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 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co.      05000270  
 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co.      05000287

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 RECIPIENT NAME      RECIPIENT AFFILIATION  
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SUBJECT: Responds to NRC 940414 ltr re violations noted in insp rept  
 50-269/94-07, 50-270/94-07 & 50-287/94-07. Corrective actions:  
 Procedure OP/0/A/1107/05 will be revised.

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**DUKE POWER**

April 14, 1994

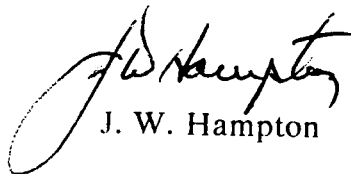
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Attention: Document Control Desk  
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Subject: Oconee Nuclear Site  
Docket Nos. 50-269, -270, -287  
Inspection Report 50-269, -270, -287/94-07  
Reply to Notice of Violation

Dear Sir:

By letter dated March 16, 1994 the NRC issued a Notice of Violation as described in Inspection Report No. 50-269/94-07, 50-270/94-07, and 50-287/94-07. 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

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

9404200003 940414  
PDR ADOCK 05000269  
Q PDR

*Handwritten initials/signature*

Violation 269,270,287/94-07-01, Severity Level IV

Technical Specification (TS) 6.4.1.e requires that the station be operated and maintained in accordance with approved written procedures with appropriate check-off lists and instructions for preventive or corrective maintenance which could affect nuclear safety.

Block Tagout Procedure OP/3/B/1502/08, Section 3.7.2 states "The work group that is responsible for performing the work will be responsible for assuring safe working conditions of isolated equipment. This assurance should include but not be limited to communicating with operating personnel, verifying correct components are tagged and in the correct position, and checking correct tagout isolation per OFD drawings."

Contrary to the above, on January 27, 1994 safe working conditions for maintenance on the Unit 3 Main Steam Stop Valves circuitry were not assured. The work group responsible for performing the work and the operating personnel who approved the work were not aware the work was being performed on energized circuits and/or the implications on plant safety of working on these circuits while energized. This maintenance activity resulted in the inadvertent deenergization of the Unit 3 Main Feeder Buses for approximately 21 seconds, with a corresponding loss of spent fuel pool cooling for approximately 4 minutes.

RESPONSE:

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

The loss of power event was initiated when the technicians inadvertently grounded the terminal lugs to the energized loss of load circuit. However, given the cramped conditions of the wiring in the terminal boxes, the possibility of grounding the circuits should have been expected during the planning process and appropriate protective measures should have been initiated. The crew exhibited deficient work practices in that they failed to verify voltage levels prior to beginning hands on work on the electrical circuit. This is in conflict with the block tagout procedure and Nuclear Policy Manual 405.6, "Work Practices".

The root cause of the event was Work Planning, inadequate work package preparations and job scoping not identifying special conditions. The planning and job scoping did not identify the possible impact upon the loss of load relays, the high probability of grounding the circuit due to the cramped conditions of the wiring in the terminal boxes, that the electrical power source to the unit could be the backcharged main transformer, and the use of red tags to isolate the circuit. The work order package was lacking in providing sufficient guidance in the instructions to the craft. The System Engineer, Planners, and SRO Engineer were all unaware that this maintenance activity could affect the power supply to the unit. They erroneously concluded that the block tagout the work would be performed under was sufficient along with the skill of the craft to prevent this activity from creating a unit transient.

Operations personnel thought that the procedure for backcharging the main transformer provided protection in the event of problems with the power supply, in that they expected a rapid bus transfer to occur to supply the unit from the startup transformer as during normal operation. This was not the case in that the backcharge procedure enables the closing of the generator breakers, but does not provide sufficient protection in the event of some disturbances with the main transformer or its power sources. If power is lost to the main transformer (PCB-58 and/or PCB-59) a rapid bus transfer will not occur. The lack of a rapid bus transfer confused the operator initially at the beginning of the loss of power, but with the use of the Loss of Power Abnormal Procedure, they were able to recover power to the unit.

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

Operations control room personnel took appropriate actions to restore the power supplies and equipment to normal. The spent fuel cooling system was manually restarted approximately 4 minutes after the pumps had tripped off. There was not a noticeable temperature increase in the spent fuel pool.

The work order package for relugging the terminal boxes was re-planned. The Main Steam Stop Valves (MSSV), Intermediate Stop Valves (ISV) and Intercept Valves (IV) were completely isolated from the generator loss of load circuitry to prevent the loss of power.

A pre-job briefing was held prior to restarting the job. The work group responsible for the job was given further instructions including identifying and isolating any energized circuitry. This action allowed the job to be completed without further incident and provided the personnel involved in the event with the necessary feedback on their failure to exercise proper work practices.

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

Procedure OP/0/A/1107/05, Backcharging Unit Main and Auxiliary Transformer, will be revised to 1) assure a rapid bus transfer if the main transformer loses its power source, and 2) allow the removal of the tie between the main turbine valves and the loss of load circuitry while the main transformer is on backcharge. The procedure will be revised before backcharging is performed during the next scheduled refueling outage on each unit:

Unit 1 EOC15 refueling outage - currently scheduled to begin 04/28/94

Unit 2 EOC14 refueling outage - currently scheduled to begin 09/10/94

Unit 3 EOC15 refueling outage - currently scheduled to begin 05/26/95

Work Order packages to re-lug the valves on Units 1 and 2 will have detailed instructions included before the next refueling outage on each unit.

4. The date when full compliance will be achieved:

Duke Power Company is in full compliance.