

# CATEGORY 1

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

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SUBJECT: Responds to NRC 981223 ltr re violations noted in insp repts  
 50-269/98-15,50-270/98-15 & 50-287/98-15,respectively.  
 Corrective actions:licensee has issued rev to UFSAR to  
 clarify concerns identified in violation examples.

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January 22, 1999

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

Subject: Oconee Nuclear Site  
Docket Nos. 50-269, -270, -287  
Inspection Report 50-269, -270, -287/98-15  
Reply to Notice of Violation

Gentlemen:

By letter dated December 23, 1998, the NRC issued a Notice of Violation as described in Inspection Report No. 50-269/98-15, 50-270/98-15, and 50-287/98-15.

The UFSAR for Oconee Nuclear Station consists of four volumes. The UFSAR describes the facility at a level of detail commensurate with that which was needed to support the findings for the operating licenses for the three Oconee units. Duke Energy Corporation (Duke) acknowledges that the same comprehensive, detailed description of the systems evident in more recently licensed facilities does not exist in the UFSAR for Oconee. At Oconee, for systems such as Emergency Feedwater (EFW), the design basis can only be fully understood by including in context supporting licensing basis documentation. It is also important to consider that correspondence and documentation, in general, have evolved to become much more detailed as the industry has matured. The industry has not uniformly included such correspondence and documentation in updated safety analysis reports. Accordingly, it is understandable that questions associated with the UFSAR and the design basis for Oconee may occur during inspection activities. Duke looks forward to meeting with the NRC at NRR on February 8, 1999, to discuss the EFW design basis and C-187 single failure issues. Since the first example of the violation addresses EFW design basis issues, Duke requests that its response to Example 1 of Violation 98-15-01 be

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deferred until a mutually agreeable response date is established at the February 8<sup>th</sup> meeting.

The NRC identified in Paragraph E8.1.b of Inspection Report 98-15 that Duke failed to identify the inaccurate statement in Section 10.4.7 of the UFSAR regarding single failure by its 1998 UFSAR Review Project. Duke plans to perform a second pass review to validate the adequacy of the original review and identify and correct deficiencies. This second pass review is planned to start around February 1, and be completed by May 1, 1999.

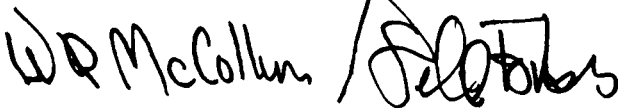
Duke would like to clarify a statement contained in the first example of the violation regarding high energy line break (HELB) mitigation strategy. The statement infers that the use of the station auxiliary service water pump is the normal method to mitigate a feedwater event. The 1973 MDS Report No. OS-73.2, identified that a HELB could result in consequential damage to the emergency feedwater system. At that time, Duke initiated a modification to reroute the emergency feedwater piping of all three units. The modification was completed prior to the startup of Units 2 and 3 and installed on Unit 1 within approximately four months of initial startup. Thus, the stated mitigation strategy in the violation was a temporary strategy for Unit 1 only. The NRC approved use of this strategy until the modification was completed on Unit 1. The mitigation strategy at Oconee for HELBs is to re-establish EFW flow within 15 minutes. This strategy is described in Supplement 1 to OS-73.2 as a response to question 6 from the NRC.

Pursuant to the provisions of 10 CFR 2.201, the attachment provides a written response to the subject violation as identified in the subject Inspection Report.

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Corrective actions in Section 3 of the response are the only regulatory commitments in this submittal.

Very truly yours,



W. R. McCollum, Jr.  
Site Vice President  
Oconee Nuclear Site

Attachment

cc: Mr. L. A. Reyes, Regional Administrator  
U. S. Nuclear Regulatory Commission, Region II

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

Mr. M. A. Scott  
Senior Resident Inspector  
Oconee Nuclear Site

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NRC Commitments  
Bob Gill

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Violation 98 -15 - 01

Restatement of the Violation

10 CFR 50.71(e) requires that each licensee periodically update the Final Safety Evaluation Report (FSAR) to assure that the information included in the FSAR contains the latest material developed. This update shall include all changes necessary to reflect information and analyses submitted to the Commission by the licensee.

Contrary to the above, the licensee failed to update the FSAR to assure that the information included in the FSAR contained the latest material developed and updates did not include all changes necessary to reflect information and analyses submitted to the Commission by the licensee as evidenced by the following examples:

1. From approximately 1982 to November 18, 1998 the FSAR statement that the emergency feedwater (EFW) system can "perform its safety-related function in the event of a single failure coincident with a secondary pipe break and the loss of normal station auxiliary AC power" was inaccurate because certain exceptions to that design criteria were not stated. For example, the EFW system was not designed to perform a safety-related function in the event of certain secondary pipe breaks (of main feedwater or 300 psig auxiliary steam) in the turbine building that would disable the three trains of safety-related switchgear and the EFW system. The licensee had described these pipe break scenarios to the NRC in a 1973 high energy line break analysis report. A mitigation strategy, which relied on use of the station auxiliary service water (ASW) pump and on powering a high pressure injection pump from the ASW switchgear, had been approved by the NRC. However, the licensee had not updated the FSAR to include the results of the 1973 analysis.
2. From 1995 to November 18, 1998, the FSAR statement that "once started, the EFW pumps will continue to run until manually stopped by the operators" was inaccurate because the turbine-driven EFW pump would be stopped automatically on a

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low steam generator pressure of 500 psig. The licensee had not appropriately updated the FSAR following modification ON-2873, Main Steam Line Break Modification, which had been installed on Units 1, 2, and 3 in 1995, 1996, and 1997, respectively.

Reply to the Notice of Violation

With regard to the first example, while Chapters 3 and 10 of the UFSAR could have been more clearly linked regarding the discussion of high energy line breaks, Duke Energy Corporation (Duke) believes that the UFSAR met the intent of the 10 CFR 50.71(e). Duke acknowledges the second example.

1. Duke discussion of the first example:

The last sentence of the first example of the violation states, "However, the licensee had not updated the FSAR to include the results of the 1973 analysis." This statement appears to contradict other documentation. The NRC Safety Evaluation Report (SER) for Units 2 and 3, dated July 6, 1973, states on page 7-39 that "The applicant will incorporate Report No. OS-73.2 and Supplement 1, by reference, into the Oconee license application. This report is titled, "Analyses of Effects Resulting From Postulated piping Breaks Outside Containment for Oconee Nuclear Station, Units 1, 2 and 3," dated April 25, 1973, and Supplement 1, dated June 22, 1973. Report No. OS-73.2 and Supplement 1 are listed as references on page 3-60 of the UFSAR as specified by the SER. In addition, 10 CFR 50.71 (e) states that each person licensed to operate a nuclear power reactor shall update periodically the final safety analysis report (FSAR) originally submitted as part of the application for the operating license. Duke believes that it was not required to update the FSAR as the 1973 analysis was part of the original license application as noted in the July 6, 1973, SER.

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2. Duke discussion of the second example:

While performing the UFSAR Update review of the Turbine Driven EFW Pump (TDEFWP) in Section 10.4.7.2 the reviewers noted the following statement in the next to last sentence in the first paragraph: "If a main steam line break signal is present and the selector switch is in AUTO, the TDEFWP will automatically stop and prevent an auto start." The first sentence in the next paragraph states: "Once automatically started, the EFW pumps will continue to operate until manually secured by the operator." Discussions with the individual who reviewed Section 10.4.7 revealed that he believed that the sentence in the first paragraph clearly stated that the TDEFWP would automatically stop on a main steam line break signal. He made the assumption that based on the clarity of the TDEFWP sentence in the previous paragraph that it was obvious that the first sentence of the second paragraph referred only to the motor driven EFW pumps.

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

Duke has issued a revision to the UFSAR, which will clarify the concerns identified in the violation examples. The following changes were made to clarify the first example. The next to last sentence of the third paragraph of Section 10.4.7.1 was modified by adding "(unit and train)" after cross-connections. The following two sentences were added; "In the case of a secondary pipe break coincident with a single failure, the emergency feedwater function may be provided by another unit's EFW pumps, the SSF ASW pump or the station ASW pump. Manual action is required to align these other sources." The last sentence became a separate paragraph. Paragraph six was replaced in its entirety with, "In the event of a postulated break in the Main Steam or Main Feedwater System inside or outside containment, that results in a depressurized steam generator, coupled with a single



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active failure of an EFW pump or control valve, the EFW System provides sufficient flow to ensure adequate core cooling."

The UFSAR change for the second example was to revise the first sentence of the second paragraph of Section 10.4.7.2, System Description, Turbine Driven EFW Pump (TDEFWP), to read MDEFW pumps rather than EFW pumps.

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

Duke will provide a supplemental reply to this violation when a mutually agreeable response date is established at the February 8, 1999, meeting with the staff on the EFW design basis.

The UFSAR will be updated to include additional information on HELBs beyond what was required at the time the plant was originally licensed.

5. Date of full compliance:

Duke is in full compliance.

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

Duke will provide a supplemental reply to this violation when a mutually agreeable response date is established at the February 8, 1999, meeting with the staff on the EFW design basis.

The UFSAR will be updated to include additional information on HELBs beyond what was required at the time the plant was originally licensed.

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7. Date of full compliance:

Duke is in full compliance.