

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9607300345      DOC.DATE: 96/07/25      NOTARIZED: NO      DOCKET #  
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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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SUBJECT: Responds to violations noted in insp rept 50-269/96-09,  
 50-270/96-09 & 50-287/96-09.C/A:repaired & tested condensate  
 pumps and machined & coated inside of pump casings w/epoxy  
 material.

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**DUKE POWER**

July 25, 1996

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

Subject: Oconee Nuclear Site  
Docket No. 50-269, -270, -287  
Inspection Report 50-269, -270, -287/96-09  
Reply to Notice of Violation

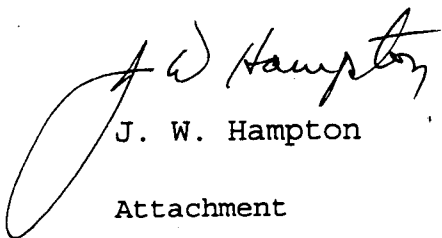
Dear Sir:

By letter dated June 27, 1996, the NRC issued a Notice of Violation as related to an NRC inspection conducted from April 21 - June 1, 1996.

The violation involves the Containment Hydrogen Recombiner System being inoperable for each of the units. Duke Power Company acknowledges this violation. The engineering evaluation concluded that the drain pumps could have been repaired and the Hydrogen Recombiner placed in service within the time constraints of the accident analysis. Therefore, there is a high level of confidence that the Hydrogen Recombiner could have performed its intended safety function. However, based on the fact that the drain pumps were not in a state of operational readiness, the final analysis concluded that the Hydrogen Recombiner was past inoperable.

Pursuant to 10 CFR 2.201, Attachment 1 provides a written reply to the Notice of Violation identified in the subject inspection report.

Very truly yours,

  
J. W. Hampton

Attachment

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PDR ADOCK 05000269  
Q PDR

IEO111

Document Control Desk

July 25, 1996

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

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

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

Attachment 1  
Reply to Notice of Violation  
Violation 96-09-01 Severity Level IV

Restatement of the violation

Technical Specifications 3.16.3 requires in part that the components in the Containment Hydrogen Recombiner System's flow path be operable.

Contrary to the above, for an indeterminate time frame in excess of the 7 day limiting condition for operation, the condensate drain pumps/motors in the Containment Hydrogen Recombiner System flow path had been inoperable for each of the units due to a common mode failure.

1. The reason for the violation:

Duke Power Company acknowledges the violation.

In January 1996, it was recognized by Oconee's engineering staff that condensation could collect in the piping between the containment and the Containment Hydrogen Recombiner during post-LOCA operation. Following a LOCA, this condensation could potentially block the flow path of the recombiner. To prevent the condensate from accumulating, temporary modifications were made on February 9, 1996, to install drain systems on all three units. These temporary modifications consist of hoses and condensate drain tanks/pumps to route any collected condensation back to containment via the Low Pressure Injection System. These temporary systems will be replaced by hard-piped gravity drain systems. LER 269/96-02 contains a detailed description of this event.

On April 20, 1996, with Units 1 and 3 at 100 % full power and Unit 2 in a refueling outage, a surveillance test (Hydrogen Recombiner Leak Test and Drain Test) was performed on the Unit 2 Containment Hydrogen Recombiner System.

Attachment 1  
Reply to Notice of Violation  
Violation 96-09-01 Severity Level IV

During the test, the condensate drain pump on the "2A" drain skid failed to operate. Further investigation indicated that the drain pumps on all three Oconee units failed to operate due to corrosion between the cast iron pump casing and the plastic (Noryl) impeller.

The root cause of this event was determined to be a deficient design analysis which resulted in improper component selection. During the design process of the temporary modifications in February 1996, it was not recognized that the condensate pumps would be susceptible to excessive corrosion in this application. Operating experience with this type of pump in other applications had been successful. However, for this application, the environment that the pump would be exposed to was not sufficiently evaluated. As a result, a condition existed which allowed corrosion of the cast iron pump casing. This casing corrosion resulted in failure of the pump. A "Technical Issues Checklist" is used in the permanent modification processes. This checklist is used to ensure that issues such as material compatibility are considered. The Temporary Modification process is less structured than the permanent modification processes and does not include such a checklist.

2. Corrective steps that have been taken and the results achieved:
  - a) The condensate pumps were repaired and tested satisfactorily. A requirement was implemented to run and check pump rotation at least every seven days.
  - b) The inside of the pump casings were machined and then coated with an epoxy material. The epoxy will prevent corrosion of the pump casing and, therefore, prevent corrosion binding between the pump impeller and casing. The time period between rotational checks (see (a) above) has been slowly extended since the coated casings were installed. Currently, the pumps are being rotated on a monthly basis.

Attachment 1  
Reply to Notice of Violation  
Violation 96-09-01 Severity Level IV

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

- a) A permanent modification will be implemented to remove the accumulation of moisture in the suction and discharge piping. Once the permanent modifications are installed, the Temporary Modification, including the drain pumps, will no longer be needed. These modifications will be completed per the following schedule:

Unit 1 - 08/01/97

Unit 2 - 03/01/97

Unit 3 - 03/01/97

- b) The Temporary Modification design evaluation process will be enhanced by including a technical issues checklist as described in Appendix A of NSD 301. The materials compatibility issues observed from this event will be added to the technical issues checklist. This change will be completed by 4/1/97.

4. The date when full compliance will be achieved:

Duke Power is in full compliance. The corrective steps described in Section 3 will provide a permanent solution to the condensation issue. In addition, the temporary modification program will be enhanced to prevent material compatibility problems in future modifications.