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ACCESSION NBR:9108290120 DOC.DATE: 91/08/23 NOTARIZED: NO DOCKET #
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SUBJECT: Responds to NRC 910724 ltr re violations noted in insp rept
 50-263/91-11. Corrective actions: Appropriate administrative
 controls reviewed & revised.

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August 23, 1991

10 CFR Part 2
Section 2.201

U.S. Nuclear Regulatory Commission
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MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Response to NRC Inspection Report No. 91011
Concerning a Notice of Violation for Failure to
Resolve a Previously Identified Cable Separation Issue

Pursuant to the provisions of 10 CFR Part 2, Section 2.201, the following response to the notice of violation contained in your letter of July 24, 1991 is submitted. Also included is our response to the Unresolved Item on Control of High Radiation Area doors.

Violation

10 CFR 50, Appendix B, Criterion XVI, requires that measures shall be established to assure that conditions adverse to quality, deficiencies, deviations and nonconformances are promptly identified and corrected.

Contrary to the above, on May 28, 1991, the licensee failed to take prompt corrective actions to evaluate or resolve a previously identified cable separation issue between redundant circuits which were in the automatic start circuits of the off gas dilution fans. This was a condition adverse to quality.

This is a Severity Level IV violation (Supplement I).

Reason for the Violation

On April 27, 1991, with the plant in cold shutdown for the 1991 refueling outage, it was discovered, during scheduled Environmental Qualification maintenance, that cables for one pair of solenoid valves for the Secondary Containment Isolation Dampers were not electrically separated as required by plant drawings. The remaining Secondary Containment Isolation Damper circuits were inspected and it was discovered that cables feeding some of the solenoid valves for these dampers were also not separated.

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As a result of these findings, all cable routes for the Secondary Containment System, including the Standby Gas Treatment System, were reviewed and inspected. Three more instances of lack of separation were identified in the Standby Gas Treatment System. These conditions were reported to the NRC in Licensee Event Report (LER) 91-009, dated May 28, 1991.

The investigation of cable routes for the Standby Gas Treatment System was initiated on April 28, 1991. The results of the investigation were reported to management and efforts were initiated to resolve the deficiencies identified. One of the deficiencies reported by the walkdown group was misunderstood by the modification group. The actual deficiency involved lack of required separation of cables for Off-Gas Dilution Fan Low Flow Control circuits from switches PS-8000-J15 and PS-8000-J16. Because of the communication error, the modification group understood the deficiency to be a lack of separation of cables for Off-Gas Dilution Fan Low Flow Alarm circuits from switches FS-8000-J11 and FS-8000-J12. A safety evaluation was performed as part of Safety Review Item (SRI) #91-018, "Standby Gas Treatment System Electrical Separation Concerns." This SRI, dated May 3, 1991, was prepared to resolve the deficiencies and justified the temporary modification of the low flow alarm circuits to restore Secondary Containment integrity as required prior to fuel handling. The misunderstanding occurred prior to preparation of the SRI and temporary modification activities and ultimately resulted in the permanent modification of circuits which, in fact, were already properly separated.

Based on the belief that all separation issues had been adequately resolved, the plant was restarted on May 29, 1991.

On June 10, 1991, system engineering personnel discovered that the cables for the Off-Gas Dilution Fan Low Flow Control circuits were not separated as required and that the modification performed during the outage had modified the incorrect circuits. The Senior Resident NRC Inspector was immediately notified and LER #91-009 was revised and re-issued. The modification did not adversely affect the alarm circuits.

The cables from Off-Gas Dilution Fan Low Flow Control Switches PS-8000-J15 and PS-8000-J16 provide control signals to start the associated standby Off-Gas Dilution Fan, either V-EF-18A or V-EF-18B, when the fans are in the automatic mode. Because of the lack of cable separation, it could be postulated that cables for both switches could be simultaneously affected resulting in the loss of control power to both Off-Gas Dilution Fans which are required for Standby Gas Treatment System operability. Recent testing, however, has shown that substantial vacuum could still be maintained in the Secondary Containment by only running the Standby Gas Treatment System fans. Also, the physical layout of the raceways in question (those carrying the non-separated cables) was such that incidental damage to the conduits or junction boxes was unlikely and damage to the cables was very improbable.

A contributing cause to this violation was a lack of adequate verification activities which should have been performed by the modification group. Had

the modification group independently verified the condition identified by the walkdown group, and had the modification group identified the walkdown group's findings as design inputs to the modification, the communication error would have been discovered and the proper circuits would have been modified.

Corrective Steps That Have Been Taken and the Results Achieved

1. Upon confirming the rediscovery of the lack of cable separation for Off-Gas Dilution Fan Low Flow control circuits, a seven day Limiting Condition of Operation (LCO) was declared based on the Secondary Containment System vulnerability to a single active failure which could potentially cause both trains of the Standby Gas Treatment System to become inoperable. A safety evaluation was performed as part of SRI #91-022, "Inadequate Cable Separation Between Flow Switches in Off-Gas Dilution Fan Controls," dated June 12, 1991, in which the Off-Gas Dilution Fan control circuits were evaluated. The circuits were temporarily modified and Operating Procedures were revised to eliminate the single failure vulnerability. When these actions were completed, the LCO was exited.
2. A review of all other modifications associated with cable separation issues was performed by engineering personnel. Corrective actions taken by the modifications were re-verified to insure that modifications had been made on the appropriate circuits. No additional problems were identified.
3. The parties involved in the walkdown and the modification were counseled on the need to correctly coordinate activities and about the need for independent verification of as-found discrepancies.

Corrective Steps That Will be Taken to Avoid Further Violations

1. This violation will be discussed as part of Engineering and Technical Staff Continuing Training with emphasis on verification activities and design inputs. This item will be completed by September 30, 1991.
2. The appropriate administrative controls will be reviewed and revised as necessary to clearly indicate that the documents which originally report a problem are to be identified as design inputs in a modification package and are to be included as references or attachments to safety reviews. This item will be completed by December 31, 1991.
3. The appropriate modification controls will be reviewed and revised as necessary to clearly indicate that as-found discrepant conditions are to be independently verified. This item will be completed by December 31, 1991.

4. Additional corrective action to be taken includes permanent modification (separation) of the Off-Gas Low Flow Control circuits to comply with separation requirements. This action will be completed prior to or during the 1993 refueling outage.

Date When Full Compliance Will be Achieved

Full compliance has been achieved.

Unresolved Item - Radiation Controls

In addition, an unresolved item involving an unattended and inadequately locked door to a high radiation area was identified. Because corrective actions taken in response to recent similar problems appeared to be inadequate to prevent recurrence, we request that your response to this letter also address any additional corrective actions that you have taken or intend to take to resolve the problem of control of high radiation area barriers.

Explanation

Technical Specification 6.5.B.1.c requires that doors to areas with whole body dose rates above 1000 mrem/hr be locked or attended at all times. Failure to properly control these doors is a serious matter. The corrective actions taken this year in response to the 4 occurrences of uncontrolled doors are aimed at increasing personnel awareness and individual accountability.

After the first uncontrolled door on April 12, 1991, which involved a blocked open door being left unattended by an operator, the individual involved was counseled and plant radiation workers were cautioned about the problem. No other actions were taken.

After the second and third uncontrolled doors on April 19, 1991, and April 20, 1991, one of which also involved leaving the area with a door blocked open, the following actions were taken:

- 1) Radiation Protection written approval was required to block open lockable high radiation area doors,
- 2) An instruction tag clearly explaining the responsibility of radiation workers to control doors was made for issuance with all lockable high radiation area keys,
- 3) Radiation workers were cautioned in outage meetings and through plant mailings of the importance of control of access to high radiation areas, and

- 4) Keys to lockable high radiation areas were required to be checked out from radiation protection and the individual's name documented. Previously, operations personnel had keys to lockable high radiation areas on key rings and use was not documented.

However, when the above changes were made, the plant was shut down, and the turbine area was not a high radiation area. Therefore, the turbine area keys were not removed from the control room key ring. When the plant started up, the turbine area became a high radiation area, but the key for this high radiation area was not recovered by Radiation Protection. On June 25, 1991, a radiological controls technician discovered an unlocked/unattended access door to the turbine area high radiation area. It is postulated that early that day, a plant operator used the key to gain access to the turbine area. Upon leaving the area, the door was shut but, due to a sticking latch, was not properly secured.

Corrective Steps that Have Been Taken and the Results Achieved

1. The sticky door latch was repaired.
2. Preventive maintenance was performed on the latches of all doors to lockable high radiation areas.
3. The key to the Turbine Area High Radiation Area was removed from the Operations Group key ring and must now be checked out from Radiation Protection, a process which provides a record of key users, affords Radiation Protection personnel an opportunity to relate instructions on maintaining control of the area, and heightens the individual's attention to key user responsibilities. However, a key to the Turbine Building High Radiation area is available in the shift supervisor's office for emergency use.
4. As an interim measure, independent verification is now required to ensure doors are secured as required. When leaving the area, the individual who was issued the key for the high radiation door, is required to remain in the vicinity of the door until a co-worker verifies the door is secured. The independent verifier is required to initial a log sheet indicating that the door was verified secured.

Corrective Steps That Will be Taken

1. Locks for most lockable high radiation areas will be standardized and a preventive maintenance procedure will be written to help ensure proper operation.
2. Mechanical self-closers will be installed on permanent lockable high radiation area doors where practical.
3. Distinct and consistent postings (shape and color) for lockable high radiation areas will be developed and used.

4. Audible/visual alarms which indicate an unlatched condition or other appropriate administrative controls will be evaluated as a possible means to minimize the potential for human error. If a reliable alarm system is installed or other appropriate administrative controls adopted, independent verification will be eliminated.

The above actions will be completed by January 31, 1992. The corrective actions taken to date significantly lower the potential for unsecured/uncontrolled doors to high radiation areas. The planned corrective actions should lower the potential still more.

Many barriers exist to prevent unplanned exposures to individuals including: procedures, Radiation Work Permits, training, postings, surveys, alarming dosimeters, work planning, and supervisory involvement. Because of these barriers, the threat to exposure control was low during the time the doors were not controlled. The areas were unsecured for short periods of time, and no unauthorized entries were made to the areas that resulted in significant exposure.

Please contact us if you have any questions or wish further information concerning this matter.



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