



50-269/270/287

**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

December 14, 1999

LICENSEE: Duke Energy Corporation (Duke)

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

SUBJECT: SUMMARY OF MEETING BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) STAFF AND DUKE REPRESENTATIVES REGARDING OPEN ISSUES FOR THE OCONEE LICENSE RENEWAL APPLICATION (LRA)

On December 9, 1999, representatives of Duke met with the NRC staff at Rockville, Maryland, to discuss open issues that remain for the license renewal application (LRA) for Oconee Units 1, 2, and 3. A list of meeting attendees is provided in Enclosure 1. Enclosure 2 contains a copy of the handouts used by Duke during the meeting. Enclosure 3 contains a copy of the staff handouts.

The open issues that remain for the Oconee LRA were documented in a letter to Duke dated November 18, 1999. Prior to the meeting some of the issues had been resolved through discussions with the staff. The status of the issues contained in the November 18, 1999, letter can be found in the first portion of Enclosure 3. Only the issues that remained open at the time of the meeting were discussed during the meeting. The following is a brief synopsis of the discussion of the issues and the resolution path(s) that was identified during the meeting.

SER open item 2.1.3.1-1 (Scoping Issue)

Duke submitted its latest response to this issue in a November 30, 1999, letter. The staff stated that it believes that the November 30, 1999, letter resolves most of the issues associated with this open item. The staff stated that the one remaining issue was a concern regarding Duke's treatment of the loss of spent fuel pool event. Specifically, in Duke's response it states that "In the event of the loss of spent fuel pool cooling, only operator actions and non-specific sources of water to restore pool inventory are credited to restore the pool inventory, to keep the fuel covered and to preclude releases that would exceed Part 100 guideline values." The staff requested that Duke clarify what the "non-specific" sources of makeup water were to the spent fuel pool and identify whether or not any of these sources were considered to be within the scope of license renewal. Upon confirmation of the fuel pool sources of makeup water, the staff considers this item resolved.

SER open item 2.2.3-1 (Recirculated cooling water scoping)

Based on Duke's November 30, 1999, response to the scoping issue the staff considers this issue resolved.

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SER open item 3.0-1 (Content of final safety analysis report (FSAR) supplement)

The staff stated that it considered this item open because it did not have information on how Duke intended to address this issue. Duke stated that it was tracking the changes that were necessary to the original FSAR supplement that was contained in the license renewal application as Exhibit B. The changes were necessary because of responses to staff questions, changes in the application, or as a result of the staff's safety evaluation report dated June 16, 1999. Duke stated that it could provide a revised version of the FSAR supplement around the time the staff is scheduled to issue its final safety evaluation report (FSER). The staff is scheduled to issue the FSER February 12, 2000. Duke stated that it would update the FSAR supplement again after the FSER is issued to account for any changes required by the FSER.

The staff stated that it would work with Duke in establishing a schedule for the review independent of the schedule for issuance of the staff's FSER. Because the FSAR supplement does not have to be resolved prior to issuance of the staff's FSER the staff stated that it could close the issue without further information from Duke.

3.4.3.3-3, 3.4.3.3-5 and 3.4.3.3-6 (Frequency of reactor vessel internals aging management program inspections (RVI AMP) and renewal applicant action items for BAW-2248)

Duke's proposed response is contained in Enclosure 3. The staff stated that it did not believe that a one time inspection was sufficient. Rather the staff believes that the inspections should continue into the period of extended operation, consistent with the existing ASME Section XI Program. In addition, the staff stated that Duke needed to make a case for why one unit, instead of all three units, needed to be inspected. The staff stated that it would need more information regarding the basis for which unit would be inspected.

Duke stated that it would participate in the owner's group and industry programs as appropriate to continue investigating aging effects for RVI items (see slide 9 and 10 of Duke's presentation). The staff stated that it believed more than one inspection was necessary, and possibly at more than one unit. Duke stated that it would consider the staff's statements and provide a response to this issue. Until Duke provides more information the staff considers this item open.

Subsequent to the meeting, Duke (Bob Gill, and Greg Robison) and the staff (Barry Elliot and Joe Sebrosky) discussed this issue further during a phone call on December 14, 1999. During the phone call the staff amended its position from that discussed during the December 9, 1999, meeting. Specifically, the staff explained that it would consider one inspection of each unit during the extended period of operation to be sufficient to resolve the issue. Therefore, the inspections would not necessarily be tied to the ASME Section XI inspection interval. The staff also stated that it believed the inspections should be planned during the period of extended operation, such that an inspection would occur during the early, middle, and later parts of the period of extended operation. The staff also stated that the inspection that occurred late in the period of extended operation should be done prior to year 60 so that the results would be useful.

Regarding renewal applicant action items for BAW-2248. The staff requested that Duke confirm all the appropriate renewal applicant action items were included in the regulatory basis for the Reactor Vessel Internals - Inspection of Non-Cast Austenitic Stainless Steel RVI items. Duke

agreed to address the issue and inform the staff of the results. Until Duke provides this information the staff considers this item open.

3.6.1.3.1-1 (Aging effects of HVAC sub components)

Duke's latest proposed response is contained in Enclosure 3. The staff stated that it was concerned about the integrity of fan supports (mounts) for the auxiliary building ventilation system due to potential aging related degradation of the mounting material and requested that Duke provide more information about the material used for the vibration isolators of the fan supports to reduce the dynamic forces. The staff and Duke discussed three options to resolve this issue. The 3 options are: (1) confirm the material for the vibration isolators of the fan mounts is good for 60 years (therefore, it would require no aging management program), (2) provide an aging management program for the mounts, or (3) provide justification that failure of the mounts would not cause failure of the intended function. Duke stated that degradation of these supports would be readily detected by personnel in the area at the continually operation fans, but agreed to consider the options and provide the information to resolve the issue. Until Duke provides more information the staff considers this item open.

3.9.3-1 (Insulated Cables)

Duke's latest response is contained in Enclosure 3. The staff stated that there were 4 areas associated with this issue and it considered 3 out of the 4 areas resolved based on Duke's proposed response. Specifically, the staff considered the issues involving the scope of the cable inspection program, acceptance criteria for visual inspections, and periodic service monitoring of service environment resolved based on Duke's proposed response. These items are staff comments 1, 2, and 4 in Duke's proposed response.

The staff stated that it believes that there are electrical methods currently available to detect aging degradation prior to loss of function. The staff was concerned about degradation of cable that was not visually accessible (e.g., underground cabling and cable in conduit). The staff stated that it would need more information on how Duke intends to manage the aging for this cabling. Duke stated that they do not believe that electrical methods are sufficiently reliable; however, they could revise their response to include a discussion about the following: technical specification surveillance testing that are done on some of the inaccessible cabling, a discussion about how the visual inspection of accessible cables can provide information to infer the condition of inaccessible cables, and the testing that would be done on inaccessible cabling if it were removed.

Subsequent to the meeting, Duke (Paul Colaianni) and the staff (Paul Shemanski) had discussions regarding the environment for inaccessible cables and testing that would be done if inaccessible cable were removed. Duke stated that in response to this item it could provide a discussion of a program to monitor moisture and water accumulation in conduit and trenches, and a discussion about Duke's participation in industry efforts regarding condition monitoring techniques for electrical cable.

Until Duke provides more information to address the staff's concerns about the aging management for inaccessible cables the staff considers this item open.

Duke SER Comment # 1 (Clarify Basis for Program Evaluation conclusions) and # 8 (Revise the SER description regarding scoping)

The staff stated that it did not believe that its SER needed to be changed as a result of Duke's comment number 1. The staff did not intend to change the SER as a result of Duke's comment number 8. Duke stated that it believed that additional detail needed to be contained in the staff's SER for future reference. Duke suggested that some of the information that is contained in the November 30, 1999, letter could be discussed in the SER to aid future staff members. The staff stated it would consider Duke's comment.

Because no further information is required from Duke to address these issues the staff considers these items resolved.

Duke SER comment #4 (Clarify Admin controls for Preventative Maintenance)

The staff stated it was concerned about how commitments relative to administrative controls will be captured associated with license renewal and how corrective actions and confirmatory process elements of aging management preventative maintenance (PM) activities will be captured in Duke's Problem Investigation Process (PIP). Regarding administrative controls related to these PM activities, Duke stated that they will not be implemented under Appendix B. However, in its response to this issue Duke will describe how the administrative controls will be captured in the FSAR supplement. This description will be consistent with the descriptions contained in the aging management programs provided in its license renewal application and various RAI responses. Duke stated that it will provide a roadmap of the RAI response and a general discussion regarding this issue to address the staff's concern. Therefore, until Duke provides this information the staff considers this portion of the item open.

Regarding prioritization of the PIP process, Duke stated that it did not believe this was an issue for the staff's SER. The staff stated that if Duke provided the information above regarding the FSAR it would not need any further information regarding the prioritization of aging management PM activities under the PIP process. Therefore, the staff considers this portion of the issue resolved.

Conclusion

Enclosure 4 contains an update to the open issues as a result of the meeting. At the end of the meeting the staff mentioned that it was pursuing an issue related to the insulation for the chemical and volume control system for the Calvert Cliffs license renewal application. Depending on the outcome of the issue for Calvert Cliffs the staff noted that there is a potential that Duke maybe asked a question regarding this issue. The staff will inform Duke as soon as possible if additional information is required.

Because no further information is required from Duke to address these issues the staff considers these items resolved.

Duke SER comment #4 (Clarify Admin controls for Preventative Maintenance)

The staff stated it was concerned about how commitments relative to administrative controls will be captured associated with license renewal and how corrective actions and confirmatory process elements of aging management preventative maintenance (PM) activities will be captured in Duke's Problem Investigation Process (PIP). Regarding administrative controls related to these PM activities, Duke stated that they will not be implemented under Appendix B. However, in its response to this issue Duke will describe how the administrative controls will be captured in the FSAR supplement. This description will be consistent with the descriptions contained in the aging management programs provided in its license renewal application and various RAI responses. Duke stated that it will provide a roadmap of the RAI response and a general discussion regarding this issue to address the staff's concern. Therefore, until Duke provides this information the staff considers this portion of the item open.

Regarding prioritization of the PIP process, Duke stated that it did not believe this was an issue for the staff's SER. The staff stated that if Duke provided the information above regarding the FSAR it would not need any further information regarding the prioritization of aging management PM activities under the PIP process. Therefore, the staff considers this portion of the issue resolved.

Conclusion

Enclosure 4 contains an update to the open issues as a result of the meeting. At the end of the meeting the staff mentioned that it was pursuing an issue related to the insulation for the chemical and volume control system for the Calvert Cliffs license renewal application. Depending on the outcome of the issue for Calvert Cliffs the staff noted that there is a potential that Duke maybe asked a question regarding this issue. The staff will inform Duke as soon as possible if additional information is required.

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

Joseph M. Sebrosky, Project Manager
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Docket Nos. 50-269, 50-270, and 50-287

Enclosures: As stated (4)

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December 14, 1999

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

Original Signed By

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Attendance List
NRR MEETING WITH DUKE ENERGY CORPORATION TO DISCUSS THE RESOLUTION
OF SAFETY EVALUATION REPORT OPEN ISSUES
December 9, 1999

NAME	ORGANIZATION
1. Joe Sebrosky	NRC/NRR/DRIP/RLSB
2. Mike Tuckman	Duke Energy Corporation (Duke)
3. Greg Robison	Duke
4. Mark Wetterhahn	Winston & Strawn
5. Robert Gill	Duke
6. Mark Rinckel	Framatone
7. Michael Semmler	Duke
8. Rounette Nader	Duke
9. Paul Colaianni	Duke
10. Jack Strosnider	NRC/NRR/DE
11. David Matthews	NRC/NRR/DRIP
12. Chris Grimes	NRC/NRR/DRIP/RLSB
13. Thomas Cheng	NRC/NRR/DE/EMEB
14. Tanya Eaton	NRC/NRR/DSSA/SPLB
15. Lynn Connor	DSA
16. Bob Prato	NRC/NRR/DRIP/RLSB
17. Paul Shemanski	NRC/NRR/DE/EEIB
18. Jit Vora	NRC/RES/DET/MEB
19. R. M. Latta	NRC/NRR/DIPM/IQMB
20. Chris Gratton	NRC/NRR/DSSA/SPLB
21. Hai-Boh Wang	NRC/NRR/DRIP/RLSB
22. Stephen Koenick	NRC/NRR/DRIP/RLSB
23. Barry Elliot	NRC/NRR/DE/EMCB
24. Bob Weisman	NRC/OGC
25. Stephanie Coffin	NRC/NRR/DE/EMCB
26. Melvin Frank	SCIENTECH/NUIS
27. William Burton	NRC/NRR/DRIP/RLSB

Status of Oconee Items Contained in 11/18/99 letter to Duke

December 9, 1999

Open Item Number	Description	History	Current Status
2.1.3.1-1	Scoping issue	Duke proposed response provided 6/22. Site visit 8/16-8/19. Staff issued resolution plan 10/8/99. Meeting held 10/28. Duke provided response IAW meeting presentation on 12/1. Discussed at 12/9 meeting	Open Action D
2.2.3-1	Recirculated cooling water system should be within scope	Duke proposed response provided during site visit 8/16-8/19. Staff issued resolution plan 10/8/99. Meeting held 10/28. Duke provided response IAW meeting presentation on 12/1. Resolved aa	Resolved 12/9/99
3.0-1	Content of FSAR Supplement	Duke provided SER OI response 10/15/99. Proposed response 11/30	Resolved 12/9/99
3.1.1-1/ AMR associated with 9/30/99 letter	Aging effect inconsistencies in the license renewal application	Duke provided SER OI response 10/15/99. Supplemental questions asked 11/4/99. Response 11/8/99. Additional questions sent 11/17/99. Staff to inform Duke of additional questions by 12/3. 11/29, staff has no additional questions regarding AMR from 9/30/99 letter. No followon questions for 3.1.1-1 (11/30) Duke provided a proposed response 11/30.	Confirm Action D 12/1/99
3.4.3.3-3	Identify limiting Reactor Vessel Internals component items and incorporate into the ISI program	Duke provided proposed response at 7/19 meeting. Meeting on 9/29. Duke provided SER OI response 10/15/99. 11/18 letter identifies inspection frequency concern. Note: 3.4.3.3-3, 3.4.3.3-4, and 3.4.3.3-5 are grouped as one issue in the 11/18 letter. Duke provided proposed response 11/30. Discussed at 12/9 meeting	Open - Action D
3.4.3.3-4	Baffle former bolts inspection (Reactor Vessel Internals)	Duke provided proposed response at 7/19 meeting. Meeting on 9/29. Duke provided SER OI response 10/15/99. 11/18 letter identifies inspection frequency concern	see 3.4.3.3-3 for status

Status of Oconee Items Contained in 11/18/99 letter to Duke

December 9, 1999

Open Item Number	Description	History	Current Status
3.4.3.3-5	For loss of fracture toughness from synergistic thermal and neutron embrittlement, perform supplemental examinations/evaluations of CASS items (Reactor Vessel Internals)	Duke provided proposed response at 7/19 meeting. Meeting 8/24. Meeting 9/29. Duke provided SER OI response 10/15/99. 11/18 letter identifies inspection frequency concern	see 3.4.3.3-3 for status
3.4.3.3-9	Reactor Vessel monitoring pipes (not part of original SER added to track B&WOG issue)	Issue added to track 10/27/99 letter to the B&WOG regarding BAW-2251. Duke provided proposed response 11/5/99. Duke and B&WOG to determine how to respond to the letter. Question sent to Duke 11/9/99. Duke verbal response 11/9. Revised questions based on phone call held 11/10. 11/18 letter captures issue. Duke provided proposed response 11/29. B&WOG response 11/19. Phone call held 12/1 resolution path identified. Duke provided proposed response 12/2. Response acceptable	Confirm - Action D 12/3/99
3.6.1.3.1-1	Aging effects of HVAC sub-component parts of isolators	Duke provided SER OI response 10/15/99. Phone call 10/27 to discuss aux building ventilation. Options discussed were revisit scoping, provide AMP for elastomers, provide more rigorous analysis for why failure of the elastomers would not fail the intended function of smoke removal, or consider the elastomers a consumable. 11/18 letter captures issue. Duke requested clarification 11/23. Clarification provided 11/30. Duke provided proposed response 12/1. Staff question 12/6/99. Discussed at 12/9 meeting	Open - Action D
3.9.3-1	Insulated cables and connections (not part of original SER added due to inspection findings)	identified in 9/21/99 inspection report. Staff issued letter dated 10/8/99 to address issue added new SER OI. Duke provided proposed response 11/5/99. Question sent to Duke 11/9/99. Phone call held 11/10, decided that this issue is a management item. 11/18 letter captures issue. Duke proposed response 12/8	Open - Action D
Duke SER comment #1	Clarify Basis for Program Evaluation Conclusions	Duke comment from 10/15/99 letter. Note: Comment #1 and 8 are grouped as one issue in the 11/18 letter.	Resolved 12/9/99

Status of Oconee Items Contained in 11/18/99 letter to Duke

December 9, 1999

Open Item Number	Description	History	Current Status
Duke SER comment #3	Discuss leak-before-break evaluation in SER section 4.2	Duke comment from 10/15/99 letter Item included in 11/18/99 letter to Duke. 11/22/99 telecon to discuss response. Tentative agreement on proposed response to be included in Duke response to letter. No additional information is required from Duke	Confirm - Action D 11/30/99
Duke SER comment #4	Clarify admin Controls for Preventive Maintenance	Duke comment from 10/15/99 letter. 11/18 letter discusses staff's concern	Open - Action D
Duke SER comment #8	Revise the Description of the "Technical Information for Identifying SSCs within scope of License Renewal"	Duke comment from 10/15/99 letter	see comment #1 for status
LRA 9/30/99 update to revise steam generator tube rupture accident analysis	Two heat exchangers (Quench tank HX and the letdown coolers) do not have an AMR associated with them	9/30/99 Duke letter added portions of the component cooling water system (CCW) to the scope of renewal. requested drawings. Duke provided drawing 10/28. Staff question 11/3. Response 11/8. Staff question 11/9. Duke revised 1 out of 2 response. Questions docketed 11/18/99. Duke provided proposed response 11/29. Staff question 12/1/99. Duke response of 12/2 found to be acceptable by the staff. Staff continuing review of new AMP. Additional question asked 12/3/99, Duke response 12/6/99.	Confirm - Action D 12/8/99
Renewal applicant action items for BAW-2248	Need to address renewal applicant action items #4 and #8 from the 10/27 letter for BAW-2248. Issues deal with reports, and management of stress relaxation for bolted enclosures, respectively.	Letter sent to Duke on 10/27 containing the 12 proposed renewal applicant action items. 10 of the 12 renewal applicant actions items were previously addressed by Duke. 11/18 letter to Duke identifies 2 renewal applicant action items that have not been addressed by Duke. Duke provided proposed response 11/30. Renewal applicant action item 4 resolved 12/1/99. Duke to review applicant action #8. Duke revised response 12/7/99.	Open - Action D

Status of Oconee Items Contained in 11/18/99 letter to Duke

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Open Item Number	Description	History	Current Status
2.2.3.6.1.2.1-1 and 4.2.2.3-1	Issues involve structural sealants and trend lines for containment tendons	Prior to 11/18 the staff and Duke agreed to revisions to Duke's 10/15/99 letter for these open items that would resolve the staff's concerns. Because Duke still needs to formally submit the response these items were identified as confirmatory items in the 11/18 letter to Duke.	Confirm - Action D



Oconee License Renewal Project



Open and Confirmatory Items Related to the Review of the Oconee License Renewal Application

December 9, 1999



Agenda

- Meeting Purpose
- Review of Issues
- Duke Final Response Schedule

December 9, 1999

Oconee License Renewal Project

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Enclosure 2



Meeting Purpose

- To review the 14 open and confirmatory issues related to the Oconee License Renewal Application identified in the NRC Staff's November 18, 1999 letter

December 9, 1999

Oconee License Renewal Project

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SER Open & Confirmatory Topics

1. Open Item 2.1.3.1-1 (Scoping)
2. Open Item 2.2.3-1 (Scoping)
3. Open Item 3.0-1 (UFSAR Supplement)
4. Open Items 3.4.3.3-3, -4, and -5 (Reactor Vessel Internals)
5. Open Item 3.4.3.3-9 (RV Monitoring Lines)
6. Open Item 3.6.1.3.1-1 (Auxiliary Building HVAC)
7. Open Item 3.9.3-1 (Cable Aging Program)

Bold indicates confirmatory issue - issue resolved pending formal submittal of response

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Oconee License Renewal Project

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SER Open & Confirmatory Topics *(continued)*

- 8. Duke 10/15/99 SER Comment 3 (Leak Before Break)**
- 9. Duke 10/15/99 SER Comments 1 & 8 (Suggested SER Clarifications)**
- 10. Duke 10/15/99 SER Comment 4 (PM Activity Administrative Controls)**
- 11. Duke 9/30/99 Annual Update (Heat Exchanger AMR)**
- 12. Open Item 3.1.1-1 (Keowee Turbine Guide Bearing Oil Cooler)**
- 13. BAW-2248 Renewal Applicant Action Items (Reactor Internals)**
- 14. Confirmatory Items (Structural)**

Bold indicates confirmatory issue - Issue resolved pending formal submittal of response

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Oconee License Renewal Project

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- 1. Open Item 2.1.3.1-1 (Scoping)**
- 2. Open Item 2.2.3-1 (Scoping)**

- At issue is the scoping process that Duke used to comply with the requirements of 10 CFR 54.4
- NRC issued a proposed resolution plan for this item on October 8, 1999
- Duke/NRC meeting held on October 28, 1999
- Duke performed an assessment based on the requests in the NRC resolution plan and submitted the results of its assessment on November 30, 1999

December 9, 1999

Oconee License Renewal Project

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1. *Open Item 2.1.3.1-1 (Scoping)*
 2. *Open Item 2.2.3-1 (Scoping)*
- (continued)

■ **Conclusion from the Duke Assessment:**

"Duke believes that these results provide a validation that the NRC Staff can rely upon in making the finding that there is reasonable assurance that the Oconee License Renewal Scoping Methodology described in the Application, in various RAI and SER Open Item responses (specifically in the Duke response to SER Open Item 2.1.3.1-1 provided in the Duke letter dated June 22, 1999) has identified all systems, structures and components relied upon to remain functional to ensure the functions identified in 10 CFR §54.4."

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Oconee License Renewal Project

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2. *Open Item 3.0-1
(UFSAR Supplement)*

- Duke is in the process of updating the initial UFSAR Supplement (Application Exhibit B)
- Duke will review the SER when issued to identify any additional changes that may be appropriate
- Duke will submit an updated version of the UFSAR Supplement by TBD
- Duke understands that the staff will provide the updated UFSAR Supplement to the Commission for their information

December 9, 1999

Oconee License Renewal Project

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4. Open Items 3.4.3.3-3, -4 and -5 (Reactor Vessel Internals)

- **The Oconee Reactor Vessel Internals Aging Management Program consists of commitments to:**
 - ◆ Participate in owners' group and industry programs as appropriate to continue investigating aging effects for reactor vessel internals items
 - ◆ Perform analyses to determine inspection parameters such as critical flaw sizes and required number of bolts
 - ◆ Perform inspections of baffle bolts, cast austenitic stainless steel reactor vessel internals items, and other reactor vessel internals items by year 40
 - ◆ Report the results of the above and to determine the extent to which additional periodic inspections are warranted

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4. Open Items 3.4.3.3-3, -4 and -5 (Reactor Vessel Internals) (continued)

- **At issue is the need to commit to periodic inspections prior to more fully characterizing the aging effects of concern and how best to manage them:**
 - ◆ The staff position is that Duke should commit to periodic inspections during the period of extended operation (years 40 to 60)
 - ◆ The Duke position is that any decisions on further periodic inspections should be made after the industry activities and the initial Oconee reactor vessel internals inspections are complete

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Oconee License Renewal Project

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5. Open Item 3.4.3.3-9 (Reactor Vessel Monitoring Lines)

- The reactor vessel monitoring lines include the reactor vessel drain line and the pressure test port line
- These lines are in scope and have been subjected to aging management review
- The staff is concerned that these lines could crack and leak due to contaminants within the lines
- These lines are connected to 1/2 inch drilled holes within the upper shell assembly of the reactor vessel
- Because of the small diameter of the hole, the consequences of failure of the monitoring lines are minimized
- This is a confirmatory item awaiting formal submittal of the Duke response

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6. Open Item 3.6.1.3.1-1 (Auxiliary Building HVAC)

- The issue concerns the aging effects of neoprene-impregnated woven fiberglass vibration isolators in the Auxiliary Building Ventilation System
- NRC provided 4 options to resolve the issue
- Duke provided a response to each option and provided a fifth option, an aging effects evaluation of the neoprene-impregnated woven fiberglass
- Duke concluded that there are no applicable aging effects for the subcomponent parts of the vibration isolators made of neoprene-impregnated woven fiberglass that could fail the system intended function and no aging management program is required

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7. Open Item 3.9.3-1 (Cable Aging Program)

- Program was proposed by Duke and the NRC staff provided comments
- Duke agreed with most of the language proposed in the NRC staff comments and incorporated all comments into a revision of the aging management program except:
 - ◆ Electrical measurements for detecting aging degradation
 - ◆ Periodic monitoring of service environments

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8. Duke 10/15/99 SER Comment 3 (Leak Before Break)

- Leak before break was identified by Duke as a time-limited aging analysis and an evaluation was provided in February 1999
- Five questions were provided in the staff letter dated November 18, 1999
- These questions have been answered and the issue will be managed by the Oconee Thermal Fatigue Management Program
- This is a confirmatory item awaiting formal submittal of the Duke response

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9. Duke 10/15/99 SER Comments 1 & 8 (Suggested SER Clarifications)

- The NRC did not request further information for these items, but suggested the need to discuss at this meeting
 - ◆ Comment #1 - Clarify Basis for Program Evaluation Conclusions
 - Background - Duke and the NRC have used somewhat different program attributes. The link between the two sets of attributes is not so apparent. Confusion may occur for future Duke program changes.
 - ◆ Comment #8 - Revise the Description of the "Technical Information for Identifying Systems, Structures, and Components within the Scope of License Renewal"
 - Background - Since the SER was published in June, a more concise description of the 7 features of Oconee license renewal scoping have been provided to the staff that can revise previous SER description

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10. Duke 10/15/99 SER Comment 4 (PM Activity Administrative Controls)

- Comment #4 - Clarify Administrative Controls for Preventive Maintenance Activities
 - ◆ Descriptions of the Preventive Maintenance Activities (PMA) are being added to the UFSAR Supplement
 - ◆ SER needs to be revised to reflect PMA administrative controls as described in Duke letter dated 12/14/98
 - ◆ Additionally, Duke understands the staff concerns raised in NRC Inspection Report 99-12 about the corrective action prioritization process for license-renewal related SSCs and plans to address this issue as part of the project turnover process

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11. Duke 9/30/99 Annual Update (Heat Exchanger AMR)

- The NRC noted that the Letdown Cooler shells and Quench Tank Coolers were not included in the Component Cooling System AMR in the annual update
- Upon review, Duke determined that the Letdown Cooler shells and the Quench Tank Coolers had been inadvertently overlooked for an AMR and an AMR was performed
- Duke concluded in the AMR that the applicable aging effects will be managed by programs already credited for license renewal

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12. Open Item 3.1.1-1 (Keowee Turbine Guide Bearing Oil Cooler)

- The NRC noted an inconsistency between the Application and the response to Open Item 3.1.1-1 concerning the Keowee Turbine Guide Bearing Oil Coolers
- The Application notes that heat transfer and pressure boundary are intended function of these coolers
- The response to Open Item 3.1.1-1 correctly notes that heat transfer is not an intended function, only pressure boundary
- Upon further review, Duke concluded that heat transfer is not a license renewal intended function of the Keowee Turbine Guide Bearing Oil Coolers
- This is a confirmatory item awaiting formal submittal of the Duke response

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13. BAW-2248 Renewal Applicant Action Items (Reactor Internals)

- **Renewal Applicant Action Item #4**
 - ◆ Duke has provided a commitment to participate in the B&WOG Reactor Vessel Internals Aging Management Program and other industry programs as appropriate

- **Renewal Applicant Action Item #8**
 - ◆ Duke has revised the Oconee Reactor Vessel Internals Aging Management Program inspections to include management of stress relaxation for bolted closures of the reactor vessel internals

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Confirmatory Items (Structural)

- **Duke and Staff have reached agreement on revisions to two SER OI's:**
 - ◆ Revised response to Open Item 2.2.3.6.1.2.1-1 clarifies aging management of caulking, sealants, and waterstops
 - ◆ Revised response to Open Item 4.2.2.3-1 provides additional information on the management of the post-tensioning system loss of prestress

- **This is a confirmatory item awaiting formal submittal of the Duke response**

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Duke Final Response Schedule

- Current plans are to formally submit all of the responses to the items identified in the November 18, 1999 staff letter by December 17, 1999

- The updated version of the UFSAR Supplement will be provided to the staff after the SER is issued and prior to [date TBD]

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NRC Staff Background Material for December 9, 1999, Meeting with Duke Energy Corporation

Contents:

- 11/18/99 Open Issue Status Table**
- 11/18/99 Open Issue Letter to Duke**
- Duke's 11/30/99 Response to the Scoping Issue**
- Duke's SER Comments from 10/15/99 submittal**
- Duke's Proposed Reactor Vessel Internals Aging Management Program**
- Duke's Proposed Electrical Cabling Response**
- Duke's Proposed Response for HVAC Issue**

Status of Oconee Items Contained in 11/18/99 letter to Duke

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Open Item Number	Description	History	Current Status
2.1.3.1-1	Scoping issue	Duke proposed response provided 6/22. Site visit 8/16-8/19. Staff issued resolution plan 10/8/99. Meeting held 10/28. Duke provided response IAW meeting presentation on 12/1	Open Action N
2.2.3-1	Recirculated cooling water system should be within scope	Duke proposed response provided during site visit 8/16-8/19. Staff issued resolution plan 10/8/99. Meeting held 10/28. Duke provided response IAW meeting presentation on 12/1	Open Action N
3.0-1	Content of FSAR Supplement	Duke provided SER OI response 10/15/99. Proposed response 11/30	Open - Action N/D
3.1.1-1/ AMR associated with 9/30/99 letter	Aging effect inconsistencies in the license renewal application	Duke provided SER OI response 10/15/99. Supplemental questions asked 11/4/99. Response 11/8/99. Additional questions sent 11/17/99. Staff to inform Duke of additional questions by 12/3. 11/29, staff has no additional questions regarding AMR from 9/30/99 letter. No followon questions for 3.1.1-1 (11/30) Duke provided a proposed response 11/30.	Confirm Action D 12/1/99
3.4.3.3-3	Identify limiting Reactor Vessel Internals component items and incorporate into the ISI program	Duke provided proposed response at 7/19 meeting. Meeting on 9/29. Duke provided SER OI response 10/15/99. 11/18 letter identifies inspection frequency concern. Note: 3.4.3.3-3, 3.4.3.3-4, and 3.4.3.3-5 are grouped as one issue in the 11/18 letter. Duke provided proposed response 11/30	Open - Action N
3.4.3.3-4	Baffle former bolts inspection (Reactor Vessel Internals)	Duke provided proposed response at 7/19 meeting. Meeting on 9/29. Duke provided SER OI response 10/15/99. 11/18 letter identifies inspection frequency concern	see 3.4.3.3-3 for status

Status of Oconee Items Contained in 11/18/99 letter to Duke

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Open Item Number	Description	History	Current Status
3.4.3.3-5	For loss of fracture toughness from synergistic thermal and neutron embrittlement, perform supplemental examinations/evaluations of CASS items (Reactor Vessel Internals)	Duke provided proposed response at 7/19 meeting. Meeting 8/24. Meeting 9/29. Duke provided SER OI response 10/15/99. 11/18 letter identifies inspection frequency concern	see 3.4.3.3-3 for status
3.4.3.3-9	Reactor Vessel monitoring pipes (not part of original SER added to track B&WOG issue)	Issue added to track 10/27/99 letter to the B&WOG regarding BAW-2251. Duke provided proposed response 11/5/99. Duke and B&WOG to determine how to respond to the letter. Question sent to Duke 11/9/99. Duke verbal response 11/9. Revised questions based on phone call held 11/10. 11/18 letter captures issue. Duke provided proposed response 11/29. B&WOG response 11/19. Phone call held 12/1 resolution path identified. Duke provided proposed response 12/2. Response acceptable	Confirm - Action D 12/3/99
3.6.1.3.1-1	Aging effects of HVAC sub-component parts of isolators	Duke provided SER OI response 10/15/99. Phone call 10/27 to discuss aux building ventilation. Options discussed were revisit scoping, provide AMP for elastomers, provide more rigorous analysis for why failure of the elastomers would not fail the intended function of smoke removal, or consider the elastomers a consumable. 11/18 letter captures issue. Duke requested clarification 11/23. Clarification provided 11/30. Duke provided proposed response 12/1. Staff question 12/6/99	Open - Action N/D
3.9.3-1	Insulated cables and connections (not part of original SER added due to inspection findings)	identified in 9/21/99 inspection report. Staff issued letter dated 10/8/99 to address issue added new SER OI. Duke provided proposed response 11/5/99. Question sent to Duke 11/9/99. Phone call held 11/10, decided that this issue is a management item. 11/18 letter captures issue. Duke proposed response 12/8	Open - Action N/D

Status of Oconee Items Contained in 11/18/99 letter to Duke

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Open Item Number	Description	History	Current Status
Duke SER comment #1	Clarify Basis for Program Evaluation Conclusions	Duke comment from 10/15/99 letter. Note: Comment #1 and 8 are grouped as one issue in the 11/18 letter.	Open - Action N/D
Duke SER comment #3	Discuss leak-before-break evaluation in SER section 4.2	Duke comment from 10/15/99 letter Item included in 11/18/99 letter to Duke. 11/22/99 telecon to discuss response. Tentative agreement on proposed response to be included in Duke response to letter. No additional information is required from Duke	Confirm - Action D 11/30/99
Duke SER comment #4	Clarify admin Controls for Preventive Maintenance	Duke comment from 10/15/99 letter. 11/18 letter discusses staff's concern	Open - Action N/D
Duke SER comment #8	Revise the Description of the "Technical Information for Identifying SSCs within scope of License Renewal"	Duke comment from 10/15/99 letter	see comment #1 for status
LRA 9/30/99 update to revise steam generator tube rupture accident analysis	Two heat exchangers (Quench tank HX and the letdown coolers) do not have an AMR associated with them	9/30/99 Duke letter added portions of the component cooling water system (CCW) to the scope of renewal. requested drawings. Duke provided drawing 10/28. Staff question 11/3. Response 11/8. Staff question 11/9. Duke revised 1 out of 2 response. Questions docketed 11/18/99. Duke provided proposed response 11/29. Staff question 12/1/99. Duke response of 12/2 found to be acceptable by the staff. Staff continuing review of new AMP. Additional question asked 12/3/99, Duke response 12/6/99.	Confirm - Action D 12/8/99

Status of Oconee Items Contained in 11/18/99 letter to Duke

December 9, 1999

Open Item Number	Description	History	Current Status
Renewal applicant action items for BAW-2248	Need to address renewal applicant action items #4 and #8 from the 10/27 letter for BAW-2248. Issues deal with reports, and management of stress relaxation for bolted enclosures, respectively.	Letter sent to Duke on 10/27 containing the 12 proposed renewal applicant action items. 10 of the 12 renewal applicant actions items were previously addressed by Duke. 11/18 letter to Duke identifies 2 renewal applicant action items that have not been addressed by Duke. Duke provided proposed response 11/30. Renewal applicant action item 4 resolved 12/1/99. Duke to review applicant action #8. Duke revised response 12/7/99.	Open - Action N
2.2.3.6.1.2.1-1 and 4.2.2.3-1	Issues involve structural sealants and trend lines for containment tendons	Prior to 11/18 the staff and Duke agreed to revisions to Duke's 10/15/99 letter for these open items that would resolve the staff's concerns. Because Duke still needs to formally submit the response these items were identified as confirmatory items in the 11/18 letter to Duke.	Confirm - Action D