December 19, 2005

Mr. J. Conway
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
FIRE PROTECTION TRIENNIAL BASELINE INSPECTION
INSPECTION REPORT 05000263/2005013(DRS)

Dear Mr. Conway:

On November 4, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Monticello Nuclear Generating Plant. The enclosed report documents the inspection findings which were discussed on November 4, 2005, at the Monticello Nuclear Generating Plant with you and members of your staff.

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

Based on the results of this inspection, one NRC-identified finding of very low safety significance, which involved a violation of NRC requirements, was identified. However, because the violation was of very low safety significance and because the issue was entered into the licensee's corrective action program, the NRC is treating this finding as a Non-Cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Monticello Nuclear Generating Plant facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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/Ann Marie Stone
acting for

Julio F. Lara, Chief
Engineering Branch 3
Division of Reactor Safety

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

Enclosure: Inspection Report 05000263/2005013(DRS)
w/Attachment: Supplemental Information

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

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U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Docket No:	50-263
License No:	DPR-22
Report No:	05000263/2005013(DRS)
Licensee:	Nuclear Management Company, LLC
Facility:	Monticello Nuclear Generating Plant
Location:	2807 West Highway 75 Monticello, MN 55362
Dates:	October 17 through November 4, 2005
Inspectors:	R. Langstaff, Senior Reactor Inspector A. Dahbur, Reactor Inspector F. Ramirez, Reactor Engineer K. Sullivan, Brookhaven National Laboratory
Approved by:	J. Lara, Chief Engineering Branch 3 Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000263/2005013(DRS); 10/17/2005 - 11/04/2005; Monticello Nuclear Generating Plant; Fire Protection Triennial Baseline Inspection.

This report covers an announced triennial fire protection baseline inspection. The inspection was conducted by Region III inspectors. One Green finding associated with a Non-Cited Violation was identified. 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

Cornerstone: Mitigating Systems

- Green. A finding of very low safety significance was identified by the inspectors for the failure to address a deviation from the applicable fire protection code for emergency diesel generator room sprinkler systems. Specifically, the sprinkler systems deviated from the code in that a sprinkler head in each room was significantly obstructed. The primary cause of this finding was related to the Corrective Action subcategory of the Problem Identification and Resolution cross-cutting area because the licensee failed to take effective corrective actions in response to a similar previous NRC violation concerning sprinkler system obstructions for another fire area. In addition, the licensee had identified other sprinkler system obstructions in the emergency diesel generator rooms.

  The finding was more than minor because the significant obstruction of the sprinkler heads would result in the heads failing to develop an effective spray pattern for cooling in the event of a fire. The finding was of very low safety significance because less than 10 percent of the sprinkler heads were non-functional and there were functional heads within 10 feet of the combustibles of concern. The issue was a Non-Cited Violation of License Condition 2.C.4 which required the licensee to implement and maintain in effect all provisions of the approved fire protection program which required the licensee to address deviations from the applicable fire protection code. (Section 1R05.10.B)

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events and Mitigating Systems

1R05 Fire Protection (71111.05)

The purpose of this inspection was to review the Monticello Nuclear Power Plant Fire Protection Program for selected risk-significant fire areas. Emphasis was placed on determining that the post-fire safe shutdown capability and the fire protection features were maintained free of fire damage to ensure that at least one post-fire safe shutdown success path was available. The inspection was performed in accordance with the Nuclear Regulatory Commission's (NRCs) regulatory oversight process using a risk-informed approach for selecting the fire areas and attributes to be inspected. The inspectors used the Monticello Individual Plant Examination of External Events to choose several risk-significant areas for detailed inspection and review. The fire areas chosen for review during this inspection were:

Fire Area VIII, Control Room
Fire Area IX, Intake Structure and Division I Portions of Turbine Building
Fire Area XIV, Diesel Generator Room Number (No.) 11

For each of these fire areas, the inspection focused on the fire protection features, the systems and equipment necessary to achieve and maintain safe shutdown conditions, determination of licensee commitments, and changes to the Fire Protection Program.

.1 Systems Required to Achieve and Maintain Post-Fire Safe Shutdown

Title 10 of the Code of Federal Regulations (CFR), Part 50, Appendix R, Section III.G.1, required the licensee to provide fire protection features that were capable of limiting fire damage to structures, systems, and components (SSCs) important to safe shutdown. The SSCs that were necessary to achieve and maintain post-fire safe shutdown were required to be protected by fire protection features that were capable of limiting fire damage to the SSCs so that:

- One train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) was free of fire damage; and

- Systems necessary to achieve and maintain cold shutdown from either the control room or emergency control station(s) can be repaired within 72-hours.

Specific design features for ensuring this capability were specified by 10 CFR Part 50, Appendix R, Section III.G.2.

a. Inspection Scope

The inspectors reviewed the plant systems required to achieve and maintain post-fire safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for each fire area selected for review in accordance with the criteria discussed above. Specifically, the review was performed to determine the adequacy of the systems selected for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring, and support system functions. This review included the fire protection safe shutdown analysis.

The inspectors also reviewed the operators' ability to perform the necessary manual actions for achieving safe shutdown by reviewing procedures, the accessibility of safe shutdown equipment, and the available time for performing the actions.

The inspectors reviewed the Monticello Updated Safety Analysis Report and the licensee's engineering and/or licensing justifications (e.g., NRC guidance documents, license amendments, technical specifications, safety evaluation reports, exemptions, and deviations) to determine the licensing basis.

b. Findings

No findings of significance were identified.

.2 Fire Protection of Safe Shutdown Capability

Title 10 CFR Part 50, Appendix R, Section III.G.2, required separation of cables and equipment and associated circuits of redundant trains by a fire barrier having a 3-hour rating. Title 10 CFR Part 50, Appendix R, Section III.G.3, required that, if the guidelines cannot be met, then alternative or dedicated shutdown capability and its associated circuits, independent of cables, systems or components in the area, room, or zone under consideration should be provided.

a. Inspection Scope

For each of the selected fire zones, the inspectors reviewed the licensee's Safe Shutdown Analysis to ensure that at least one post-fire safe shutdown success path was available in the event of a fire in accordance with the criteria discussed above. This included a review of manual actions required to achieve and maintain hot shutdown conditions and to make the necessary repairs to reach cold shutdown within 72-hours. The inspectors also reviewed procedures to determine whether or not adequate direction was provided to operators to perform these manual actions. Factors such as timing, access to the equipment, and the availability of procedures, were considered in the review.

The inspectors also evaluated the adequacy of fire suppression and detection systems, fire area barriers, penetration seals, and fire doors to ensure that at least one train of safe shutdown equipment was free of fire damage. To accomplish this, the inspectors observed the material condition and configuration of the installed fire detection and suppression systems, fire barriers, construction details, and supporting fire tests for the

installed fire barriers. In addition, the inspectors reviewed licensee documentation, such as deviations, detector placement drawings, fire hose station drawings, Fire Hazard Analysis reports, the Safe Shutdown Analysis, and National Fire Protection Association (NFPA) codes to verify that installed fire protection features met license commitments.

b. Findings

No findings of significance were identified.

.3 Post-Fire Safe Shutdown Circuit Analysis

Title 10 CFR Part 50, Appendix R, Section III.G.1, required that structures, systems, and components important to safe shutdown be provided with fire protection features capable of limiting fire damage to ensure that one train of systems necessary to achieve and maintain hot shutdown conditions remained free of fire damage. Options for providing this level of fire protection were delineated in 10 CFR Part 50, Appendix R, Section III.G.2. Where the protection of systems whose function was required for hot shutdown did not satisfy 10 CFR Part 50, Appendix R, Section III.G.2, an alternative or dedicated shutdown capability and its associated circuits, were required to be provided that was independent of the cables, systems, and components in the area. For such areas, 10 CFR Part 50, Appendix R, Section III.L.3, specifically required the alternative or dedicated shutdown capability to be physically and electrically independent of the specific fire areas and capable of accommodating post-fire conditions where offsite power was available and where offsite power was not available for 72 hours.

a. Inspection Scope

The inspectors performed a review of the licensee's Safe Shutdown Analysis and Safe Shutdown Equipment List to determine whether the licensee had appropriately identified and analyzed the safety related and non-safety related cables associated with safe shutdown equipment located in the selected plant fire zones in accordance with the criteria discussed above. The inspectors' review included the assessment of the licensee's electrical systems and electrical circuit analyses.

The inspectors evaluated a sample of safety and non-safety related cables for equipment in the selected fire zones to determine if the design requirements of Section III.G of Appendix R to 10 CFR Part 50 were being met. This included determining that hot shorts, open circuits, or shorts to ground would not prevent implementation of safe shutdown.

b. Findings

No findings of significance were identified.

.4 Alternative Shutdown Capability

Title 10, Part 50, Appendix R, Section III.G.1, required the licensee to provide fire protection features that were capable of limiting fire damage so that one train of systems necessary to achieve and maintain hot shutdown conditions remained free of fire

damage. Specific design features for ensuring this capability were provided in 10 CFR Part 50, Appendix R, Section III.G.2. Where compliance with the separation criteria of 10 CFR Part 50, Appendix R, Section III.G.2, could not be met, an alternative or dedicated shutdown capability be provided that was independent of the specific fire area under consideration. Additionally, alternative or dedicated shutdown capability must be able to achieve and maintain hot standby conditions and achieve cold shutdown conditions within 72-hours and maintain cold shutdown conditions thereafter. During the post-fire safe shutdown, the reactor coolant process variables must remain within those predicted for a loss of normal alternating current power, and the fission product boundary integrity must not be affected (i.e., no fuel clad damage, rupture of any primary coolant boundary, or rupture of the containment boundary).

a. Inspection Scope

The inspectors reviewed the licensee's systems required to achieve safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions in accordance with the criteria discussed above. The inspectors also focused on the adequacy of the systems to perform reactor pressure control, reactivity control, reactor coolant makeup, decay heat removal, process monitoring, and support system functions.

b. Findings

No findings of significance were identified.

.5 Operational Implementation of Alternate Shutdown Capability

The Monticello fire protection program described the means by which safe shutdown could be achieved to meet the requirements of 10 CFR Part 50, Appendix R, Sections III.G.3 and III.L. The Monticello safe shutdown analysis identified the minimum number of components and plant systems necessary for achieving Appendix R safe shutdown performance goals.

a. Inspection Scope

The inspectors performed a review of the licensee's operating procedures, which augmented the post-fire safe shutdown procedures to determine if the licensee complied with the criteria discussed above. The review focused on ensuring that all required functions for post-fire safe shutdown and the corresponding equipment necessary to perform those functions were included in the procedures. The review also looked at operator training, as well as consistency between the operations shutdown procedures and any associated administrative controls.

b. Findings

No findings of significance were identified.

.6 Communications

Title 10 CFR Part 50, Appendix R, Section III.H, required that a portable communications system be provided for use by the fire brigade and other operations personnel required to achieve safe plant shutdown. This system should not interfere with the communications capabilities of other plant personnel. Fixed repeaters installed to permit use of portable radio communication units should be protected from exposure to fire damage.

a. Inspection Scope

The inspectors reviewed the adequacy of the communication systems to support plant personnel in the performance of alternative safe shutdown functions and fire brigade duties to determine compliance. The inspectors conducted a review to determine that adequate communications were available to support safe shutdown implementation.

b. Findings

No findings of significance were identified.

.7 Emergency Lighting

Title 10 CFR Part 50, Appendix R, Section III.J., required that fixed self-contained lighting consisting of fluorescent or sealed-beam units with individual eight-hour minimum battery power supplies should be provided in areas that must be manned for safe shutdown and for access and egress routes to and from all fire zones.

a. Inspection Scope

The inspectors performed a walkdown of the fire zones and the access/egress routes to determine that adequate emergency lighting existed in accordance with the criteria discussed above.

b. Findings

No findings of significance were identified.

.8 Cold Shutdown Repairs

Title 10 CFR Part 50, Appendix R, Section III.L.5, required that equipment and systems comprising the means to achieve and maintain cold shutdown conditions should not be damaged by fire; or the fire damage to such equipment and systems should be limited so that the systems can be made operable and cold shutdown achieved within 72 hours. Materials for such repairs shall be readily available onsite, and procedures shall be in effect to implement such repairs.

a. Inspection Scope

The inspectors reviewed the licensee's procedures to determine if any repairs were required to achieve cold shutdown. The inspectors determined that the licensee did require repair of some equipment to reach cold shutdown based on the safe shutdown methods used. The inspectors reviewed the procedures for adequacy.

b. Findings

No findings of significance were identified.

.9 Fire Barriers and Fire Zone/Room Penetration Seals

Title 10 CFR Part 50, Appendix R, Section III.M, required that penetration seal designs be qualified by tests that are comparable to tests used to rate fire barriers.

a. Inspection Scope

The inspectors performed visual inspections of selected three-hour rated barriers to ensure that the barrier installations were consistent with the criteria discussed above. In addition, the inspectors reviewed the fire loading for selected areas to ensure that existing barriers would not be challenged by a potential fire.

b. Findings

No findings of significance were identified.

.10 Fire Protection Systems, Features and Equipment

a. Inspection Scope

The inspectors reviewed the material condition, operations lineup, operational effectiveness, and design of fire detection systems, fire suppression systems, manual fire fighting equipment, and passive fire protection features. The inspectors reviewed deviations, detector placement drawings, fire hose station drawings, and fire hazard analysis reports to ensure that selected fire detection systems, sprinkler systems, portable fire extinguishers, and hose stations were installed in accordance with their design, and that their design was adequate given the current equipment layout and plant configuration.

b. Findings - Failure to Address Significant Obstruction of Sprinkler Heads

Introduction: The inspectors identified a Non-Cited Violation (NCV) having very low safety significance (Green) for the failure to meet a fire protection license condition requirement to address deviations from the applicable fire protection code for the emergency diesel generator room sprinkler systems. Specifically, the sprinkler systems deviated from the code in that a sprinkler head in each emergency diesel generator room was significantly obstructed.

Description: The inspectors identified that one sprinkler head in each of both emergency diesel generator rooms was significantly obstructed. The deflector for the affected sprinkler head in the emergency diesel generator room no. 11 (Fire Zone 15B of Fire Area XIV) was located approximately three to four inches above, and near the edge of a ventilation duct. The ventilation duct was approximately 46 inches wide. In addition, the inspectors noted that an insulated pipe ran along side of the sprinkler head. As such, the inspectors estimated that at least three-quarters of the spray pattern from the head would be obstructed. The deflector for the affected sprinkler head in the emergency diesel generator room no. 12 (Fire Zone 15A of Fire Area XIII) was also located three to four inches above a ventilation duct which was also approximately 46 inches wide. However, the sprinkler head was set back from the edge of the ventilation duct such that the vast majority of the spray pattern would be obstructed. The inspectors noted that the affected sprinkler heads were one of fifteen sprinkler heads in each diesel generator room. In addition, there were three other functional heads within 10 feet of the affected sprinkler heads in the emergency diesel generator rooms.

The inspectors noted that Chapter 9, Section 10, of the "NFPA Fire Protection Handbook" (nineteenth edition) indicated that one of the most efficient ways sprinklers can be effective against fires was simply through the cooling effects of the water spray. The production of a mist of fine water droplets can cause significant cooling, which reduces the radiative feedback to the fire below that which is needed to sustain combustion. Chapter 11, Section 10, of the handbook noted that a concern associated with sprinkler systems was obstruction to sprinkler discharge pattern development. The handbook specifically indicated that the continuous and noncontinuous obstructions of sprinkler discharge pattern caused by piping, light fixtures, truss webs, or building columns located within the first 18 inches of the sprinkler deflector was a concern. The handbook stated that obstructions located in this zone prevent the proper sprinkler discharge pattern from developing. Based on this information, the inspectors concluded that the significant obstruction of the heads resulted in the two sprinkler heads being essentially non-functional and would adversely affect the suppression capability of the sprinkler systems.

Section 3.1.2(2) of NRC Safety Evaluation Report supplement for Monticello, dated February 12, 1981, stated that the NRC required the licensee to provide a pre-action sprinkler system in the emergency diesel generator rooms. In response to an NRC request for a comparison of the Monticello fire protection program against NRC Branch Technical Position APCSB 9.5-1, the licensee had indicated, by letter dated December 10, 1976, that, for APCSB 9.5-1 item IV.C.3(c), the design specifications required that sprinkler systems conform to the requirements of NFPA 13. The licensee did not identify any exceptions for item IV.C.3(c) which specified that automatic sprinkler systems should, as a minimum, conform to the requirements of appropriate NFPA standards such as NFPA No. 13, "Standard for the Installation of Sprinkler Systems," and NFPA No. 15, "Standard for Water Spray Fixed Systems." Appendix J.3, "Comparison to Regulatory Guidance," to the Monticello Updated Safety Analysis Report reflected this commitment under item 120 of Table J.3-1, "Review of Guidelines Contained in Standard Review Plant 9.5.1." The inspectors noted that Section 4-2.5 of NFPA 13-1978 required that a minimum of 18 inches be maintained between top of storage and ceiling sprinkler deflectors. The inspectors considered the location of the ventilation ducts in relation to the affected sprinkler deflectors to be in conflict with

Section 4-2.5 of NFPA 13-1978. The inspectors also noted that Appendix J.5, "Updated Fire Hazards Analysis," to the Monticello Updated Safety Analysis Report stated that Calculation CA-03-193, "Evaluation of Fire Suppression System in the EDG [emergency diesel generator] Building - Fire Areas XIII, XIV, XV, & XVI / Zones 15A, 15B, 15C, and 15D," addressed suppression system NFPA code deviations for Fire Zones 15A and 15B. Calculation CA-03-193 was performed as part of an extent of condition review in response to NRC Non-Cited Violation (NCV) 05000263/2002011-04 (entered into the licensee's corrective action system under CAP 010010, "Sprinkler coverage in Lube Oil Tank Room (FZ-13A) is inadequate"). Calculation CA-03-193 identified that the sprinkler systems did not meet the requirements of Section 4-2.5 of NFPA 13-1978 in that 18 inches of clearance was not maintained between the ceiling sprinkler deflectors and the top of ducts. Section 6.6.8 of the calculation specifically noted that the ventilation ducts were an obstruction to the sprinkler spray pattern. The calculation recommended the addition of sprinklers below the ducts. The licensee had modified the sprinkler system piping in 2005 for several sprinkler heads in each emergency diesel generator room to reduce obstruction to sprinkler head spray patterns. However, the licensee failed to address the two sprinkler heads with deflectors located three to four inches above the ventilation ducts in the emergency diesel generator rooms. Although the inspectors considered the sprinkler system modifications performed to provide significant improvement over the original configuration, the inspectors considered the corrective actions performed by the licensee to not be comprehensive as two sprinkler heads remained essentially non-functional.

Analysis: The inspectors determined that the failure to ensure that the sprinkler systems in the emergency diesel generator rooms met applicable fire code requirements was a performance deficiency warranting a significance evaluation. The inspectors concluded that the finding was greater than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on September 30, 2005. The finding involved the attribute of protection against external factors (fire) and affected the mitigating system cornerstone because the finding adversely affected the suppression capability of fire suppression systems. Specifically, the significant obstruction of the sprinkler heads would result in the heads failing to develop an effective spray pattern for cooling in the event of a fire. The finding also affected the Corrective Action subcategory of the Problem Identification and Resolution cross-cutting area because the licensee failed to take effective corrective actions in response to a similar previous NRC violation and identified obstructions in the emergency diesel generator rooms.

The inspectors completed a significance determination of this issue using IMC 0609, "Significance Determination Process (SDP)," dated May 19, 2005, Appendix F, "Fire Protection Significance Determination Process," dated February 28, 2005.
The inspectors noted that the finding affected the fixed fire suppression system element of the fixed fire protection systems category. Based on review the "Water Based Suppression" section of IMC 0609, Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements," the inspectors assigned a degradation rating of low to this finding because less than 10 percent of the sprinkler heads were non-functional, there were functional heads within 10 feet of the combustibles of concern, and the sprinkler systems were nominally code compliant. Based on review of Task 1.3.1 of IMC 609, Appendix F, the inspectors determined that

the finding was of very low safety significance (i.e., Green) because the finding was assigned a low degradation rating.

Enforcement: License condition 2.C.4 required the licensee to implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Safety Analysis Report for the facility and as approved in the Safety Evaluation Report dated August 29, 1979, and supplements dated February 12, 1981, and October 2, 1985. Section 3.1.2(2) of NRC Safety Evaluation Report supplement for Monticello, dated February 12, 1981, stated that the NRC required the licensee to provide a pre-action sprinkler system in the emergency diesel generator rooms. Updated Safety Analysis Report Appendix J.5 stated that Calculation CA-03-193 addressed suppression system NFPA code deviations for Fire Zones 15A, Diesel Generator Room No. 12, and 15B, Diesel Generator Room No. 11. NFPA 13-1978 was the applicable NFPA code for the suppression systems for Fire Zones 15A and 15B. Section 4-2.5 of NFPA 13-1978 stated that a minimum of 18 inches clearance shall be maintained between top of storage and ceiling sprinkler deflectors. Contrary to the above, one ceiling sprinkler head in each of Fire Zones 15A and 15B had its deflector located three to four inches above ventilation ducts. The location of ventilation ducts with less than 18 inches clearance was a deviation from Section 4-2.5 of NFPA 13-1978. Calculation CA-03-193 did not address the suppression system NFPA code deviation associated with ceiling sprinkler head deflectors located three to four inches above ventilation ducts in that the calculation recommendation to add sprinklers below the ventilation ducts was not implemented. As a result, the cooling effects from a developed spray pattern from the two affected sprinkler heads would not be realized and the suppression system capability was adversely affected. The licensee entered the issue into their corrective action program as AR01002810 on November 3, 2005. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as a NCV, consistent with Section VI.A of the NRC Enforcement Policy. (NCV 05000263/2005013-01)

.11 Compensatory Measures

a. Inspection Scope

The inspectors conducted a review to determine that adequate compensatory measures were put in place by the licensee for out-of-service, degraded or inoperable fire protection and post-fire safe shutdown equipment, systems, or features. The inspectors also reviewed the adequacy of short term compensatory measures to compensate for a degraded function or feature until appropriate corrective actions were taken.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA4 Cross-cutting Aspects of Findings

.1 A finding, discussed in Section 1R05.10.b had, as its primary cause, a problem identification and resolution performance deficiency in that the licensee did not implement effective corrective actions in response to a previous NRC finding.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. Conway and other members of licensee management at the conclusion of the inspection on November 4, 2005. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
J. Conway, Site Vice-President
R. Jacobs, Site Director
R. Baumer, Engineer, Regulatory Affairs
S. Brown, Manager, Program Engineering
J. Fields, Engineer, Regulatory Affairs
J. Grub, Director, Engineering
W. Guldemond, Manager, Nuclear Safety Assessment
M. Huting, Fleet Director, Engineering Programs
M. Kelly, Appendix R Engineer, Program Engineering
W. Kleve, Fire Protection System Engineer, System Engineering
D. Potter, Supervisor, Program Engineering

Nuclear Regulatory Commission
J. Lara, Chief, Engineering Branch 3
S. Ray, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Open and Closed

05000263/2005013-01(DRS)	NCV	Failure to Address Significant Obstruction of Sprinkler Heads (Section 1RO5.10.b)

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 report.

Assessments

SA024971; Snapshot Self-Assessment Appendix R Circuit Analysis Potential Impact of RIS 2004-003; dated October 2005

Fire-Induced Circuit Failures Assessment; dated July 2005

Snapshot Assessment – Post-fire Safe Shutdown Capability; dated March 2005

Calculations and Evaluations

CA-79-557; Hydraulic Calculation for Turbine Lube Oil Reservoir Deluge System; Revision 1

CA-89-558; Hydraulic Calculation for EDG Room Preaction Sprinkler System; Revision 1

CA-92-139; Fire Pump Capacity Verification; Revision 0

CA-97-087; RO-2119 Flow vs Differential Pressure; dated April 3, 1997

CA-02-134; Clean/Dirty Lube Oil Storage Room Sprinkler Flow; Revision 0

CA-02-159; Evaluation of Fire Detector Locations in the Reactor Bldg. - Fire Area II, Fire Zone 1E, HPCI Pump Room; Revision 0

CA-03-193; Evaluation of Fire Suppression System in the EDG Building, - Fire Areas XIII, XIV, XV, and XVI/Zones 15A, 15B, 15C and 15D; Revision 0

CA-04-117; Turbine Building, Feedwater Pump Hatch Sprinkler Systems Hydraulic Calculation - Fire Area/Zone IX/13B; Revision 0

CA-04-205; NFPA 14 Installation of Standpipe and Hose Systems Code Evaluation; Revision 0

NSP-52-001; Smoke Simulation Testing at Monticello Nuclear Generating Plant; dated November 28, 1980

Corrective Action Documents

ACE004198; Evaluation of risk significance of MSIV cable damage

ACE004211; Evaluation of the consequences of circuit failures for RHRSW motor cooling solenoid valves (SV-4937A, SV-4937B, SV-4937C, SV-4937D)

CAP009725; Upper & Lower 4kV smoke detector layout questioned; dated May 23, 2002

CAP010663; NFPA detector discrepancies discovered in Fire Zone 1E, HPCI room; dated August 26, 2002

CAP032829; No guidance for OPS to operate the SRVs E, F, G, H from ASDS in event of fire affecting DIV 1 AC cable to the SRVs; dated March 24, 2004

CAP032924; Scaffold equipment stored between sprinkler piping; dated April 15, 2004

CAP032976; No fire extinguisher in Intake Tunnel; dated April 1, 2004

CAP033252; Ventilation support systems need to be included in SSDA analysis; dated May 28, 2004

CAP033544; Possible inappropriate storage of scaffolding near fire header in intake tunnel; dated June 9, 2004

CAP035816; Identified NFPA Code Deficiencies in Plant Fire Header; dated November 17, 2004

CAP040485; Subject: Resolution of the recommendations from the October 2005 Self-Assessment (SA024971)

CAP040840; INPO AFI OF.4-1 - 2005 Evaluation: Station needs to take actions to address AFI; dated September 20, 2005

Corrective Action Documents Initiated During Inspection

AR01000283; Battery Powered Fire Detectors in CR should be replaced; dated October 5, 2005

AR01001303; A3-12B is discrepant to CA-05-084 & master lube list 4916; dated October 18, 2005

AR01001440; FT-10-97B should be added to the Safe Shutdown Analysis; dated October 19, 2005

AR01001455; Scaffold in Intake Tunnel Touching FP Pipe Questioned by NRC; dated October 19, 2005

AR01001600; EDG vent mod review may not have been fully documented; dated October 21, 2005

AR01002446; Items in SSDA were identified as unclear during NRC Inspection; dated October 31, 2005

AR01002538; Fire Strategies w/ redundant SSDA equip. should be revised; dated November 1, 2005

AR01002646; Enhance C.4.C Contingency Action for Turbine Trip; dated November 2, 2005

AR01002703; Fire Pump Auto Start Setpoints Questioned by NRC; dated November 2, 2005

AR01002710; Pen seal between Hot Shop and TB Corridor 931' not labeled; dated November 2, 2005

AR01002776; Pneumatic tubing & HAD supported by fire pipe; dated November 3, 2005

AR01002810; Potential NRC Violation for sprinkler obstruction in EDG Room; dated November 3, 2005

Memoranda

Fire Pump Auto Start Setpoints Questioned by NRC; dated November 2, 2005

Procedures

0266; Fire Pumps Simulated Auto-Actuation and Capability Test; Revision 41

0268; 3 Year and Annual Fire Protection System Flow Test; Revision 15

0269; Fire Protection System Valve Check

0271; Fire Hose Station and Yard Hydrant Hose House Equipment Inspection; Revision 32

0275-02; Fire Barrier Wall, Damper and Floor Inspection; Revision 25

1216-01; Fire Door Inspections; Revision 42

2154-14; Fuel Oil System Prestart Valve Checklist; Revision 14

4851-12-PM; ABB K-1600S and K-3000S 480 Volt Breaker Maintenance; Revision 13

8053; Fire Barrier Penetration Sealing; Revision 23

8146; Scaffold Control; Revision 21

8285; Non-identical Fuse Replacement; Revision 5

C.4.B.08.05.A; Plant Fire; Revision 11

C.4-C; Shutdown Outside Control Room; Revision 25

Updated Safety Analysis Report Sections

10.3.1; Fire Protection System; Revision 22

Appendix J.1; Fire Protection Program; Revision 22

Appendix J.4; Safe Shutdown Analysis; Revision 22

Appendix J.5; Updated Fire Hazards Analysis; Revision 22

Work Orders

0508231; Replace Smoke Detectors in Control Room; dated October 5, 2005

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
CFR	Code of Federal Regulations
DPR	Demonstration Power Reactor
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generator
IMC	Inspection Manual Chapter
LLC	Limited Liability Corporation
NCV	Non-Cited Violation
NFPA	National Fire Protection Association
NO	Number
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records
SDP	Significance Determination Process
SSC	Structures, Systems, and Components
UFSAR	Updated Final Safety Analysis Report