OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 (ONS)
SUBSEQUENT LICENSE RENEWAL APPLICATION (SLRA)
REQUESTS FOR ADDITIONAL INFORMATION (RAIs)

RAI 3.1.2-1

SAFETY REVIEW

RAI 3.1.2-1:

Regulatory Basis:
Title 10 of the *Code of Federal Regulations* (CFR) Section 54.21(a)(3) requires an applicant to demonstrate that the effects of aging for each structure and component identified in 10 CFR 54.21(a)(1) will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation. One of the findings that the U.S. Nuclear Regulatory Commission (NRC) staff must make to issue a renewed license (10 CFR 54.29(a)) is that actions have been identified and have been or will be taken with respect to managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis.

In order to complete its review and enable making a finding under 10 CFR 54.29(a), the staff requires additional information in regard to the matters described below.

Background:
The applicant includes the following three plant-specific AMR items for reactor pressure vessel (RPV) bottom head instrument guide tubes and RPV support skirts in Oconee SLRA Table 3.1.2-1:

- A plant-specific AMR item for managing cracking in the Nickel-Alloy RPV bottom head instrument guide tubes, as given on SLRA page 3-99; the line item cites use of Note H for the AMR item, which indicates the aging effect for the component is not in NUREG-2191 (the GALL-SLR Report) for this component, material, and environment combination. The AMR item credits the use of a time-limited aging analysis (TLAA) for managing cracking in the RPV bottom head instrument guide tubes.

- A plant-specific AMR item for managing loss of material in the steel RPV support skirts, as given on SLRA page 3-103; the line item cites use of Note J for the AMR item, which indicates the aging effect for the component is not in NUREG-2191 (the GALL-SLR Report) for this component, material, and environment combination. The AMR item cites generic note J, which indicates that neither component nor the material and environment combination are evaluated in NUREG-2191 (i.e., in the GALL-SLR report). The AMR item credits the use of SLRA AMP B2.1.1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” Program to manage loss of material in the RPV support skirts.

- A plant-specific AMR item for the steel RPV support skirts on SLRA page 3-103 that cites “None” in the “Aging Effect” column entry of the line item and “None” in the “Aging Management Program” column entry of the line item. The AMR item cites generic note J, which indicates that neither component nor the material and environment combination are evaluated in NUREG-2191 (i.e., in the GALL-SLR report). The AMR Item also cites use of

plant-specific Note 1, which states:

> "The RPV support skirt is the critical location of the RPV support assembly and is not susceptible to irradiation embrittlement based on the NDT evaluation report. The RPV support intended function will be maintained consistent with the CLB during the SPEO when considering damage to irradiation."

Issues:

1. SLRA Chapter 4 does not identify a TLAA that indicates that the RPV bottom instrument guide tubes are within the scope of the TLAA and is used for management of cracking in the instrument guide tubes. Thus, it is unclear which TLAA in is being credited for management of cracking in the RPV bottom head instrument guide tubes.

2. The basis for the inclusion of the "None-None" AMR item for the RPV support skirts (SLRA Page 3-103) is unclear because the use of such an item would only apply if the applicant had identified that there are no aging effects requiring management for the steel RPV support skirts under exposure to an external, uncontrolled indoor air environment; however, in SLRA Table 3.1.2-1, the applicant indicates there are applicable aging effects requiring management for the RPV support skirt surfaces exposed to an uncontrolled indoor air environment through the inclusion of AMR items on cumulative fatigue damage and loss of material in the RPV support skirts (as given on SLRA page 3-103).

Requests:

1. Identify the specific TLAA in SLRA Chapter 4 that is referenced by the plant-specific NEI Note H-based AMR item in SLRA Table 3.1.2-1 for the RPV bottom head instrument guide tubes. Explain why the analysis basis of the TLAA is considered to form a sufficient analytical basis for managing cracking in the RPV bottom head instrument guide tubes during the subsequent period of extended operation (SPEO).

2. Justify the basis for including a NEI Note J-based "None-None" AMR item for the RPV support skirts in SLRA Table 3.1.2-1 when the table includes other AMR items (i.e. those on cumulative fatigue damage and loss of material) for the RPV support skirts that indicates there are aging effects of the RPV support skirts that require management during the SPEO.