

August 19, 2004

Frank J. Congel, Director  
Office of Enforcement  
U. S. Nuclear Regulatory Commission  
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Subject: 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  
Reply to Notice of Violation – EA 04-018 (Supplemental Information)

References: (1) Letter from Luis A. Reyes (NRC) to Ronald A. Jones (Duke),  
“Notice of Violation and Proposed Imposition of Civil Penalty – \$60,000  
(NRC Inspection Report No. 05000269/2004007,  
05000270/2004007, and 05000287/2004007), dated April 8, 2004

(2) Letter from Ronald A. Jones (Duke) to Frank J. Congel (NRC),  
“Reply to Notice of Violation – EA 04-018,” dated May 7, 2004

Reference 1 transmitted a Notice of Violation and Proposed Imposition of Civil Penalty (EA 04-018). Pursuant to the provisions of 10 CFR 2.201, Duke Energy Corporation (Duke) prepared a written response to the Notice of Violation stating that the violation and imposition of civil penalty would not be contested (Reference 2).

As described in the violation response, Duke was in the process of evaluating the root cause of the event, but at the time of the response submittal, had not completed it. One of the corrective actions from the May 7, 2004 violation response was to provide the final results of this evaluation. These results are enclosed.

Please direct any questions or requests for additional information to Stephen C. Newman, Oconee Regulatory Compliance Group, at (864) 885-4388.



Ronald A. Jones  
Site Vice President

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**Enclosure**

**Supplemental Response to the  
May 7, 2004 Notice of Violation  
Providing the Final Results from the HELB 10 CFR 50.59  
Root Cause Evaluation**

Event Background:

A 10 CFR 50.59 (50.59) evaluation was performed on May 17, 2001 to revise Updated Final Safety Analysis Report (UFSAR) Section 3.6.1.3. This evaluation was performed under the old 50.59 rule, which was in effect at the time at Oconee Nuclear Site (ONS). The UFSAR revision was to reflect the results of the latest analysis performed to evaluate the effects of the postulated limiting High Energy Line Break (HELB) that could occur outside the Reactor Building. The changes in the analysis assumptions included delaying the time to reestablish Emergency Feedwater (EFW) from 15-minutes to 30-minutes and delaying the time to reestablish High Pressure Injection (HPI) from 1-hour to 8-hours for certain HELB scenarios.

During an NRC inspection in March 2003, questions were raised about the conclusions of the 50.59 that made the latest change regarding HELB report exceptions. The NRC's position was that the 50.59 evaluation for the change came to an incorrect conclusion, since it determined that no Unreviewed Safety Question (USQ) existed. The NRC's position was that the change did have USQs, and thus required prior NRC approval before implementing the change.

The NRC issued an April 8, 2004 Notice of Violation (NOV) and \$60,000 civil penalty claiming that Duke failed to recognize that a change was made to the plant that contained USQs requiring prior NRC review and approval before the change could be implemented. The issues were:

- Use of Boiler Condenser Mode (BCM) in an application that was not allowed (including extending initiation of HPI from 1-hour to 8-hours)
- Increased cycling of the Pressurizer Safety Valves (PSV) created an increase in equipment failure probability.

On May 7, 2004, Duke responded to the NOV and did not contest the violation or the \$60,000 civil penalty. A root cause evaluation was already underway to determine why the 50.59 preparer and reviewer failed to identify the two (2) USQs associated with the change that the NRC identified in the NOV. This evaluation was completed on July 1, 2004, and the results given below.

Root Cause Evaluation Results:

The root cause evaluation determined the root cause to be:

Existing programs or processes do not provide adequate training to assure sufficient skills, knowledge, and understanding associated with Licensing Basis (LB) and its relationship to the 50.59 process. Therefore, the individuals were inhibited in their ability to successfully research, construct, understand and apply the LB in the context of 50.59 for the HELB change.

The following items were determined to be contributing causes:

1. Weaknesses existed in the UFSAR revision process that allowed non-editorial changes, not associated with plant modifications and procedures changes, to be processed without an appropriate level of review and approval. This level of review and approval was not considered commensurate with the technical and regulatory significance involved.
2. The 50.59 process does not require the use of Operating Experience. This contributed to the preparer and reviewer of this UFSAR change from fully understanding the licensing basis issues related to the requested change.
3. The 50.59 process does not require verification or tracking of Nuclear Safety Review Board (NSRB) 50.59 evaluation reviews. This contributed to a QA Topical required NSRB review being omitted.
4. The applicable Nuclear System Directive (NSD) process criteria for creation of a Problem Investigation Process (PIP) was met given that UFSAR commitments, i.e., HPI ASW power alignment time, could not be satisfied; However, no PIP was created. The creation of a PIP could have raised the level of management awareness.

Corrective Actions:

1. As an interim corrective action until replaced by a Duke Nuclear System Directive change, any Oconee UFSAR revision received by the UFSAR editor that is not the result of a modification or procedure change<sup>1</sup> and is not editorial, will receive additional reviews as determined by Regulatory Compliance Group Manager. This action has been implemented.
2. Develop training to improve the ability of individuals to research, construct, understand and apply the licensing basis for a given structure, system or component.
3. Establish an in-line review committee to review future 50.59 evaluations (not 50.59 screens).
4. The Safety Assurance Business Excellence Steering Team has approved a plan for an assessment of 50.59 process effectiveness at the General Office and all three nuclear sites. The assessment plan scope has been revised to address the issues raised in the root cause report. This assessment will provide detail to corrective action No. 2 (above), related to target audience and the delivery method and details with regards to corrective action No. 3 (above) in the establishment of a review committee.

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<sup>1</sup> Modification and procedure change packages receive an appropriate level of review and approval as required in the applicable Nuclear Site Directive.

These corrective actions, as well as several other recommendations (50.59 program enhancements) from the root cause evaluation, have been reviewed and approved for implementation by Oconee Corrective Action Review Process representatives and incorporated into the PIP process. Full implementation of these as well as completion of necessary training/retraining will be addressed as part of the Oconee Corrective Action Program.