Davis-BesseNPEm Resource

From: CuadradoDeJesus, Samuel
Sent: Tuesday, February 07, 2012 12:28 PM
To: dorts@firstenergycorp.com; Davis-BesseHearingFile Resource
Subject: 10 5 2011 teleconference summary for your coments
Attachments: 10 5 2011 DB NRC Telecon Summary.docx

Importance: High

Steve,

Let me know if FENOC has any comments.

Regards,
Samuel Cuadrado de Jesús
Project Manager
Projects Branch 1
Division of License Renewal
U.S. Nuclear Regulatory Commission
Phone: 301-415-2946
Samuel.CuadradoDeJesus@nrc.gov

Hearing Identifier: Davis_BesseLicenseRenewal_Saf_NonPublic
Email Number: 3507

Mail Envelope Properties (377CB97DD54F0F4FAAC7E9FD88BCA6D08071E24EBC)

Subject: 10 5 2011 teleconference summary for your coments
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Received Date: 2/7/2012 12:28:20 PM
From: CuadradoDeJesus, Samuel

Created By: Samuel.CuadradoDeJesus@nrc.gov

Recipients:
"dorts@firstenergycorp.com" <dorts@firstenergycorp.com>
Tracking Status: None
"Davis-BesseHearingFile Resource" <Davis-BesseHearingFile.Resource@nrc.gov>
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Options
Priority: High
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LICENSEE: FirstEnergy Nuclear Operating Company

FACILITY: Davis-Besse

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON OCTOBER 5, 2011, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND FIRSTENERGY NUCLEAR OPERATING COMPANY, CONCERNING REQUESTS FOR ADDITIONAL INFORMATION PERTAINING TO THE DAVIS-BESSE, LICENSE RENEWAL APPLICATION (TAC. NO. ME4640)

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of FirstEnergy Nuclear Operating Company (FENOC or the applicant) held a telephone conference call on October 5, 2011, to discuss and clarify the applicant's responses to the staff's requests for additional information (RAIs) and new draft RAIs concerning the Davis-Besse license renewal application.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a description of the staff concerns discussed with the applicant. A brief description on the status of the items is also included.

The applicant had an opportunity to comment on this summary.

Samuel Cuadrado de Jesús, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Number:50-346
Enclosures:
1. List of Participants
2. List of Requests for Additional Information

cc w/encls: See next page

LICENSEE: FirstEnergy Nuclear Operating Company

FACILITY: Davis-Besse

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON OCTOBER 5, 2011, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND FIRSTENERGY NUCLEAR OPERATING COMPANY, CONCERNING REQUESTS FOR ADDITIONAL INFORMATION PERTAINING TO THE DAVIS-BESSE, LICENSE RENEWAL APPLICATION (TAC. NO. ME4640)

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Samuel Cuadrado de Jesús, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Number: 50-346
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SUMMARY OF TELEPHONE CONFERENCE CALL
DAVIS-BESSE
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
October 5, 2011

PARTICIPANTS	AFFILIATIONS
Samuel Cuadrado de Jesús	U.S. Nuclear Regulatory Commission (NRC)
Abdul Sheikh	NRC
James Gavula	NRC
Bryce Lehman	NRC
Alice Erickson	NRC
Cliff Custer	FirstEnergy Nuclear Operating Company (FENOC)
Steven Dort	FENOC
Jon Hook	FENOC
Larry Hinkle	FENOC
Trent Henline	FENOC
Don Kosloff	FENOC
Brian Kremer	FENOC
Jake Hofelich	FENOC
Dick Bair	FENOC
James Marley	FENOC
Brad Taylor	FENOC

ENCLOSURE 1

SUMMARY OF TELEPHONE CONFERENCE CALL
DAVIS-BESSE
LICENSE RENEWAL APPLICATION
October 5, 2011

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of FirstEnergy Nuclear Operating Company (FENOC or the applicant) held a telephone conference call on October 5, 2011, to discuss and clarify the following response to requests for additional information (RAIs) and new draft RAIs concerning the Davis-Besse license renewal application (LRA).

Draft RAI 2.3.3.18-4

Previous to the conference call the staff provided to the applicant draft RAI 2.3.3.18-4 as follows:

Background:

In its response to RAI 2.3.3.18-3 dated August 17, 2011, the applicant provided the following information:

1) The letdown coolers performed acceptably from initial startup in 1978 until 1991, when plant personnel detected contamination in the component cooling water (CCW) system, and replaced both letdown coolers in 1993. Then, in 2009, plant personnel identified a small, active reactor coolant leak, and again replaced both letdown coolers in 2010.

2) A failure analysis had not been performed on the leaking letdown coolers to determine the specific leak location or to verify the failure mechanism because of high radiation dose rates associated with that effort. SRP-LR Section A.1.2.3.4, "Detection of Aging Effects," states that nuclear power plants are licensed using the principles of redundancy, and diversity, and that degraded components reduce the reliability of the systems, challenge safety systems, and contribute to plant risk. The SRP-LR continues by stating that the effects of aging on a component should be managed to ensure its availability to perform its intended function(s) as designed when called upon, and notes that a program based solely on detecting component failure should not be considered as an effective aging management program for license renewal.

Issue:

Based on the information provided in this recent response, as well as the information provided in response to RAI 2.3.3.18-2 for the same issue, the staff did not consider that the applicant has provided sufficient bases to justify the replacement frequency of every seventh refueling outage (approximately 14 years) for the letdown coolers in the makeup and purification system.

The bases for the staff's position are as follows:

a) The applicant established the replacement frequency based on a qualified life, which was empirically derived using two plant-specific data points of 13 and 16 years, after identifying reactor coolant leakage into the CCW system.

b) The applicant has not determined the flaw location, performed flaw sizing, or verified flaw characteristics to allow prediction of flaw stability or growth rate. Without having this information, operation of the letdown cooler with ongoing leakage is risking a failure, which would challenge the pressure relief capability of the CCW system and the isolation function of the valves in the makeup and purification system.

c) While past operating experience (although limited) may have shown that the flaw was stable for some period of time, the replacement frequency determination did not appear to consider normal operational pressure transients that the letdown coolers would be expected to experience.

d) The letdown cooler replacement frequency appears to be based on overall calendar time and not actual operational time, considering both refueling and extended outages.

Request:

Provide a letdown cooler replacement frequency that includes adequate margin to initiation of tube leakage and provide the basis for the margin, or propose an aging management program (AMP) that will adequately manage these components that are within the scope of license renewal.

Discussion:

The staff noted that the basis for the replacement frequency needs to include more information other than the coolers tend to leak after 14 years. Therefore, the staff stated that the applicant needs to justify the frequency for replacement or age-manage the coolers. The applicant stated that it appeared that the two possible choices for a response would be to increase the frequency of letdown cooler replacement or to propose an AMP for the letdown coolers. The staff pointed out that Crystal River is age-managing their coolers, and that they factored-in operational transient information, whereas there was no such information provided by the applicant. The staff stated that, without more details on the basis for the replacement frequency, those were the two apparent choices for a response.

The applicant asked whether the NUREG-1801, “Generic Aging Lessons Learned (GALL) Report,” (The GALL Report) Revision 2, AMP details for such coolers would be considered appropriate for the Davis-Besse letdown coolers. The staff stated that a program consistent with the GALL Report, Revision 2, would be appropriate.

Action: The applicant to respond to RAI 2.3.3.18-4 in the next license renewal RAI response letter to the staff (due October 24, 2011).

Response to RAI B.2.22-5 dated September 16, 2011

Discussion:

The staff stated that, based on a review of pictures from a 2010 Condition Report, the moisture barrier on the exterior surface of the containment vessel in the annulus sand pocket area appears to be degraded, as well as the grout and the clear coat. The applicant described the results from inspections of the area performed during the outage currently in progress, which showed that there are three areas of moisture compared to five identified during the previous outage. The applicant stated that the clear coating is 4 feet above the annulus grout-to-vessel interface and is not part of the vessel coating system; the clear coat was applied to protect ultrasonic test markings on the exterior surface of the containment vessel.

The staff stated that the ASME code requires replacement of the annulus moisture barrier because it is degraded. The applicant stated that the moisture barrier is inspected during outages; however, additional review is needed to respond to whether the ASME code requires replacement or repair of the moisture barrier if degraded. The staff stated that the grout in the sand pocket appears to be degraded. The applicant stated that degradation would be addressed by the applicant's Corrective Action Program, and that some degraded areas are planned for repairs during the spring 2012 outage.

The staff stated that the RAI response did not address degradation of the coating of the grout in the annulus. The applicant stated that additional review is needed to respond to that information.

Action: Hold a follow-up telephone conference call with the staff to discuss the ASME code requirements for the moisture barrier and the degradation of the coating of the grout in the annulus.

Response to RAI B.2.399 Refueling dated September 16, 2011

Discussion:

The staff questioned the volume of leakage and number of locations of the leakage from the refueling canal. The applicant stated that the specifics for volume and number of locations are not known, but estimated that, based on the size of boric acid deposits, the leakage from the canal could be about 10 gallons over the period during which the refueling canal is filled during a typical outage, and nowhere near the 1,000 gallons per day that was identified at another utility.

The staff stated that, in the response to RAI B.2.39-9, the applicant had not implemented any of the Sargent & Lundy report recommendations that had been made eight years ago. Additionally, the response states that the applicant claims they will stop the leakage by 2016, but provided no plans to achieve that result. The applicant stated that actions were performed to locate and quantify the leakage in the last outage and are being taken in the current mid-cycle outage. As an example the applicant pointed that the joints in the canal were coated with a specialty coating, and testing has been performed to attempt to locate leakage paths.

The staff asked whether the applicant plans to update the Sargent & Lundy report. The applicant stated that the report was a snapshot in time and would not be updated, but that it could document actions taken and quantify the leakage found using the Corrective Action Program.

The staff stated that the leakage needs to be quantified on the docket. Also, the staff needs more information regarding leakage reduction actions performed, and information regarding how the applicant knows that there is no current concern with the structural integrity of affected concrete in containment; the applicant needs to make the case on the docket. The applicant stated that additional information would be provided.

The staff stated that, based on the information and pictures contained in Condition Report 10-78984, the corrosion of the supports in the Incore Tunnel appears to be such that the actions taken for boric acid corrosion would not be sufficient to insure that the intended functions of the supports would be maintained throughout the period of extended operation. The applicant stated that the actions taken to address the boric acid corrosion are in accordance with the ongoing Davis-Besse Boric Acid Corrosion Control Program. The program requires that, during each outage, the components are cleaned and repaired as necessary, an as-left inspection is performed, and a comparison of corrosion effects is performed to make a determination as to whether the component can continue to perform its intended function.

Action: The applicant to provide the staff with information that quantifies the refueling canal leakage, the history of actions performed to identify and reduce the leakage, and the bases the conclusions that the structural integrity of the concrete is currently acceptable and will remain acceptable through the period of extended operation.

Draft RAI B.2.40-3

Previous to the conference call the staff provided to the applicant draft RAI B.2.40-3 as follows:

> **Background:**
>
> By letter dated August 17, 2011, the applicant responded to a staff RAI regarding operating experience with degradation of the north embankment of the safety-related portion of the intake canal. In its response the applicant committed to ensure that an investigation of the embankment degradation would be completed prior to the period of extended operation. The applicant further committed to evaluate the results and complete needed repairs or modifications of the embankment prior to the period of extended operation.
>
> **Issue:**
>
> Although the applicant committed to completing long-term evaluation plans, no information was provided about the plan, such as schedule, scope, or acceptance criteria.
>
> **Request:**
>
> Provide details about the embankment investigation. The response should include scheduling information, activities planned and completed to date, and probable corrective actions. The response should provide technical justification for the timeliness of the repairs, including an explanation why prior to the period of extended operation is an acceptable deadline for completing the repairs.

Discussion:

The NRC staff asked if there were more details available on the corrective actions for the intake canal embankment addressed in the applicant's response to RAI B.2.40-2. The applicant responded by describing related work in progress and the action plan for future corrective actions. The staff stated that a follow-up RAI will be sent to FENOC requesting that more detailed information be provided.

Action: The staff will issue RAI B.2.40-3.

SUBJECT: Summary of Telephone Conference Call conducted on October 5, 2011

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ENCLOSURE 2