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SUBJECT: Responds to NRC 980123 ltr re violations noted in insp repts
 50-315/97-24 & 50-316/97-24. Corrective actions: blocks in
 alarm tiles were removed from both units annunciator panels.

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February 23, 1998

AEP:NRC:1260L

Docket Nos.: 50-315
50-316

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Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT NOS. 50-315/97024 (DRP)
AND 50-316/97024 (DRP)

This letter is in response to a letter from Geoffrey E. Grant, dated January 23, 1998, that forwarded a notice of violation. The violations of NRC requirements were identified during a routine resident inspection conducted from November 8, 1997, through December 27, 1997. The first violation is associated with the failure to perform a 10 CFR 50.59 safety evaluation for physically or electronically blocking control room annunciators that are described in the updated final safety analysis report. The second violation is associated with the failure to provide a procedure for an activity affecting quality.

Our reply to these violations is provided in the attachment to this letter.

Sincerely,

E. E. Fitzpatrick
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 23 DAY OF February, 1998

Notary Public

My Commission Expires 2/14/2001

JANICE M. BICKERS
Notary Public, Berrien County, MI
My Commission Expires Feb. 15, 2001

/vlb

Attachment

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U.S. Nuclear Regulatory Commission
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AEP:NRC:1260L

c: J. A. Abramson
A. B. Beach
MDEQ - DW & RPD
NRC Resident Inspector
J. R. Sampson

ATTACHMENT TO AEP:NRC:1260L

RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT NOS. 50-315/97024 (DRP)
AND 50-316/97024 (DRP)

During an NRC inspection conducted from November 8, 1997, through December 27, 1997, two violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions", NUREG-1600, the violations are listed below.

NRC Violation No. 1

"10 CFR 50.59, "Changes, Tests, and Experiments," requires, in part, that the licensee shall maintain records of changes in the facility as described in the Safety Analysis Report. These records must include a written safety evaluation which provides the basis for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, on November 16, 1997, the inspectors identified a failure to maintain records which contained a written safety evaluation for three control room annunciators. The three annunciators were physically or electronically blocked, preventing them from operating, constituting a change to the facility as described in Chapters 7.5 and 10.3 of the Safety Analysis Report.

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

Response to NRC Violation No. 1

1. Admission or Denial of the Alleged Violation

We admit to the violation as cited in the NRC notice of violation.

2. Reason for the Violation

During a routine tour of the control rooms, the inspector questioned the method of removing control room annunciators from service. After reviewing the blocked alarm log the inspector determined that three annunciators described in the updated final safety analysis report (UFSAR) had been blocked since July 1996. The existing requirements for blocking alarms was given in OHI-2211, which stated that a technical review was to be performed by a senior reactor operator prior to removal of an alarm from service. This review focused on technical specification requirements and compensatory actions. Although the existing operating instruction required a technical review of the conditions prior to blocking an alarm, there was insufficient guidance to provide assurance that consideration would be given to equipment described in the UFSAR and the potential need for a 10 CFR 50.59 screening.

The cause of this event was a procedural inadequacy of the instruction that delineates the requirements for blocking an alarm. The instruction, OHI-2211, required a technical review of conditions prior to blocking an alarm. However, it did not address consideration for performing a 10 CFR 50.59 evaluation prior to blocking an alarm. It was not recognized that blocking these alarms without a 10 CFR 50.59 evaluation constituted a change to the plant.

3. Corrective Action Taken and Results Achieved

To correct this situation, blocks in the alarm tiles were removed from both units' annunciator panels. The blocked alarms were reviewed to determine if any were associated with failed or out of service equipment. Alarms associated with failed or out of service equipment were reblocked, consistent with the guidance in generic letter 91-18, revision 1. When the alarms were unblocked, both units were in a shutdown condition. No significant plant status changes were taking place. Thus, the removal of these blocks did not cause a significant impact on the plant operation.

4. Corrective Actions to Avoid Further Violations

To prevent further violations, OHI-2211 was revised to require that alarms are not blocked without consideration of the need for a 10 CFR 50.59 screening. The procedure allows an alarm to be blocked if any of the following conditions apply:

- the component or system the alarm supports is inoperable or not required to be in service for the given plant conditions;
- the alarm is declared inoperable and corrective action is initiated;
- the alarm has been determined not to be a part of the design bases as described in the UFSAR; or
- the 10 CFR 50.59 process has determined that blocking is acceptable.

As part of our architect engineering (AE) inspection response actions, an assessment is being conducted to identify other processes that have the potential to make changes without performing a 10 CFR 50.59 screening. A review of processes is being conducted, including interviews with supervisors to determine any processes that may have the potential to make changes. Samples of the output of these processes are being reviewed to determine whether changes have been made in accordance with 10 CFR 50.59. The review is focused on determining if:

- there were any changes that should receive a 10 CFR 50.59 screening;
- there were any operability issues caused by such changes; or
- there were any unreviewed safety questions.

The assessment is still in progress. We will submit the results and final conclusions of this assessment, including any programmatic changes required as a result of our review, in a future transmittal. The preliminary results show that while changes were made that should have received a 10 CFR 50.59 screening, no operability issues or unreviewed safety questions resulted from this failure to perform the 10 CFR 50.59 screenings.

In addition, we will be conducting organization-wide training on understanding change. This training will support the need to recognize the potential for future changes that could bypass the 10 CFR 50.59 process. This training will be completed prior to restart.

5. Date When Full Compliance Will Be Achieved.

Full compliance was achieved on January 19, 1998, after the blocks were removed from all alarms and the revision to OHI-2211 became effective.

NRC Violation No. 2

"10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, on December 18, 1997, the inspectors identified that a procedure of a type appropriate to the circumstances did not exist for an activity affecting quality, the manual backwashing of the ESW pump discharge strainers, a support system necessary to ensure ESW system operability.

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

Response to NRC Violation No. 2

1. Admission or Denial of the Alleged Violation

We admit to the violation as cited in the NRC notice of violation.

2. Reasons for the Violation

The essential service water system (ESW) is a safety related system that provides cooling to safety related equipment during normal operations and accident conditions. The initial design of the ESW system included a non-safety related strainer backwash system. The ESW strainer backwash system for both units is powered by the non-safety related unit 1 control air system. The solenoid valves that supply air to the backwash control valve actuators are supplied by a class 1E electrical system, but the valves themselves are not class 1E equipment. In the event of a loss of offsite power (LOOP) with a containment spray signal, emergency power is not automatically available for the control air compressors. This would result in the loss of the ability to automatically backwash the ESW strainers or to determine the differential pressure across the strainers. The safety related ESW system is vulnerable to a passive failure due to strainer fouling that could be complicated by a failure of the non-safety related control air system. In order to support the continued operability of the ESW system after a LOOP, it would be necessary to manually backwash the strainers. Historically, manually backwashing the ESW strainers has been considered skill of the trade and no procedures or training were provided.

This situation was first questioned in inspection report 50-315/316-96007 as unresolved item number 3. The inspector had observed that an ESW pump discharge strainer had been removed from service without the associated ESW train being declared inoperable. The inspector questioned the adequacy of the basis for the strainers not being a support system required for ESW system operability. The design basis of the ESW system, including the justification for classifying the backwash system as non-safety related was provided to the inspector, who then requested that the office of Nuclear Reactor Regulation (NRR) review the information and reach a conclusion as to the need for operable strainers to support an operable ESW train. The NRR response was that procedures for manually backwashing the strainers should be considered safety related. In addition, NRR concluded that the emergency procedures for responding to a LOOP should contain the appropriate actions to take if automatic strainer backwash capability is lost. However, because a procedure to manually backwash the ESW strainers did not exist and the operators had not been trained to perform a manual backwash, we were not in conformance with the requirements of 10 CFR Part 50, Appendix B, Criterion V.

This condition was caused by the failure to recognize, during the initial design of the ESW system, that a procedure for the manual backwash system was necessary if the control air system failed. As a result, the safety related ESW system could have been vulnerable to a passive failure due to strainer fouling that could be complicated by a failure of the non-safety related control air system.

3. Corrective Action Taken and Results Achieved

To correct this condition the following procedure changes were made:

- 01-OHP 4024.104 and 02-OHP 4024.204, "Annunciator Response ESW and Component Cooling", were revised to require a manual backwash of the ESW strainers per 12 OHP 4021.019.001 if the control air system is unable to operate the backwash valve;
- 12-OHP 4021.019.001, "Operation of the Essential Service Water System", was revised to include instructions for manually backwashing the strainers;
- 1-OHP-4022.064.002, "Loss of Control Air Recovery", was revised to include monitoring ESW strainer differential pressure and initiation of manual backwash if needed;
- OHI-4011, "Shift Staffing", was revised to require that in modes 1-4, one person be assigned to each unit to manually backwash the ESW strainer if necessary, and one person be assigned to monitor the ESW pump strainer differential pressure; and
- 1-OHP 4021.001.001 and 2-OHP 4021.001.001, "Plant Heatup from Cold Shutdown to Hot Standby", were revised to require verification of OHI-4011 minimum staffing requirements as well as the monitoring of the ESW pump strainer differential pressure per 12-OHP 4021.019.001.

The operator training necessary to carry out these actions has been completed. These actions considered information notice 97-78, "Crediting of Operator Actions in Place of Automatic Actions and Modifications of Operator Actions Including Response Times."

Design change DCP-870 was made to simplify the ability to perform the manual backwash. This design change included:

- installation of replaceable tanks of compressed air in each ESW pump room;
- modification of the control air connections to the ESW backwash valve actuators to quick disconnect fittings, pre-staged hoses, and quick connect fittings for the connection of the air tanks to the ESW backwash valve actuators in each ESW pump room; and
- installation of seismically qualified scaffolding and ladders to allow clear access for operators to connect the air tank to the ESW backwash valve actuators.

A long term resolution of this condition is currently under development. A design change is being developed to include appropriate alarms/indications, type of backup system, and the appropriate power source.

4. Corrective Actions to Avoid Further Violations

As a result of the NRC AE inspection, a short term action was undertaken to review failure modes and effects analysis of non-safety related systems interfacing with safety related systems. The review concluded that the current non-safety related systems will not cause a safety related system to fail in a non-conservative or unanalyzed manner. This review is documented in attachment 4 of our letter AEP:NRC:1260G3, dated December 2, 1997. This review provides reasonable assurance that single failure of a non-safety related system component will not result in common mode failure of redundant safety related equipment.

5. Date When Full Compliance Will Be Achieved

Full compliance was reached on January 6, 1998, when training on the new procedure to manually backwash the ESW strainers was completed.

