

# PRIORITY 1

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 RECIPIENT NAME      RECIPIENT AFFILIATION  
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SUBJECT: Forwards response to NRC 950421 ltr re violations noted in  
 insp repts 50-269/95-03, 50-270/95-03 & 50-287/95-03.  
 Corrective actions: began calculations on 950315.

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**DUKE POWER**

May 18, 1995

U.S. Nuclear Regulatory Commission  
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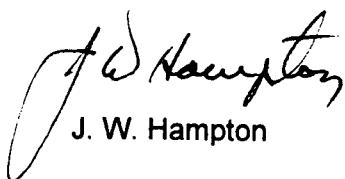
Subject: Oconee Nuclear Site  
Docket No. 50-269,-270,-287  
Inspection Report 50-269, -270, -287/95-03  
Reply to Notice of Violation

Dear Sir:

By letter dated April 21, 1995 the NRC issued a Notice of Violation as described in Inspection Report No. 50-269/95-03, 50-270/95-03, and 50-287/95-03.

Pursuant to the provisions of 10 CFR 2.201, please find attached a written response to the Violation identified in the subject Inspection Reports.

Very truly yours,

  
J. W. Hampton

**Attachment**

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

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Attachment 1  
Reply to Notice of Violation  
Violation 270/95-03-02

10 CFR 50, Appendix B, Criterion III, states in part that measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. It further states that design control measures shall provide for verifying or checking the adequacy of the design.

10 CFR 50, Appendix B, Criterion V, states in part that activities affecting quality shall be prescribed by documented procedures of a type appropriate to the circumstances.

Contrary to the above, from May 20, 1993, until March 20, 1995, the design control process, independent verification process, and operating procedure associated with establishing the maximum power limit of a Keowee Hydro Unit (KHU) while generating to the system grid, were inadequate. Specifically:

- a. Oconee Site Calculation (OSC)-6003, Revision 0, "Keowee Operating Limits To Prevent Overspeed Due To Load Rejection," a QA-1 calculation, established 66 MW as the maximum power output for a KHU generating to the grid. Revision 1 of this calculation, dated May 20, 1993, increased the limit to 75 MW. This revision was non-conservative in that it did not accurately account for instrument uncertainties. Taking appropriate account of these instrument uncertainties should have resulted in a limit of 68 MW. This calculation was independently reviewed and approved without identifying the error. The non-conservative limit of 75 MW was subsequently incorporated into procedure OP/O/A/2000/041, "Keowee Modes Of Operation." As a result, for a cumulative time of thirty-one hours and three minutes between May 20, 1993, and January 27, 1995, the KHU aligned to the grid was technically inoperable due to potential overspeed lockout while operating in excess of 72 MW.
- b. OSC-6003, was revised (Revision 3) on March 14, 1995, in order to raise the maximum power output limit for a KHU from 56 MW to 69 MW. The statistical analysis methodology utilized to reduce instrument uncertainties was incorrect for this revision. Utilizing the appropriate statistical methodology should have resulted in a maximum power limit of 68 MW. This calculation was independently reviewed and approved without identifying the error. The non-conservative limit of 69 MW was subsequently incorporated into OP/O/A/2000/041, "Keowee-Modes of Operation."

RESPONSE:

1. Reason for the violation:

Duke Power Company acknowledges the violation.

The examples cited in the violation are the result of unfamiliarity with the analytical methods which Duke Power now recommends for determining instrument total loop uncertainty and statistical analysis of data. Methods for accounting for uncertainty using statistical analysis were employed in both examples. However, the treatment of uncertainty was not adequately conservative.

Attachment 1  
Reply to Notice of Violation  
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2. Corrective steps that have been taken and the results achieved:

Revisions were begun on the calculation on March 15, 1995. These revisions to the calculation using the appropriate statistical methodology were completed March 20, 1995.

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

The examples cited, calculation OSC-6003 revision 1 and OSC-6003 revision 3, have the utilization of total loop uncertainty and statistical analysis as the common thread for causing the errors. The methodology to be used for these types of calculations is contained within the Duke Power Company Nuclear Generation Department Engineering Directives Manual section 102 (EDM-102). Revisions will be made to this directive and training will be provided for all applicable personnel in engineering at Oconee Nuclear Station by March 1, 1996.

4. Date when full compliance will be achieved:

Duke Power Company is now in full compliance.