November 18, 1999

LICENSEE: Duke Energy Corporation (Duke)

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

SUBJECT: SUMMARY OF DISCUSSIONS BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) STAFF AND DUKE REPRESENTATIVES REGARDING ADDITIONAL SYSTEMS, STRUCTURES AND COMPONENTS ADDED TO THE OCONEE LICENSE RENEWAL APPLICATION (LRA)

By letter dated September 30, 1999, Duke submitted summary descriptions of changes to the current licensing basis that materially affected its LRA. As a result of these changes Duke added several systems, structures, and components (SSCs) to the scope of license renewal. Enclosure 1 contains questions from the NRC staff regarding the 10 CFR 54.4 scoping process used for the additional SSCs. Enclosure 1 also documents Duke's response to the staff's questions. The staff believes that, with one exception, Duke's responses contained in Enclosure 1 resolve the staff's question. The exception is Duke's response to question number 2 involving the component cooling water system. Because Duke did not respond to the staff's question the staff will track this item as an open item for the safety evaluation report to ensure that the question is answered.

In addition, the safety evaluation report (SER) for the Oconee LRA contained open item 2.2.3.4.3.2.1-1 that concerned whether or not the chilled water system should be within the scope of license renewal. In Duke's response to this SER open item it added the chilled water system to the scope of license renewal and portions of the condenser circulating water system. Enclosure 2 contains the staff's questions and Duke's responses regarding the condenser circulating water system. The staff believes that Duke's responses contained in Enclosure 2 resolve the staff's questions.

Original Signed By

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

Enclosure: As stated (2)
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Scoping Questions Associated with Duke's September 30, 1999, Submittal

Note: The following 3 questions involve the addition of the essential siphon vacuum system, the siphon seal water system, and the essential siphon vacuum building.

1. In the drawings submitted on 10-28-99 (dwgs OFD-130A-1.1, 2.1, and 3.1), the applicant marked the flow diagrams of the essential siphon vacuum (ESV) system in yellow to define the system boundaries that are within the scope of license renewal. The system piping and the ESV pumps, are marked on the drawings and listed in Table 1-1 of the amendment submittal that are with the scope of license renewal. However, the air/water separators connected to the pumps are not yellowed on the drawings and are not listed in the table. Explain whether the air/water separators are within the scope of license renewal.

Response: Even though the air/water separators are identified on the drawings, they do not have a unique equipment number since they are considered part of the pump casing. A review of the pump drawing shows that the air/water separators are integral to the pump casing. As a result, they are considered a part of and evaluated with the pump casing and were not listed separately.

2. Table 1-2 of the amendment submittal listed the component types and intended functions of the siphon seal water (SSW) system. Pressure boundary was the only intended function for most components listed in the table except the strainer. The intended functions of the strainer listed in the table are pressure boundary and filtration. Explain why other components perform additional functions are not listed. For example, the orifice and annubar tube have the throttling function in addition to maintain a pressure boundary.

Response: Only the component intended functions required in support of the system intended functions within the scope of license renewal are listed. Throttling of orifices and annubars is to create a differential pressure for flow measurement. Flow measurement is not required in support of the system intended functions within the scope of license renewal.

3. The Drawings (Nos. O-347-J-001 and –002) submitted by the applicant on 10-28-99 show plan and sections of the essential siphon vacuum building. As stated in the amendment submittal, the building is a single story steel rigid frame structure with metal siding. However, the roof of the building was not specified in the drawings and was not listed in Table 1-3 of the amendment submittal. Describe (1) the type and materials of the roof system and (2) whether the roof and siding are within the scope of license renewal.

Response: The Essential Siphon Vacuum Building is an Oconee Class 2 structure. Class 2 structures have been determined to meet the intent of §54.4(a)(2). The design criteria for Class 2 structures are provided in Chapter 3 of the Oconee UFSAR. Specifically, the seismic design criterion is provided in Section 3.8.5.2 and the wind design criterion is provided in Section 3.3.2.4.

The Essential Siphon Vacuum Building roof is constructed of a zinc coated steel standing seam panel system, similar to the siding. The roof and siding are components of the Essential Siphon Vacuum Building, but the roof and siding do not perform a §54.4 intended function. The intended functions of the Essential Siphon Vacuum Building components are listed in Table 1-3 of the amendment submittal. The roof and siding are not required to provide shelter/protection

to safety-related equipment. In addition, the roof and siding are not required to provide structural and/or functional support to safety-related equipment or to non-safety related equipment where failure of this structural component could directly prevent satisfactory accomplishment of any of the required safety-related functions. Degradation or loss of the roof or siding would not result in loss of any structural, mechanical or electrical system or component intended function.

The requirements of §54.21(a)(1) are to list and identify within the application (or for this purpose the amendment submittal) those structures and components subject to aging management review. Since the Essential Siphon Vacuum Building roof and siding are not subject to aging management review, the roof and siding are not listed in Table 1-3 of the Oconee amendment submittal.

Note: The following 2 questions involve the addition of portions of the component cooling water system to the scope of license renewal.

1. Table 2-1 of you letter dated 9/30/99 identifies filters as a component subject to aging management review. The staff cannot find any filters in the diagrams provided for review. Please indicate where the filters are located (diagram number, location), or provide additional drawings showing the filters.

Response: Filters are shown on drawings 144A-1.3, 2.3, and 3.3 at coordinates H-3 on all these drawings.

Note: Based on this response the staff asked the following question. The diagram that Duke referenced for the filters includes the CDM structure(s). Previously, only the isolation capability of this portion of the system was within scope. Component cooling provides stator cooling that is unisolated from the process flow that is now within scope. It is not clear how they are incorporating this pressure boundary (ie, the stator water jacket(s)), since it is not included on Table 2-1 of the 9/30 letter.

Response: The stator water jacket(s) should have been highlighted as within the scope of license renewal but they are not subject to an aging management review. The stator water jackets are a subcomponent of the Control Rod Drive Mechanisms (CRDMs) which are exempt from an aging management review. As a result, the stator water jacket(s) would not be listed in Table 2-1 of the 9/30 letter.

2. The staff used diagram OLRFD 144A-1.2 to complete the review of the additional components subject to AMR for the component cooling water system. Two sets of heat exchangers are included on those diagrams but are not identified on Table 2-1 as being within the scope of license renewal. These components are the Quench Tank Heat Exchanger, and the two Letdown Coolers.

   Please indicate whether these components and their associated piping and valves are within the scope of license renewal and whether they are listed on Table 2-1. If these components are not within scope, state the boundary of the Component Cooling water system using OLRFD 144A-1.2, and identify the components that provide pressure boundary isolation.

Response: (Duke did not provide a response to this question).

Questions Associated With the Response to SER Open Item 2.2.3.4.3.2.1-1

Note: The following questions concern the addition of portions of the condenser circulating water system to the scope of license renewal.

1. Flow diagram OFD 133A-1.1: Please verify that check valve CCW-487 is included within the scope of license renewal. The table generically lists "valve bodies," but is not clear whether it considers this check valve.

Response: The check valve is within the scope of license renewal and is included within "valve bodies."

2. Return piping from the Chiller A and B HX to the LPSW discharge not included. Has an evaluation been performed to determine whether failure of this piping could affect the operability of other safety-related equipment in the vicinity (ie, is it a flooding concern if this piping were to erode and fail)?

Response: Flooding is not a concern. This piping would have been classified Oconee Pipe Class D if its failure would have affected the function of safety-related equipment. This equipment is located in the Turbine Building and is not in the vicinity of safety-related equipment.

3. Portions of the LPSW system are highlighted but not identified in the application revision. These portions of the LPSW include the piping and components that support the WC Chillers A and B. This leads to confusion with Table 2 of the 10/15 letter. For example: strainers. On flow diagram OFD-124A-1.2, the highlighted strainers appears to be parts of the LPSW system, not the CCW system, yet the component is included as a component of the CCW System. Please clarify the scoping of these components.

Response: The function to provide cooling water to these chillers is performed by the Condenser Circulating Water (CCW) System. Even though these components have LPSW designations, they are considered part of the CCW since they support the CCW System function.