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10 CFR 50  
10 CFR 51  
10 CFR 54

2130-06-20296  
April 18, 2006

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Oyster Creek Generating Station  
Facility Operating License No. DPR-16  
NRC Docket No. 50-219

**Subject:** Response to NRC Request for Additional Information, dated March 20, 2006,  
Related to Oyster Creek Generating Station License Renewal Application (TAC  
No. MC7624)

**Reference:** "Request for Additional Information for the Review of the Oyster Creek Nuclear  
Generating Station, License Renewal Application (TAC No. MC7624)," dated  
March 20, 2006

In the referenced letter, the NRC requested additional information related to Section 2.5.2 of the  
Oyster Creek Generating Station License Renewal Application (LRA). Enclosed are the  
responses to this request for additional information.

If you have any questions, please contact Fred Polaski, Manager License Renewal,  
at 610-765-5935.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully,

Executed on 04-18-2006

  
Michael P. Gallagher  
Vice President, License Renewal  
AmerGen Energy Company, LLC

Enclosure: Response to 03/20/06 Request for Additional Information

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cc: Regional Administrator, USNRC Region I, w/o Enclosure  
USNRC Project Manager, NRR - License Renewal, Safety, w/Enclosure  
USNRC Project Manager, NRR - License Renewal, Environmental, w/o Enclosure  
USNRC Project Manager, NRR - OCGS, w/o Enclosure  
USNRC Senior Resident Inspector, OCGS, w/o Enclosure  
Bureau of Nuclear Engineering, NJDEP, w/Enclosure  
File No. 05040

**Enclosure**

**Response to 3/20/06 Request for Additional Information  
Oyster Creek Generating Station  
License Renewal Application (TAC No. MC7624)**

**RAI 2.5.2-1  
RAI 2.5.2.3-1  
RAI 2.5.2.3-2  
RAI 2.5.2.5-1  
RAI 2.5.2.5-2**

**RAI 2.5.2-1**

**LRA Section 2.5.2.5 describes electrical commodity groups subject to AMR. The staff requests the applicant to confirm that, in addition to power circuits in the electrical systems, the associated control circuits are also considered in the scoping and screening review, and are included in the electrical commodity groups subject to AMR.**

**Response**

Both power and control circuits were considered in the scoping, screening, aging management review and aging management programs processes for Oyster Creek's electrical commodity groups.

Both power and control circuits are included in the scope of Oyster Creek electrical commodity aging management programs B.1.34, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements, (NUREG-1801, XI.E1) and B.1.37, Periodic Monitoring of the Combustion Turbine Power Plant – Electrical, (NUREG-1801, XI.E1, E3 and E4). By definition, Oyster Creek's B.1.35, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits, (NUREG-1801, XI.E2) aging management program is limited to instrumentation circuits, and Oyster Creek's B.1.36, Inaccessible Medium Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements, (NUREG-1801, XI.E3) aging management program is limited to inaccessible medium voltage (i.e., power) cables.

**RAI 2.5.2.3-1**

**In LRA Section 2.5.2.3, the first bullet states: "Phase Bus exists only in the Main Generator and Auxiliaries System. That system has no electrical intended functions and is in scope for 10 CFR 54.4(a)(2) systems interaction only. Because the phase bus contains no fluid, it has no license renewal intended functions."**

**The staff requests the applicant to address the following regarding the above statement:**

- a. Provide cross-reference to the Phase Bus that exists in the SBO path.**
- b. Confirm whether the Phase Bus (in the Main Generator and Auxiliaries System) provides interactions for 10 CFR 54.4(a)(2) systems? If yes, list the 10 CFR 54.4(a)(2) systems. If 10 CFR 54.4(a)(2) is applicable to this Phase Bus, explain why this Phase Bus is not included as an electrical commodity group subject to AMR.**
- c. Explain the purpose of the statement: "Because the phase bus contains no fluid, it has no license renewal intended functions".**

## Response

- a. As part of the October 12, 2006 response to RAI 2.5.1.19-1, phase bus was determined to be an in-scope electrical commodity group for the Forked River Combustion Turbine power plant. Section F1/2 of License Renewal Boundary drawing LR-BR-3000 shows the Forked River Combustion Turbine power plant phase bus circuits from the Forked River Combustion Turbine power plant generators to breakers 52G-1 and 52G-2 and subsequently to breakers 52G-1N and 52G-2N.
- b. The Phase Bus (in the Main Generator and Auxiliaries System) does not provide interactions for 10 CFR 54.4(a)(2) systems. The Oyster Creek scoping methodology for 10 CFR 54.4(a)(2), as described in LRA Section 2.1.5.2, identifies systems, structures and components (SSCs) that provide functional support for safety related functions, structural support for safety related SSCs, or have the potential for spatial interaction with safety related SSCs. The intended function of the Main Generator and Auxiliary Systems for license renewal, as discussed in LRA Section 2.3.4.5, is to maintain leakage boundary integrity to preclude system interactions. For this reason, this system's pressure retaining components located in proximity to other components performing safety-related functions have been included in the scope of license renewal. The Main Generator and Auxiliary System is not required to operate to support license renewal intended functions, and does not provide structural support for safety related SSCs. This system is in scope for potential spatial interaction only. The Phase Bus in the Main Generator and Auxiliary Systems does not have potential for spatial interaction and is therefore not in scope, because it is not associated with a water, steam or oil pressure boundary.
- c. Non-safety related systems and components that contain water, oil, or steam, and are located in the vicinity of safety related SSCs, are included in scope for potential spatial interaction under criterion 10 CFR 54.4(a)(2). The Phase Bus in the Main Generator and Auxiliary Systems is not associated with a water, steam or oil pressure boundary and therefore is not in scope for potential spatial interaction.

## RAI 2.5.2.3-2

**In LRA Section 2.5.2.3, the second bullet states: "Switchyard Bus was eliminated because none perform a license renewal intended function. Rather, transmission conductors, high voltage insulators and insulated cables and connectors perform the functions of providing offsite power to cope with and recover from regulated events."**

**The staff requests the applicant to address the following regarding the above statement:**

- a. **List (providing reference to license renewal drawing no. LR-BR-3000) the circuits that may contain the transmission conductors, high voltage insulators, and insulated cables and connectors that perform the functions of providing offsite power to cope with and recover from regulated events.**
- b. **List the regulated events.**

## Response

a. License renewal boundary drawing LR-BR-3000 shows the electrical power system license renewal boundaries on a key one line diagram. Transmission conductors, high voltage insulators, and insulated cables and connectors are part of the following circuits:

- In section F7 of LR-BR-3000, the two 34.5 kV feeds from the "B" bus of the 34.5 kV substation to transformers XMR-732-16 and XMR-732-15 via circuit breakers R144 and J69361, respectively.
- In section E/F5/6 of LR-BR-3000, the 34.5 kV feed from the 34.5kV substation to start-up transformer SA via circuit breaker BK5.
- In section E/F3 of LR-BR-3000, the 34.5 kV feed from the 34.5kV substation to start-up transformer SB via circuit breaker BK6.
- In section F1/2 of LR-BR-3000, the 230 kV feeds from the 230 kV substation bank 9 and bank 10 circuit disconnect switches to bank 9 and bank 10 transformers, respectively. These feeds are in support of the alternate AC power supply credited for SBO and are discussed in the October 12, 2005 response to RAI 2.5.1.19-1.

b. Per Section 2.5.1.13 of the Oyster Creek LRA, the offsite power system commodities, i.e., transmission conductors, high voltage insulators and insulated cables and connectors, meet 10 CFR 54.4(a)(3) because it is relied upon in the safety analysis and plant evaluations to perform a function that demonstrates compliance with the Commission's regulated events: fire protection (10 CFR 50.48) and station blackout (10 CFR 50.63). In this discussion, transmission conductors refers to uninsulated high voltage transmission cables and does not include bus bar.

## RAI 2.5.2.5-1

**LRA Section 2.5.2.5.3 states that the high voltage insulators are provided on the circuits used to supply power from the switchyard to plant buses during recovery from a SBO or fire protection event.**

**The staff requests the applicant to describe the circuit path (which may contain the high voltage insulators) that is relied upon to supply power from the switchyard to plant buses in case of the fire protection event.**

## Response

Offsite power from the 34.5 kV switchyard that feeds Oyster Creek station 4160 V buses 1A and 1B, via the start-up transformers SA and SB, respectively, is credited in support of post-fire safe shutdown at Oyster Creek. Offsite power from the 34.5 kV switchyard to transformers XMR-732-15 and XMR-732-16 is credited in support of power to the redundant fire pump house. These circuits are shown on License Renewal Drawing LR-BR-3000:

- In section F7 of LR-BR-3000, the two 34.5 kV feeds from the "B" bus of the 34.5 kV substation to transformers XMR-732-16 and XMR-732-15 via circuit breakers R144 and J69361, respectively.
- In section E/F5/6 of LR-BR-3000, the 34.5 kV feed from the 34.5kV substation to start-up transformer SA via circuit breaker BK5.
- In section E/F3 of LR-BR-3000, the 34.5 kV feed from the 34.5kV substation to start-up transformer SB via circuit breaker BK6.

These circuits contain high voltage insulators and are energized and connected to loads credited in case of a fire protection event.

**RAI 2.5.2.5-2**

**LRA Section 2.5.2.5.4 states that the transmission conductors provide a portion of the circuits used to supply power from the switchyard to plant buses during recovery from a station blackout or fire protection event.**

**The staff requests the applicant to describe the circuit path (which may contain transmission conductors) that is relied upon to supply power from the switchyard to plant buses in case of the fire protection event.**

Response

Offsite power from the 34.5 kV switchyard that feeds Oyster Creek station 4160 V buses 1A and 1B, via the start-up transformers SA and SB, respectively, is credited in support of post-fire safe shutdown at Oyster Creek. Offsite power from the 34.5 kV switchyard to transformers XMR-732-15 and XMR-732-16 is credited in support of power to the redundant fire pump house. These circuits are shown on License Renewal Drawing LR-BR-3000:

- In section F7 of LR-BR-3000, the two 34.5 kV feeds from the "B" bus of the 34.5 kV substation to transformers XMR-732-16 and XMR-732-15 via circuit breakers R144 and J69361, respectively.
- In section E/F5/6 of LR-BR-3000, the 34.5 kV feed from the 34.5kV substation to start-up transformer SA via circuit breaker BK5.
- In section E/F3 of LR-BR-3000, the 34.5 kV feed from the 34.5kV substation to start-up transformer SB via circuit breaker BK6.

These circuits contain transmission conductors.