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SUBJECT: Responds to NRC 941020 ltr re violations noted in Insp Rept
50-269/94-28. Corrective actions: personnel involved in action
counseled & disciplinary action taken & EOP
EP/1,2,3/A/1800/01 will be revised.

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DUKE POWER

November 17, 1994

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

Subject: Oconee Nuclear Site
Docket No. 50-269
Inspection Report 50-269, -270, -287/94-28
Reply to Notice of Violation

Dear Sir:

By letter dated October 20, 1994 the NRC issued a Notice of Violation as described in Inspection Report No. 50-269/94-28, 50-270/94-28, and 50-287/94-28.

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

Very truly yours,

J. W. Hampton

cc: Mr. S. D. Ebnetter, 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

Document Control Desk
November 17, 1994
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Attachment 1
Reply to Notice of Violation
Violation 269/94-28-01, Severity Level IV

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

Modification procedure TN/1/A/2881/0/DL1, Unit 1 Power Battery Charger 1PA, 1PB, and 1PS Replacement, step 8.8.10 required that the internal wiring of breaker 1X0-F1AT be verified by performing a continuity test between the conductors.

Contrary to the above, step 8.8.10 of procedure TN/1/A/2881/0/DL1 was not performed prior to installing breaker 1X0-F1AT in motor control center 1X0. The breaker leads had been inadvertently reversed during the modification process and this resulted in the loss of motor control center 1X0 when the breaker compartment stabs contacted the bus bars due to a phase to phase short. Loss of 1X0 resulted in the loss of the majority of the Unit 1 radiation monitors, as well as pressurizer spray control.

RESPONSE:

- 1) *The reason for the violation, or if contested, the basis for disputing the violation:*

Duke Power Company acknowledges this violation.

On September 7, 1994, Instrument and Electrical technicians began work on a modification to install a breaker in MCC 1 X0. Modification work stopped at the end of the shift that day and continued on September 12, 1994. Due to interface problems, work could not be completed as originally designed and a different size wire had to be used to allow for flexibility for termination. Due to this change, the individual wires (approximately 12 inches long) on the breaker "can" were marked by the technician such that termination could be self-checked. However, the wires were too long and the technician had to cut the wires. Due to the short length, the technician did not remark the wires by sliding the labeling above the desired cut but instead, cut the wires and relied on visual as to which wires should be terminated to the proper connections.

Attachment 1
Reply to Notice of Violation
Violation 269/94-28-01, Severity Level IV

1) *continued*

The technician decided to place the breaker "can" into the live breaker compartment with the intention to return after a lunch break and complete the modification on the breaker compartment. A phase to phase short occurred when the stabs on the "can" made contact with the live bus in the breaker compartment.

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

Personnel involved in the action were counseled and disciplinary action was taken. A time-out was called for all Instrument and Electrical personnel to review the incident and to cover NSD 703 and 704 (Independent Verification and Technical procedure use and adherence) Work Practices and Pre-Job briefings. Procedure use and adherence was stressed in team meetings to heighten the awareness of all personnel.

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

Continued emphasis on pre-job briefing, the proper use of Independent Verification (NSD 703) and Procedure Use and Adherence (NSD 704) should prevent re-occurrence.

4) *The date when full compliance will be achieved:*

Oconee Nuclear Station is in compliance with the above corrective action.

Attachment 2
Reply to Notice of Violation
Violation 269/94-28-02, Severity Level IV

Technical Specification 6.4.1.c requires that approved written procedures with appropriate instructions shall be provided for actions taken to correct specific and foreseen potential malfunctions of systems or components involving nuclear safety.

Babcox & Wilcox Generic Emergency Operating Guidelines Bases, Section IV.FF - Forced Flow Cooldown, Part 5.2 (cooling down with a dry steam generator), lists the compressive limit for a B&W Once Through Steam Generator (OTSG) as 60 degrees Fahrenheit - tubes hotter than shell.

Contrary to the above, from a time assumed to begin at initial operation until August 10, 1994, there was no procedural guidance at Oconee addressing the compressive limit for the OTSGs, components which are important to nuclear safety . This lack of procedural guidance resulted in the 3B OTSG exceeding the compressive limit by 22 degrees Fahrenheit on August 10, 1994.

RESPONSE:

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

Duke Power Company acknowledges this violation.

Following a reactor trip on August 10, 1994, the 3B OTSG was isolated to stop an excessive heat transfer event which was later discovered to be caused by the inadvertent opening of a turbine bypass valve. After the 3B OTSG was isolated, this OTSG subsequently boiled dry. The 3B OTSG tube-to-shell compressive limit was exceeded due to a delay in re-establishing feed to an intact, dry steam generator.

Guidance to re-establish SG feed is provided in the Emergency Operating Procedure (EP/1,2,3/A/1800/01); however, this guidance was not completed until after a significant time period (approximately 6 hours) had elapsed since the time of SG dryout. The delay in re-establishing feed to the OTSG was caused by two

Attachment 2
Reply to Notice of Violation
Violation 269/94-28-02, Severity Level IV

1) *continued*

items. First was a concern for determining if any primary to secondary leakage had developed during the transient. Second was to assure that the secondary system was intact. Also there was lack of guidance to realize that a tube-to-shell compressive limit existed.

During development of the Emergency Operating Procedure (EOP), the procedure writers and reviewers made the conscious decision to exclude specific SG tube-to-shell compressive limits from the procedure, based on an internal review of the potential for this limit to occur during transients and with consideration of B&W technical guidance. This event is characteristic of an identified method by which tube-to-shell compressive limits may be approached. This method is most likely to occur with a dry OTSG, and only after a long period of time during which the OTSG shell cools to ambient. The guidance to restore feedwater to a dry OTSG is explicitly included in the EPG/EOP, which correctly addresses the compressive limit, so it was decided that no additional guidance was required. For this reason (the included guidance mitigates the conditions necessary for the 60°F delta T to develop), the issue of the 60°F compressive delta T limit has been considered part of the Oconee EPG/EOP guidance since 1985 and revisited as recently as 1993.

During the event on 8/10/94, events occurred which caused an unforeseen, extended delay before feed was re-established to the dry, 3B OTSG. Consequently, the tube-to-shell compressive limit on the 3B OTSG was exceeded.

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

Plant Operations and Safety Analysis have discussed the event to determine what guidance, if any, should be added to the EOP and the most advantageous place for the guidance. Operations and Safety Analysis have agreed on the EOP location for guidance as well as the wording of guidance.

Attachment 2
Reply to Notice of Violation
Violation 269/94-28-02, Severity Level IV

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

Guidance will be added to the EOP to address the condition where a dry, intact OTSG exists and the need to establish timely feed to the OTSG to prevent tube-to-shell compressive limits from being exceeded. Also, training will be done to alert operators to the limits as well as the need for actions to be take to ensure that the limits are not exceeded.

4) *The date when full compliance will be achieved:*

The EOP will be revised to include guidance on OTSG tube-to-shell compressive limits and operators will be trained on this revision by 2/1/95.

Attachment 3
Reply to Notice of Violation
Violation 269/94-28-03, Severity Level IV

10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," and the licensee's Quality Assurance Program (Duke-1-A, Section 17.3.2.13) require that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, in a June 17, 1986 response to Babcox & Wilcox Owners Group Recommendation TR-032-ICS and in Licensee Event Report 270/93-01, the licensee identified a condition adverse to quality without taking prompt/appropriate corrective action. This adverse condition involved the repositioning of Turbine Bypass Valves (TBV) following a restoration of power to the Integrated Control System (ICS). The lack of prompt/appropriate corrective action resulted in the dry out of the 3B Once Through Steam Generator on August 10, 1994, when the Unit 3 TBVs randomly repositioned following ICS power restoration.

RESPONSE:

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

Duke Power Company acknowledges this violation.

On June 17, 1986, Duke Power Company responded to the B&WOG Recommendation TR-032-ICS. This recommendation concerned the potential for Turbine Bypass Valves (TBV) to reposition randomly following a loss of power. It was identified that this potential did exist; however, due to other priorities no modification was installed, at that time, to address this concern. Guidance in the Emergency Operating Procedure (EOP) addresses an overcooling event (which could be caused by a failed open TBV) and provides steps to mitigate the overcooling. Further guidance is provided on feeding a dry OTSG, if necessary. This is in keeping with the symptom based approach of the EOP. Also, guidance is provided in the Loss of KI abnormal procedure on how to reposition ICS components following a loss of KI. Consequently, even though no modification was performed to address this item, procedural guidance and training did exist to address any potential overcooling as well as repositioning of components.

Attachment 3
Reply to Notice of Violation
Violation 269/94-28-03, Severity Level IV

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

Following the April 1993 loss of KI power on Unit 2, a modification, to install static analog memory units in the ICS, was designed and parts were purchased. The modification was planned for installation during scheduled outages. Duke Power's action following the August 10, 1994 event was to proceed with the planned modification. New modules were installed which resulted in the TBVs returning in "manual" and "closed" following a loss of KI power. This ensures that this particular failure mode will not result in the potential for a overcooling event.

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

Station safety and quality modifications are routinely reviewed during quarterly modification activation meetings. Priority is placed on maintaining a high level of component and system performance. Also past B&WOG Safety Performance Improvement program recommendations have been reviewed to assure correct implementation.

4) *The date when full compliance will be achieved:*

Full compliance was achieved on August 13, 1994.