

50-269670/287



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

September 3, 1997

Mr. William R. McCollum, Jr.
Vice President, Oconee Site
Duke Power Company
P. O. Box 1439
Seneca, South Carolina 27679

SUBJECT: LICENSE RENEWAL MECHANICAL COMPONENT EXAMPLE REVIEW FOR OCONEE
NUCLEAR STATIONS, UNITS 1, 2, AND 3 (TAC NOS. M99092, M99093,
M99094, AND M99143)

Dear Mr. McCollum:

By letter dated August 4, 1997, Duke Power Company (Duke) submitted a mechanical component example and requested staff feedback regarding the format, content, and level of detail provided. A similar review was requested of the "Aging Management Process Overview" that was also submitted by the letter. These submittals were subsequently discussed at an August 14, 1997, meeting between the staff and Duke representatives. The results of the staff's review are contained in the enclosure.

The staff's review focused on the format and content to determine if a complete submittal, following the form of the example, would contain sufficient information for the staff to begin its technical review. A comprehensive review to determine the completeness or technical adequacy of the examples was not performed based on the type of feedback requested by Duke and the schedule for completing the review. However, during its review the staff identified a number of technical questions that are included in the Enclosure. These questions are being provided to illustrate the type of information and level of detail expected in future submittals to help minimize the number of staff questions needed when a review of the complete submittals is performed.

Subject to the comments in the Enclosure, the staff believes that the example provides the type of information that if provided for the complete submittal,

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should result in a submittal with format and content sufficient for the staff to begin a technical review.

Sincerely,

Original signed by:

Stephen T. Hoffman, Sr. Project Manager
License Renewal Project Directorate
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

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

Enclosure: As stated

cc w/encl: See next page
R. L. Gill, Duke

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W. McCollum

-2-

should result in a submittal with format and content sufficient for the staff to begin a technical review.

Sincerely,



Stephen T. Hoffman, Sr. Project Manager
License Renewal Project Directorate
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

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

Enclosure: As stated

cc w/encl: See next page
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NRC STAFF COMMENTS ON OCONEE
MECHANICAL COMPONENTS EXAMPLE

Following are NRC staff comments on the Duke example provided for mechanical components, Sections 2.5 and 3.5, and the aging management process overview, Section 3.2, of the Oconee License Renewal Technical Information Topical Report, OLRP-1001, as requested in Duke's letter dated August 4, 1997. Although the staff did not perform a technical review, a number of technical questions were identified during its assessment of the examples and are included for consideration.

Mechanical Components Example

Section 2.5

1. The description provided in Section 2.5 was provided in a format such that the staff would be able to begin its review if submitted in an application with a few minor exceptions. Process does not appear to be entirely clear. The reference to environment is noted as a grouping criteria in both the second and fourth steps. When is environment used? Statements that components are grouped and those subject to aging management review are identified needs further clarification. A brief synopsis of the applicable guidance provided in NEI 95-10, Section 4.1, may better clarify the Duke method of determining the evaluation boundary. Without the benefit of Section 2.2 the staff could not assess the adequacy of this process.
2. Clarification of why only the pressure boundary portion of filters is included in Table 2.5-2 is necessary. Does a filter have an intended function for license renewal that must be maintained besides pressure boundary?

Section 3.5

1. Section 3.5.3.1 does not contain a sufficient physical description of the system. Better descriptions of the pumps, valves, filters, strainers, etc. would assist the staff in performing its review. The specific FSAR section should be referenced, when applicable.
2. The marked-up Oconee flow diagram from the July 17, 1997, meeting is not clear as to whether it describes the ASME Section III, Class 3, boundary or the license renewal evaluation boundary. Are they the same? Section 3.5.3.1 is not specific regarding which portion of the system is within the scope of renewal and subject to aging management review.
3. Section 3.5.3.1 states that non-safety related piping is not within the scope of renewal. However, the rule requires non-safety related components to be evaluated in accordance with the requirements of 10 CFR 54.4(a)(2) and (3). A description should be provided on how and if the system supports non-safety related functions which are within the scope of renewal.

Enclosure

4. Section 3.5.3.2.1.1 indicates only internal corrosion as an applicable aging effect. Highly visible aging effects that have been evaluated and found not applicable for Oconee should be discussed to facilitate the staff's review. For example, cracking is, in general, a potential aging effect for metal components.
5. Consistency should be maintained between aging effects discussions. For example, Section 3.5.3.2.1.2 states that loss of material is due to corrosion whereas Section 3.5.3.2.1.1 states material loss is due to water or bacteria. This raises the question as to how water or bacteria result in loss of material? Additionally, Section 3.5.3.2.1.2 links the aging effect to the component function. Section 3.5.3.2.1.1 should also include a statement to the same effect.
9. Section 3.5.8.2 discusses ASME Section XI by relying on the 10 CFR 50.55a process for updating the applicable Code edition. Without a specific Code edition cited in the application, there is a lack of specific information for the staff to review. Duke should at a minimum commit to 1989 version of the ASME Code. The staff could not make any conclusions whether programs for license renewal would be adequate to manage specific aging effects on specific components. The application should state which code edition will be relied on for renewal.
10. Section 3.5.8.2.1 describes the ASME Section XI inservice inspection program that is to be relied on for renewal. It should also state the specific applicable Section XI examination category(ies).
11. A brief discussion and basis should be provided as to why the programs cited in this section such as routine operation of the diesels and routine pressure and hydrostatic testing are capable of maintaining the current licensing basis?
13. Are there specific acceptance criteria other than "inspected for evidence," that would clarify the point at which corrective actions for the tank inspections would be necessary? What level of qualifications for the personnel performing the visual inspections would be required for this program?
14. Section 3.5.10 discusses fatigue of Class 2 and 3 components. The last paragraph contains the evaluation of these components as a TLAA. That paragraph is a brief summary of the conclusion and does not contain information on how the conclusion is achieved. This section needs to be expanded to describe the analysis and the modifications made to meet the Code.

Aging Management Review Process Overview Example

Section 3.2

1. Section 3.2.2 lists the process for evaluation of potential aging management programs. An aging management program should also include the means for quality assurance and follow-up and confirmation activities to ensure the program's effectiveness.
2. Section 3.2.4 lists the Nuclear System Directives (NSDs) used by Duke for the purposes of license renewal. Several of these NSDs are specifically referenced and described while others are not. If an NSD is credited, a specific reference should be provided in the discussion (e.g., the discussion of the Problem Investigation Process on page 3.2-5, lines 20-28) does not reference NSD 208). Additionally, a description of the NSD should be provided for all referenced NSDs with sufficient detail for the staff to understand the processes credited.
3. Sections 3.2.6 and 3.2.7 state that the Technical Specifications and Selected Licensee Commitments are "expected to be effective" for managing the effects of aging. Generally, these programs control components and operating conditions and should not be considered as stand alone aging management programs. Additionally, applications should contain definitive statements rather than "expectations."