

April 7, 1999

LICENSEE: Duke Energy Corporation (Duke)

FACILITY: Oconee Nuclear Station, Units 1, 2, and 3

SUBJECT: SUMMARY OF MARCH 15, 1999, AND MARCH 23, 1999, PHONE CALLS BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) STAFF AND DUKE REPRESENTATIVES TO DISCUSS THE OCONEE LICENSE RENEWAL APPLICATION

On March 15, 1999, and March 23, 1999, representatives of Duke had phone calls with the NRC staff in Rockville, Maryland, to discuss the Oconee license renewal application. The purpose of the phone calls was to discuss the questions the staff had regarding the Oconee license renewal application. Enclosures 1 and 2 contain the staff's questions. The Duke participants for the March 15, 1999, phone call were Robert Gill, Dave Whitaker, and Mel Arey. The Duke participants for the March 23, 1999, phone call were Rich Freudenberger, Rounette Nader, Robert Gill, Mike Semmler, and Greg Robison. The staff participants for both phone calls were Stephanie Coffin and Joe Sebrosky.

Duke provided verbal answers to the questions that the staff asked. A summary of these answers can be found in the Duke response portion of Enclosures 1 and 2. The staff stated that if any additional information is required, it will identify the information in a future call, or in the safety evaluation report for the Oconee license renewal application.

A draft of this meeting summary was provided to Duke to allow them the opportunity to comment on the summary prior to issuance.

original signed by:

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Docket Nos. 50-269, 50-270, and 50-287

Enclosures: As stated (2)

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Alloy 600 Aging Management Program Questions  
Phone call of 3/15/99

**Staff question 1**

What is the basis for concluding a one-time inspection is adequate? For example, the licensee plans to perform a one-time inspection of the pressurizer heater bundle. If nothing is detected during that inspection, how does one conclude it is not going to happen for the period of extended operation? Are one-time inspections expected for the other pressurizer inspections (of the level taps and safe ends and for the vent nozzle)?

**Duke response**

Duke stated that the purpose of the inspection is to confirm that there are no applicable aging effects. Duke stated that the need for additional inspections will be determined based on the results of the one time inspection and industry knowledge at that time. Regarding the pressurizer heater bundle, Duke stated that the inspection would be done to meet the commitments in the pressurizer heater topical report (BAW- 2244). Duke stated that to perform the one-time inspection it would have to remove the pressurizer heater bundle and the pressurizer heater bundle would only be removed if the heaters themselves failed to provide heat. The staff stated that it was not sure if this met the commitment in BAW-2244 and that the issue would be discussed internally.

Duke stated that the pressurizer inspections can be found in Section 4.3.7 of the license renewal application, and the discussion regarding pressurizer heater bundles can be found in Section 4.3.7.2 of the application and license renewal Item 4.2 of the safety evaluation of BAW-2244. Duke also referred the staff to Section 4.3.1 and 4.10 of its license renewal application for more information in this area.

**Staff question 2**

The licensee relies on its Section XI inspection of the pressurizer spray nozzle safe end welds to detect PWSCC of the safe ends. The staff is not clear how a weld inspection can detect PWSCC of the safe end itself. Please clarify how these inspections are conducted.

**Duke response**

Duke stated that PWSCC is most likely to occur in the heat effected zone of the safe end welds. Duke also stated that volumetric exams of the heat effected zone would be done in accordance with ASME Section XI-IWB-2500-8. Duke referred the staff to Section 3 of the license renewal application that discusses the aging effects, and Section 4 that provides the aging management program in this area.

**Staff question 3**

Confirm that inspections will be performed following ASME Section XI and Appendix B guidance in that qualified techniques and personnel will be employed.

**Duke response**

Duke stated that the commitments to ASME Section XI and Appendix B guidance are made in the pressurizer topical report (BAW-2244) and the reactor coolant system topical report (BAW-2243). In addition, Duke stated that Section 4.18 of the license renewal application discusses compliance with Section XI Appendices 7 and 8.

**Staff question 4**

On page 45 on the licensee's February 17, 1999, response to RAI 4.3.1-4, the licensee stated that "Two comprehensive inspections of all sixty-nine Alloy 600 CRDM penetrations have been completed at Oconee Unit 2 with no defects observed..." I thought that cracks have been discovered in the Unit 2 CRDM nozzles. Please clarify.

**Duke response**

Duke referred the staff to several letters that are on the docket that provide the answers to this question. Specifically, Duke referred the staff to the following letters:

- December 11, 1996, letter from the staff to Duke titled "Structural Integrity of Control Rod Drive Mechanism (CRDM) Penetration Nozzles No. 23 and 63 - Oconee Nuclear Station Unit 2"
- October 9, 1996, May 22, 1996, and April 30, 1996, letters from Duke to the staff regarding CRDM nozzle inspections at Unit 2
- November 30, 1994, transmitting NRC Inspection Reports 50-269/94-35, 50-270/94-35, and 50-287/94-35
- November 9, 1994, letter from Duke to the staff titled "Evaluation of Control Rod Drive Mechanism Penetration Inspection Results - Oconee Unit 2"
- November 2, 1994, and September 22, 1999, letters from Duke to the staff discussing CRDM penetration inspections

**Staff question 5**

Discuss very general repair/replacement plans. Will thermally treated Alloy 690 and associated weld metal be used for all replacements? Are there any sleeving or nickel plating plans?

**Duke response**

Duke stated that the repair/replacement plan would be based on the best available technology. Duke stated that if repairs were to be performed today they would generally be done with thermally treated Alloy 690 and associated weld metal. Duke also stated that there are no current identified needs for sleeving or nickel plating.

**Staff question 6**

Are there periodic walkdowns of the Reactor Building conducted each refueling outage that include visual inspections of nozzles that could be credited for the detection of throughwall leakage?

**Duke response**

Duke referred the staff to Table 3.4-1 page 3.4-43 for the answer to this question.

**Staff question 7**

Understanding that the predictive element of the models are not exact, are there any components at Oconee predicted to crack due to PWSCC within the period of extended operation? What components are they?

**Duke response**

Duke stated that the predicted models do not use time to cracking. Duke stated that the predicted model results provide what the highest susceptible area would be which Duke then monitors.

3/23/99 Phone call discussion topics

**Staff question 1**

The borated water storage tank is lined with plasite. What is plasite? Is that a trade name? I need a generic description like "epoxy-based liner" or something like that.

**Duke response**

Duke stated that plasite was a trade name for a product that is an epoxy phenolic coating.

**Staff question 2**

In most of the eddy current inspection PM activities, the applicant says that tubes with 60% throughwall indications are either evaluated for further service or plugged. But there is one examination where the licensee just plugs (the decay heat cooler tubing examination) and there is no evaluation aspect. Why the difference?

**Duke response**

Duke stated that the reason for the difference is the consequence of a tube failure. For the decay heat cooler Duke plugs the heat exchanger instead of doing an evaluation process.

**Staff question 3**

The applicant stated the condenser circulating water system piping is lined. Lined with what? I need a generic description.

**Duke response**

Duke stated that the condenser circulating water system is lined with a coal-tar epoxy.

**Staff question 4**

Have these PM activities been performed since the plants went into operation? If not, provide a relative time frame for how long each of these activities have been in use.

**Duke response**

Auxiliary Service Water Piping

Records show that this inspection began in 1993.

Borated Water Storage Tank Internal Coatings Inspection

Records show that this inspection began in 1991.

Condenser Circulating Water System Internal Coatings Inspection

Records show that this inspection began in 1986.

Reactor Building Cooling Unit Tubing Inspection

Water side (tubes) maintenance was first performed in 1987. Air side (shell) maintenance was first performed in 1989. These coolers were replaced in the early and mid 1990s.

Standby Shutdown Facility Diesel Fuel Oil Tank Inspection

The tank was installed circa 1982 during Standby Shutdown Facility installation. The inspection was performed once, in 1992.

Turbine Generator Cooling Water System Strainer Inspection

Personnel associated with the inspection recall that the cleaning and inspection of these strainers have been performed since the unit began operation. Records show that the inspections have been performed under programmatic oversight since 1993.

Eddy Current Testing Related Activities:

Component Cooler Tubing Examination

Prior to 1991, cleaning and eddy current testing of this cooler was not performed regularly. Historic records show that the coolers had maintenance performed on them approximately three times from initial startup until 1991. Each of the coolers was re-tubed around 1990 and 1991. Since then, regular maintenance has been performed on them and they are showing little signs of degradation.

Condensate Cooler Tubing Examination

The earliest eddy current testing record on this cooler is dated 1989.

Decay Heat Cooler Tubing Examination

The earliest eddy current testing record on this cooler is dated 1981.

Main Condenser Tubing Examination

The earliest eddy current testing record on this cooler is dated 1981.

Staff question 5

Commit to performing ongoing assessments of these PM activities as part of Duke's Quality Assurance Plan and do not defer assessment to a one-time event.

Duke response

Duke stated that the preventative maintenance (PM) activities are not directly under the quality assurance program. However, if the PMs do uncover a problem that problem would be evaluated in accordance with existing programs. Duke stated that all the PMs in Section 4.3.8 of the license renewal application are done on systems that are covered under the maintenance rule. In addition, Duke stated that problems uncovered as a result of a PM would be placed in their problem investigation process (PIP) and that several RAI responses discussed this process. Specifically, Duke stated that responses to RAIs 4.3.9-3, 4.3.9-4, G-8, and 4.3.13-3 discuss the PIP and the quality assurance corrective action process. In addition Duke stated that Section 17.3.2.13 of the QA topical report provides a description in general terms of the corrective action process.

**Staff question 6**

Provide the basis for acceptance criteria of 60% throughwall used for eddy current inspections of heat exchanger tubing.

**Duke response**

Duke stated that the acceptance criteria of 60% throughwall is an industry and vendor standard that Duke follows. Duke stated that this is consistent with ASME Section III and VII standards.