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SUBJECT: Responds to NRC 961223 ltr re violations noted in insp rept 50-269/96-16,50-270/96-16 & 50-287/96-16.Corrective actions: program investigation repts were initiated to evaluate safety significance for valves.

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DUKE POWER

January 23, 1997

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Oconee Nuclear Site
Docket Nos. 50-269, -270, -287
Inspection Report 50-269, -270, -287/96-16
Reply to Notice of Violation

Gentlemen:

By letter dated December 23, 1996, the NRC issued a Notice of Violation as described in Inspection Report No. 50-269/96-16, 50-270/96-16, and 50-287/96-16.

The violation involves the failure to properly install Main Steam Safety Valve cotter pins. Duke Power addressed the root cause and corrective actions associated with this violation at a December 18, 1996, predecisional enforcement conference in the Region II office. Duke Power acknowledges this violation and agrees that the maintenance work practices associated with these valves were inadequate. As discussed during the predecisional enforcement conference, Duke is aggressively implementing comprehensive corrective actions.

Pursuant to the provisions of 10 CFR 2.201, Attachment 1 provides a written response to the violation identified in the subject Inspection Report.

Very truly yours,

B W Rule for

J. W. Hampton

Attachment

IE01

cc: Mr. L. A. Reyes, Regional Administrator
U. S. Nuclear Regulatory Commission, Region II

Mr. D. E. LaBarge, Project Manager
Office of Nuclear Reactor Regulation

Mr. M. A. Scott
Senior Resident Inspector
Oconee Nuclear Site

Attachment 1
Reply to Notice of Violation (Reply)
Violation 50-269, 270, 287/96-16-05

Restatement of Violation

Technical Specification 6.4.1. provides that the station shall be operated and maintained in accordance with approved procedures. Technical Specification 6.4.1.e. states that written procedures with appropriate check-off lists and instructions shall be provided for preventative or corrective maintenance which could affect nuclear safety or radiation exposure to personnel.

Restoration Step 12.3 of Maintenance Procedure MP/0/A/1200/89, Valve- Main Steam Safety - Setpoint Test (Revision 18), states ensure "Spindle nut cotter pins are in place and in good mechanical condition".

Contrary to the above, the station was not maintained in accordance with approved procedures in that:

1. On July 17 - 18, 1996, maintenance personnel failed to implement the requirements of procedure MP/0/A/1200/89 by not installing cotter pins on Main Steam Safety Valves 3MS-0001 and 3MS-0010.

2. On May 4 - 5, 1996, maintenance personnel failed to implement the requirements of procedure MP/0/A/1200/89 by improperly installing cotter pins on Main Steam Safety Valves 2MS-0001, 2MS-0005, 2MS-0013, and 2MS-0014.

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

<u>Reply to Notice of Violation 96-16-05</u>

1. The reason for the violation:

Duke Power acknowledges this violation. On October 14, 1996, an inspection of the Unit 2 Main Steam Safety Valves

(MSSVs) indicated that the spindle nut cotter pins were not properly installed on four of the sixteen valves (2MS-1, 2MS-5, 2MS-13, and 2MS-14). The pins were not sufficiently bent to absolutely prevent the possibility of the pins vibrating out of the spindle nut. A Problem Investigation Process (PIP) report was initiated to document the findings and Engineering initiated an evaluation of the consequences of the improperly installed pins.

On October 15, 1996, an inspection of the Unit 1 MSSVs indicated that all sixteen valves had their spindle nut cotter pins properly installed. On October 24, 1996, an inspection of the Unit 3 MSSVs indicated that the cotter pin was missing on two of the sixteen valves (3MS-1 and 3MS-10). A PIP was initiated to document the findings and Engineering initiated an evaluation of the consequences of the missing pins.

An investigation was performed to determine the root cause of the improperly installed and missing cotter pins. The root cause analysis included interviews, a review of the maintenance test procedures, a barrier analysis, and a review of industry operating experience. Based on a review of the procedures, the last MSSV setpoint testing was performed on July 17-18, 1995, for Unit 3 and May 4-5, 1996, for Unit 2.

The root cause analysis concluded that this violation is attributed to inadequate work practices which resulted in the cotter pins not being installed properly. A contributing factor was that the procedure had a step to verify pin installation at the completion of testing all sixteen valves but did not verify pin installation for each specific valve. Corrective actions were developed to address maintenance work practices and the lack of specific cotter pin restoration steps in the maintenance procedure.

2. The corrective steps that have been taken and the results achieved:

Attachment 1
Reply to Notice of Violation (Reply)
Violation 50-269, 270, 287/96-16-05

The following corrective actions have been taken:

- Problem Investigation Reports (PIP's) were initiated to evaluate the safety significance for the valves with missing or improperly installed cotter pins.

- Modifications were made to MSSV's to remove all fork levers, spindle nuts, and cotter pins on all three units. These modifications will completely eliminate the possibility of an MSSV failing to reseat due to an improperly installed cotter pin.

- Oconee Maintenance inspected the pressurizer code safety valves on all three units to verify that all the cotter pins were properly installed on these valves since the last maintenance on the valves.

- Oconee Maintenance reviewed all 551 safety-related Mechanical Maintenance procedures for removal and restoration steps with a special emphasis on fasteners. This was an effort to look as broadly as possible at the type of procedure weaknesses that contributed to the missing cotter pins. A complete listing was made of the findings with a disposition plan to resolve each one on a prioritized basis.

- Oconee Maintenance completed a work practice common cause assessment on a majority of the work practice problem reports for the Maintenance area in 1996. The common cause analysis included extensive interviewing and analysis regarding maintenance work practices as part of an improvement plan to decrease work practice events. The results of the report have been a basis for developing corrective actions to be implemented in 1997.

- ONS communicated the lessons learned to other Duke sites and to the industry.

- Personnel corrective actions have been taken in accordance with Duke policies to emphasize accountability.

3. The corrective steps that will be taken to avoid further violations:

The following corrective actions are in progress or planned to prevent further violations:

- A cotter pin installation training package is being developed that will capture the Oconee incident as well as industry events concerning cotter pin installation and use.

- Oconee Maintenance will implement corrective actions from the work practice common cause assessment to focus on work practice event reduction in maintenance activities.

- Self checking training known as "STAR" (Stop, Think, Act, Review) simulator practical training will be completed for appropriate station Maintenance personnel.

- Oconee Maintenance will review the remaining non-safety related Mechanical Maintenance procedures for removal and restoration steps as was done for all the mechanical safety related procedures. Appropriate improvements will be made to help avoid work practice events.

- Oconee Maintenance will strengthen the field validation process for Maintenance procedures to put an emphasis on actual field validation instead of the table top method.

- Oconee Maintenance will implement Practical factors training for appropriate Maintenance field personnel which is focused on work standards and practices for each functional area in Maintenance.

- ONS will remove the lift lever assembly on all the pressurizer code safety valves to eliminate an unnecessary function and remove any possibility of pin installation concerns.

4. The date when full compliance will be achieved:

Oconee Nuclear Station is currently in full compliance.