UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

December 30, 2003

EA-03-145

Duke Energy Corporation
ATTN: Mr. R. A. Jones
Site Vice President
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A WHITE FINDING AND NOTICE OF VIOLATION (NRC INSPECTION REPORT NO. 05000269/2003012, 05000270/2003012, 05000287/2003012, OCONEE NUCLEAR STATION)

Dear Mr. Jones:

The purpose of this letter is to provide you with the Nuclear Regulatory Commission's (NRC) final significance determination for a finding involving inadequate corrective actions to address a condition adverse to quality. The condition involved pressurizer ambient heat losses in all three Oconee Units that exceeded the capacity of those pressurizer heaters powered from the Standby Shutdown Facility (SSF). The finding was documented in NRC Inspection Report No. 05000269,270,287/2003011, dated August 7, 2003, and was assessed under the significance determination process as a preliminary White issue (i.e., an issue of low to moderate safety significance, which may require additional NRC inspection). The cover letter to the inspection report informed Duke Energy Corporation (DEC) of the NRC's preliminary conclusion, provided DEC an opportunity to request a regulatory conference on this matter, and forwarded the details of the NRC's preliminary estimate of the change in core damage frequency (CDF) for this finding.

In lieu of a regulatory conference, DEC submitted a written response dated December 1, 2003, in which it acknowledged the White finding and provided additional information based on further analysis of the issue. DEC undertook an extensive effort to predict operator action and plant response for a scenario where pressurizer ambient heat losses were greater than pressurizer heater capacity, when powered from the SSF. Because of the complex and varied scenarios that would be involved, DEC chose not to expend the significant resources necessary to establish the risk significance of this issue. DEC's written response highlighted two areas in which it believes the NRC's risk analysis was overly conservative. The first area involved pressurizer safety valve (PSV) modeling uncertainties. DEC stated that it is not evident that an industry or NRC consensus has been established regarding PSV modeling. Therefore, DEC does not believe there was adequate justification for the values used by the NRC in predicting PSV performance. The second area in which DEC provided comments was related to the initiating event frequencies associated with a seismic event and with a fire. Duke stated that the hand calculation method used by the NRC overpredicts the initiating event frequency for seismic events, and that the fire frequency used in the NRC's analysis was conservatively calculated. DEC also believes this issue should be characterized as an old design issue, for the reasons documented in its December 1, 2003, letter.

After considering the information developed during the inspection and the information DEC provided in its response, the NRC has concluded that the final inspection finding is appropriately characterized as White for all three Oconee units, in the mitigating systems cornerstone.

Regarding DEC's comments that the NRC's risk analysis was overly conservative, the NRC agrees that the performance of the PSVs clearly affect the overall risk. However, under the present risk analysis conducted by the NRC, only one additional PSV challenge to close over the base case was sufficient to increase the change in CDF beyond the 1E-6 threshold (i.e., White). In addition, the PSV cycling value used was based on the best information available to the NRC. Regarding the hand calculation methodology for the initiating event frequency of a seismic event, this value was consistent with the value used in the DEC risk analysis model. Variation in this value is limited (when compared to the full analysis model quantification), and due to the seismic ruggedness of the SSF, a change in this value would result in a minimal change in the overall outcome. The fire frequency calculated by the NRC was based on the best available risk information. The NRC agrees with DEC that an extensive site specific fire study would provide better insights and would allow for a more refined risk assessment. However, this analysis does not presently exist, and as such the NRC has concluded that the values used in our analysis were appropriate. Accordingly, based on information developed during the inspection and in light of the above discussion, we conclude that the final risk significance of the inspection finding is appropriately characterized as White.

NRC Inspection Manual Chapter (IMC) 0305, Operating Reactor Assessment Program, provides criteria to be considered when determining whether an issue can be characterized as an old design issue. Consideration of the finding as an old design issue could cause the NRC to refrain from including this finding in the assessment of Oconee's overall performance using the NRC Action Matrix. In this case, the NRC has determined that the criteria for an old design issue have not been satisfied. Specifically, the NRC concluded that DEC had multiple opportunities to identify and correct the issue prior to March 2002. As discussed in IMC 0305, findings that involve inadequate or untimely corrective action are not eligible for treatment as an old design issue.

You have ten business days from the date of this letter to appeal the staff's determination of significance for the identified White finding. Such appeals will be considered to have merit only if they meet the criteria given in NRC Inspection Manual Chapter 0609, Attachment 2.

The NRC also determined that a violation occurred involving the requirements of 10 CFR 50, Appendix B, Criteria XVI, Corrective Action, in that DEC failed to promptly identify and correct this condition adverse to quality. Evidence of this condition, which may have existed from the time the SSF was put into service in 1986 until it was discovered in March 2002, included pressurizer insulation problems (since pre-operational testing) and numerous Problem Investigation Process reports (since 1996) identifying pressurizer heater capacity concerns. Accordingly, a Notice of Violation is included as an enclosure to this letter.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved is adequately addressed on the docket in NRC Inspection Report No. 05000269,270,287/2003011, Licensee Event Report 50-269/2002-01, and in DEC's letter of December 1, 2003. Therefore, you are not required to respond to this letter unless the

description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

Based on IMC 0305 guidance, the performance consideration start date for this issue is the third quarter of 2003 (i.e., when the preliminary significance determination was made known via Inspection Report 05000269,270,287/2003011). Consequently, as a result of this White finding, plant performance has been determined to be in the Regulatory Response Column as of the third quarter of 2003 for Units 1 and 2. Although Unit 3 is also currently in the Regulatory Response Column, its performance in the third quarter of 2003 was determined to be in the Degraded Cornerstone Column because of a previously identified White finding in the Mitigating Systems Cornerstone. We will use the NRC Action Matrix to determine the most appropriate NRC response for this finding and will notify you of that determination by separate correspondence.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (should you choose to provide one), will be available electronically for public inspection in the NRC Public Document Room (PDR) or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

For administrative purposes, this letter is issued as a separate NRC Inspection Report, No. 05000269,270,287/2003012, and the above violation is identified as VIO 05000269, 270,287/2003012-01: Failure to Promptly Identify and Correct Insufficient SSF Pressurizer Heater Capacity. Accordingly, the associated apparent violation AV 05000269,270, 287/2003011-01 is closed.

Should you have any questions regarding this letter, please contact Robert Haag, Chief, Reactor Projects Branch 1, at 404-562-4550.

Sincerely,

/RA BY LOREN R. PLISCO ACTING FOR/

Luis A. Reyes
Regional Administrator

Docket Nos: 50-269, 50-270, 50-287
License Nos: DPR-38, DPR-47, DPR-55

Enclosure: Notice of Violation
cc w/encl: (see page 4)

cc w/ encl:
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OFFICE	RII:DRS	RII:DRP	RII:EICS		NRR	OE
SIGNATURE	/RA/	/RA LWERT FOR/	/RA SSPARKS FOR/		/RA VIA EMAIL/	/RA VIA EMAIL DNELSON FOR
NAME	WROGERS	VMCREE	CEVANS		RFRANOVICH	FCONGEL
DATE	12/19/03	12/19/03	12/19/03		12/19/03	12/19/03

OFFICIAL RECORD COPY DOCUMENT NAME: C:\ORPCheckout\FileNET\ML040050113.wpd

NOTICE OF VIOLATION

Duke Energy Corporation
Oconee Nuclear Station
Units 1, 2 and 3

Docket Nos.: 50-269, 50-270, 50-287
License Nos.: DPR-38, DPR-47, DPR-55
EA-03-145

During an NRC inspection completed on August 7, 2003, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), the violation is listed below:

> 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that measures be established to assure conditions adverse to quality are promptly identified and corrected.
>
> Contrary to the above, as of March 2002, the licensee failed to promptly identify and correct a condition adverse to quality involving pressurizer ambient heat losses that exceeded the capacity of those pressurizer heaters powered from the Standby Shutdown Facility (SSF). Evidence of this condition, which may have existed from the time the SSF was put into service in 1986 until the condition was discovered in March 2002, included pressurizer insulation problems (since pre-operational testing) and numerous Problem Investigation Process reports since 1996 identifying pressurizer heater capacity concerns. As a result of the failure to promptly identify and correct this condition, an insufficient number of pressurizer heaters powered from the SSF has been available to assure natural circulation during certain postulated SSF events.

This violation is associated with a White Significance Determination Process finding for Units 1, 2 and 3.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in NRC Inspection Report No. 05000269,270,287/2003011, Licensee Event Report 50-269/2002-01, and in DEC's letter of December 1, 2003. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator, Region RII, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 30th day of December 2003

Enclosure