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ACCESSION NBR: 8711100369 DOC. DATE: 87/11/04 NOTARIZED: NO DOCKET #
 FACIL: 50-263 Monticello Nuclear Generating Plant, Northern States 05000263
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 Ofc of Enforcement (Post 870413)

SUBJECT: Responds to notice of violation from Insp Rept 50-263/87-09
 & requests mitigation of civil penalty proposed by NRC.
 Corrective actions: ground fault protection feature on all
 essential motor control ctr supply breakers defeated.

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November 4, 1987

10 CFR Part 2
Sections 2.201 & 2.205

Director
Office of Enforcement
US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Answer to a Notice of Violation - EA 87-147

- Reference: (a) Letter from Mr A Bert Davis, Regional Administrator, Region III, USNRC, "Notice of Violation and Proposed Imposition of Civil Penalty (NRC Inspection Report No. 50-263/87009(DRS))
- (b) Licensee Event Report 87-013, "Ground Fault Causes Loss of ESF Equipment Due to Breaker/Fuse Miscoordination," July 7, 1987

The purpose of this letter is to provide a written response to the Notice of Violation enclosed in Reference (a) and to request mitigation of the civil penalty proposed by the NRC Staff.

Reply to Notice of Violation

The following written statement of explanation is submitted as required by 10 CFR Part 2, Section 2.201:

Violation

10 CFR Part 50, Appendix B, Criterion V states, in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances.

Contrary to the above, from August 1986 to July 1987, activities involving the review and performance of electrical coordination to determine the effects of changes to the electrical power

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system on other portions of the system were not prescribed by electrical design change control procedures. As a result, when the electrical distribution system was modified by replacing trip devices in load center circuit breakers for essential buses with devices having ground fault protection, the potential for loss of an essential bus due to a fault in a nonsafety-related component was created.

This is a Severity Level III violation (Supplement 1).

Civil Penalty - \$50,000.

Response

Admission or Denial of the Alleged Violation

A complete description of the circumstance surrounding this event was provided in Reference (b).

Design change procedures are in existence at Monticello which require that an electrical coordination study be performed for changes to the electrical power system. An electrical coordination study was performed which considered the load center breakers and 4KV breakers. The motor control center (MCC) loads were not reviewed, however, because procedures for performing the coordination study did not exist. This shortcoming created the potential for a loss of an essential MCC under accident conditions due to a ground fault in a nonsafety-related load.

Reasons for the Violation

Procedures for performing electrical coordination studies did not exist. Poor communications between the various parties involved in the modification contributed to this event.

Corrective Steps That Have Been Taken and the Results Achieved

1. The ground fault protection feature on all essential MCC supply breakers was temporarily defeated on June 16, 1987 and permanently bypassed during a reactor shutdown on June 27, 1987. Ground fault protection was not included in the original plant design.
2. A description of the problem was communicated directly to our Prairie Island plant and to other nuclear plants via the Institute of Nuclear Power Operations Nuclear Network system.

3. A letter was issued by the Plant Manager to all site engineering personnel notifying them of the inadequacies involved in this event. The need to obtain complete information on new equipment prior to preparation of modification packages was stressed as well as the need to prepare addendums when new information is subsequently revealed. The letter also required that all future modifications to the plant power distribution system include a documented technical review of electrical coordination.

4. Modifications made to the plant power distribution system during the 1986 refueling outage were reviewed for adequacy of electrical coordination. No similar problems were found.

5. Lessons learned from this event have been included in the engineering training program.

6. This event has been referred to the plant Human Performance Task Force for review.

Corrective Steps That Will be Taken to Avoid Further Violations

1. A review of electrical coordination of safety related systems will be performed.

2. An Electrical Coordination Task Force has been established to ensure that breaker and fuse coordination is properly considered during maintenance and modifications. Recommendations have been developed and will be appropriately implemented to improve the process.

3. The event is being reviewed by the NSP Uniform Modification Committee. Appropriate improvements are being made to the modification process.

4. Review of a representative sample of similar component changes will be conducted to verify complete evaluations were performed.

Date When Full Compliance Will Be Achieved

1. The electrical coordination review will be completed during the 1987 refueling outage. The outage is now in progress with plant startup currently scheduled for early December, 1987.

2. Recommendations of the Electrical Coordination Task Force will be implemented by March 31, 1988.

3. Revisions to the modification process are scheduled to be implemented on January 1, 1988.

4. Review of a representative sample of similar component changes will be completed by June 30, 1988.

We believe that the corrective actions we have taken, and the longer term measures planned, will assure that coordination of electrical breakers and fuses is properly considered in future modification and maintenance activities.

Request for Mitigation of Civil Penalty

This request for mitigation of the civil penalty proposed in Reference (a) is submitted as permitted by 10 CFR Part 2, Section 2.205. Northern States Power Company respectfully requests mitigation of the civil penalty based on the following considerations:

1. Prompt Identification and Reporting

The ground fault coordination problem was discovered by plant personnel and promptly reported to the NRC in accordance with 10 CFR Part 50, Section 50.72 and 50.73, and procedures for Notification of Unusual Events (NUE's).

The report submitted pursuant to Section 50.73 (Reference b), was a thorough and detailed description of the event, the causes of the event, and the corrective actions taken.

While the miscoordination problem existed for about 11 months prior to discovery by NSP, there were only two opportunities to identify the coordination error once it had been made:

- The investigation of the June 7, 1987 breaker trip event
- The investigation of the June 14, 1987 breaker trip event

The possibility of a coordination problem being the cause of the June 7, 1987 event was originally discounted when no fault was found by megger testing and all loads performed properly when restored. The miscoordination problem was discovered and corrected shortly after the June 14, 1987 event when the fault on No. 4 drywell fan motor made itself known during restoration of loads.

2. Corrective Action to Prevent Recurrence

Prompt and extensive corrective actions were taken as identified in Reference (b) and as outlined at the Enforcement Conference held on July 27, 1987 in the NRC Region III Offices in Glen Ellyn, Illinois.

All of the corrective actions were taken on the initiative of the plant staff.

A broad perspective was taken in formulating corrective actions, including consideration of other potential coordination problems in other, unrelated, plant modifications.

3. Past Performance

A review of reportable and significant operating events occurring during the last two years was conducted. Only one event involving inadequate design controls was identified. This event, discovered during a recent Safety System Functional Inspection conducted by the NRC, involved suppression pool hatch cover fasteners which were not as originally specified.

The hatch cover fasteners are believed to have been replaced several years ago. Improvements made to the design change control process since that time have significantly reduced the probability of similar events.

NRC Systematic Assessment of Licensee Performance (SALP) ratings at Monticello have consistently been above average.

4. Prior Notice of Similar Events

There was no prior notice of this problem.

5. Multiple Occurrences

The failure to provide proper electrical coordination as part of a plant design change is the first occurrence of this type at Monticello.

Previous occurrences of design change control problems have been limited in recent years to the suppression pool hatch cover fastener replacement described above.

The failure to provide proper ground fault coordination following a plant modification was an isolated occurrence and does not represent a pattern of poor performance.

6. Other Considerations

Availability of Procedures

The Notice of Violation states that electrical design change control procedures did not prescribe the review and performance of electrical coordination. Procedures at Monticello do prescribe an electrical coordination study for changes to the electrical power system. An electrical coordination study was performed which considered the load center breakers and 4KV breakers. The MCC loads were not reviewed, however, principally because procedures for performing the coordination study did not exist.

The event was, we believe, an isolated case where procedures did not provide sufficiently detailed guidance to engineers responsible for the modification. A contributing factor was poor communication between the various parties involved in replacing the trip devices.

Significance of the Event

The failure to provide adequate ground fault coordination when circuit breaker trip devices were replaced was a serious error.

However, in this case the lack of proper ground fault coordination could not by itself cause the loss of a safety related MCC.

Certain ground faults could result in tripping of an MCC supply breaker and the temporary loss of the MCC until operators could take corrective action to clear the fault. Multiple postulated ground faults of a type which would trip the supply breaker and not the load breaker of two MCC's supplying redundant equipment would be extremely unlikely. As a result, the impact on plant safety due to the failure to provide coordination of ground fault protection was small.

Please contact us if you have any questions related to our response or the actions we have taken and have planned to prevent future events of this type.

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Northern States Power Company

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For

C E Larson
Vice President Nuclear Generation

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