Insufficient (NRC-identified issue)
03009572; Testing of 13 DG Work Under WO 0310661 Questioned by NRC Resident Regarding PMT Adequacy (NRC-identified issue)
03009399; Guidance in Level 2 CR Template Directs Incorrect Info to be Placed in CHAMPS Screen Regarding Operability Evaluation (NRC-identified issue)
03011859; NRC Visiting Inspector Brought up Concerns Regarding Anti C Containers and Contamination Barriers (Loose Material Issue) (NRC-identified issue)
03009957; Scaffolding Procedure Does not Address Potential Security Issues (NRC-identified issue)
03009915; External OE was not used when CR 03003651 was assessed. (NRC-identified issue)
03011289; Resident Inspector Question Regarding Operability of 12 RHRSW with Leakage Past RHRSW-2-4 and RHRSW-1-4 Bonnet Loose (NRC-identified issue)
03011296; Postings-Access to Overhead Platform From Contaminated Area May Allow Contamination to Fall Into Uncontaminated Area (NRC-identified issue)
03012856; Apparent Increase Configuration Management Challenges Associated With Historical Design Engineering Activities (NRC-identified issue)
03011271; ESW Flush Connections Have Thor and Cam-Lock Fittings in Place Instead of Threaded Cap as Shown on Drawing (NRC-identified issue)

LIST OF ACRONYMS USED

AC	Alternating Current
ASME	American Society of Mechanical Engineers
AWI	Administrative Work Instruction
CEDE	Committed Effective Dose Equivalent
CFR	Code of Federal Regulations
CR	Condition Report
DBD	Design Basis Document
DC	Direct Current
DG	Diesel Generator
DRP	Division of Reactor Projects
DW	Drywell
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EFT	Emergency Filtration Train
ESW	Emergency Service Water
EWI	Engineering Work Instruction
FEMA	Federal Emergency Management Agency
HCU	Hydraulic Control Unit
HPCI	High Pressure Core Injection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
LCO	Limiting Condition for Operation
LLRT	Local Leak Rate Testing
LPCI	Low Pressure Coolant Injection
MCC	Motor Control Center
MO	Motor-Operated
MSIV	Main Steam Isolation Valve
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
NUMARC/ NSEP	Nuclear Management and Resources Council/National Environmental Studies Project
NUREG	Nuclear Regulatory Guide
OC	Operations Committee
OQAP	Operational Quality Assurance Plan
OWA	Operator Workaround
P&ID	Piping & Instrumentation Diagram
PARS	Publicly Available Records
PI	Performance Indicator
PM	Planned or Preventative Maintenance
PMT	Post-Maintenance Testing
RA	Risk Assessment
RCIC	Reactor Core Isolation Cooling

LIST OF ACRONYMS USED

RG	Regulatory Guide
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
RP	Radiation Protection
RWP	Radiation Work Permit
SDP	Significance Determination Process
SRO	Senior Reactor Operator
SSC	Structures, Systems, and Components
TS	Technical Specification
USAR	Updated Safety Analysis Report
URI	Unresolved Item
WO	Work Order