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DUKE POWER

July 19, 1993

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

Subject: Oconee Nuclear Site
Docket Nos. 50-269, -270, -287
Inspection Report 50-269, -270, -287/93-17
Reply to Notice of Violation

Dear Sir:

By letter dated June 18, 1993 the NRC issued a Notice of Violation as described in Inspection Report No. 50-269/93-17, 50-270/93-17, and 50-287/93-17.

Pursuant to the provision of 10 CFR 2.201, I am submitting a written response to the violation identified in the above Inspection Report.

Very truly yours,

J. W. Hampton

J. W. Hampton

cc: Mr. S. D. Ebneter, Regional Administrator
U. S. Nuclear Regulatory Commission, Region II

Mr. L. A. Wiens, Project Manager
Office of Nuclear Reactor Regulation

Mr. P. E. Harmon
Senior Resident Inspector
Oconee Nuclear Site

JE01 1/1

Violation 269/93-17-01, Severity Level IV

Oconee Technical Specification 6.4.1 requires that the Station be operated and maintained in accordance with approved procedures.

Operating Procedure OP/1/A/1104/02, High Pressure Injection System, Enclosure 6.1, Letdown Storage Tank (LDST) Pressure vs Indicated Level, Step 1.0 states "Maintain the LDST pressure vs indicated level within the normal operating region except for degassing or venting per an approved procedure".

Contrary to the above, on April 30, 1993, letdown storage tank pressure was not maintained within the normal operating region during a hydrogen addition which resulted in the letdown storage tank pressure exceeding the maximum allowable pressure per OP/1/A/1104/02 by approximately 9 pounds per square inch. Exceeding the requirements of OP/1/A/1104/02 placed the Unit 1 high pressure injection system in a condition outside of its design basis.

RESPONSE:

1. The reason for the violation, or if contested, the basis for disputing the violation:

   The Reactor Operator (RO) involved in the addition of hydrogen to the Letdown Storage Tank (LDST) misread the LDST level indication in the Control Room. An investigation performed by the site HPES coordinator discovered that self checking techniques were not applied to verify that the LDST level was reading correctly.

   Also, the task of reading the LDST level indication is normally verified by another RO assigned to the unit, even though not required by the operating procedure. It was not verified during this event due to the other RO being preoccupied with other tasks.

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

   The immediate corrective action was to vent the excess pressure from the LDST to the Gaseous Waste Disposal System to return the hydrogen pressure in the LDST to within procedural limits. This restored the Borated Water Storage Tank to an operable status.

   The RO involved this event was counseled in the use of self-verification techniques.

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

   Procedure changes necessary to add independent verification to the step for determining LDST level in Enclosure 3.13 of OP/0/A/1106/17, Hydrogen System, will be made prior to November 1, 1993.

4. The date when full compliance will be achieved:

   Duke Power Company is in full compliance.

Violation 269/93-17-02, Severity Level IV

10 CFR 50.72.b 1.ii.B requires a one hour non-emergency report be made if during plant operation a condition is identified that is outside the design basis of the plant.

Contrary to the above, a one hour report was not made to the NRC on April 30, 1992, when the Unit 1 High Pressure Injection system was placed in a condition outside the design basis of the system due to exceeding the allowable hydrogen overpressure in the letdown storage tank during a hydrogen addition.

RESPONSE:

1. The reason for the violation, or if contested, the basis for disputing the violation:

   The reason for this violation was due to the implementation of a Technical Specification Interpretation (TSI) which stated that operation outside of the Letdown Storage Tank (LDST) pressure/level curve was analogous to the entire Borated Water Storage Tank (BWST) volume not being available to the High Pressure Injection (HPI) system. A TSI is an approved written document which is intended to provide clarification and complement a Technical Specification.

   The operating procedure for the HPI system referenced this Interpretation which stated that being outside of the LDST pressure/level curve was equivalent to the BWST being degraded, ie., entire volume not being available to the HPI system. The Interpretation also stated that the one hour timeframe allowed to return the BWST to operability was available to restore the LDST pressure/level within their curve limits. The information in this Interpretation should have been incorporated into a license amendment change submitted for NRC approval. This would have facilitated an agreement between Duke Power Company and the NRC as to the applicability of the LDST pressure/level curve limits, BWST availability, and HPI system operability.

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

   The Technical Specification Interpretation was removed from the manual.

   The operating procedure for pressurizing the LDST was changed to reflect that operation outside of the LDST pressure/level curve under the current Technical Specification makes both trains of the HPI system inoperable which is reportable under 10 CFR 50.72.

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

   Based on the corrective actions that have been taken, no further corrective actions are necessary.

4. The date when full compliance will be achieved:

   Duke Power Company is in full compliance.

Violation 269,270,287/93-17-03, Severity Level IV

10 CFR 50 Appendix B, Section XI, Test Control, requires that a test program be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptable limits contained in applicable design limits.

Contrary to the above, the licensee's test control process allowed improper performance of a required surveillance (Technical Specification 4.7.1) conducted under Instrument Procedure (IP) 0/A/0330/003A, Control Rod Drive Rod Drop Time Test. The test control process was inadequate in that it allowed dropping of control rods numerous times in order to meet the acceptance criteria. This method of control rod drop time testing did not adequately demonstrate operability of control rods in that some control rods required multiple drops before the acceptance time was met.

RESPONSE:

1. The reason for the violation, or if contested, the basis for disputing the violation:

   The root cause of this violation was defective procedure. The Control Rod Drop Time Test Procedure, IP/0/A/0330/003A, did not specify in detail the actions that should be taken if a rod failed to drop within the limits specified in Technical Specifications. Performing repeated drops of the control rods had been standard practice due to problems with the Operator Aid Computer (OAC) and had never been interpreted as a failure to meet requirements.

   Attachment I contains additional details concerning problems encountered with the testing.

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

   The Control Rod Drop Time Test procedure was revised to provide proper instructions on what actions should be taken in accordance with Technical Specification (TS) 4.7.1 and Final Safety Analysis Report (FSAR) section 14.5.1. If any rod exceeds a value of 1.40 seconds, the Reactor Engineer and the Component Engineer will be notified and will perform an evaluation on the rod in question. This will provide a preliminary indication and evaluation of any possible upcoming problems. Also, if any rod exceeds the TS 4.7.1 value of 1.66 seconds the appropriate personnel will be contacted and repeated testing will not be performed without proper evaluation and permission.

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

   Based on the corrective actions that have been taken, no further corrective actions are necessary.

4. The date when full compliance will be achieved:

   Duke Power Company is in full compliance.

ATTACHMENT I

BACKGROUND INFORMATION ON VIOLATION 269,270,287/93-17-03:

Prior to 1992, the Operator Aid Computer (OAC) had problems producing drop times for all of the rods. Whenever a rod drop time was not recorded, the rods were dropped until a time appeared on the computer. This required multiple drops of groups or individual rods. The problem was discovered to be the program on the OAC which performed the testing. The trip timing program was set to only display rod drops of ≤ 1.381 seconds. In **January, 1992** the computer problem was resolved; subsequently, all rod drop times would be recorded the first time they were dropped.

On **March 4, 1992, Unit 2** control rods were tested. **Group 3, rod 8** had a drop time in excess of 1.66 seconds. Since a rod had never been recorded as exceeding 1.66 seconds in the past due to the computer problem, it was not clear whether or not the computer was working properly. The test procedure contained guidance which permitted repeated drops of rods, if required, in order to obtain an "accurate" time. Due to the previous testing technique of retesting rods that did not time, the technicians and supervision felt the test was being performed adequately by continuing to drop a rod that was slow to determine the required actions. As long as the rod trended at a faster time and eventually met the TS requirement, it was noted, logged in the procedure, and evaluated, but considered operable. It was decided that the most probable reason for the slow rod drop time was a build up of crud in the torque tube and that repeated dropping of the rods would eliminate this problem. Upon repeat testing the trip times did improve and the rod came below the guideline of 1.66 seconds. This reinforced the idea that the reason for the slow drop time was a build up of crud in the tube. However, to justify this fact it was decided to test the rods again as soon as the unit came down for a refueling to verify the rod would still meet the acceptance criteria.

On **January 15, 1993**, the Component Engineer reviewing the Control Rod Drop test on **Unit 1** identified that **group 1, rod 8** and **group 2, rod 5** required four and three drops respectively to meet the TS required time. Since the Component Engineer was involved in the Unit 2 March 4, 1992 testing and due to having two slow rods on Unit 1, a Problem Investigation Process report was originated. It was documented in the report that an investigation would include the trip time testing of the slow Unit 1 control rods and the Unit 2 control rod during each unit's next available shutdown.

On **April 29, 1993, Unit 2** was at hot shutdown in preparation for a refueling outage. A rod drop test was performed on Group 3. Control rod 8 drop time was slower than the time recorded during the previous startup of the unit and failed to meet the TS required time. Engineering was contacted and a work order was initiated to replace the control rod drive mechanism. After it was removed, the

Unit 2, group 3, rod 8 control rod drive mechanism was sent to Babcock and Wilcox for examination in an attempt to discover the cause of the slow drop time. Results are expected to be complete in late July or early August of this year. Any further corrective actions determined to be necessary as a result of this examination will be implemented through the Oconee Problem Investigation Process.

On May 3, 1993 a meeting was held to discuss the Unit 2 test results and any possible effects this may have on Unit 1. Previous computer timing anomalies and potential causes for slow rods were discussed. Data required to determine the safety significance of two potentially slow Unit 1 rods was also discussed.

On May 4, 1993 the results of the review of test data from previous Unit 1 and 2 cycles was discussed. The results indicated that Unit 1 group 1, rod 8 and group 2, rod 5 had exhibited slow times during previous cycles. Since this information cast doubt on the ability of these two rods to meet the TS acceptance criteria, the two rods were declared inoperable.

On May 4, 1993 Oconee management requested enforcement discretion from the requirements of TS 4.7.1 and committed to establish an interim acceptance criterion for rod drop time on the current Unit 1 cycle to test the suspect rods at the next available opportunity, and to re-evaluate the status of the Unit 1 rods following completion of an analysis by Babcock and Wilcox on the Unit 2 control rod drive mechanism. The enforcement discretion was granted by the NRC.

An emergency TS change for use of an interim acceptance criteria for control rod drop times on Oconee Unit 1, was submitted to the NRC and approved on May 18, 1993.

On May 26, 1993, a review of the Unit 2 group 3, rod 8 data was completed and the control rod was declared inoperable for the fuel cycle that ended in April, 1993.

On June 4, 1993, Licensee Event Report 269/93-05 was submitted to the NRC concerning the inoperable control rods.