



APR 22 2010

10 CFR 50
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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Hope Creek Generating Station
Facility Operating License No. NPF-57
NRC Docket No. 50-354

Subject: Response to NRC Request for Additional Information, dated March 31, 2010,
Related to Section 2.4 of the Hope Creek Generating Station License Renewal
Application

Reference: Letter from Mr. Donnie Ashley (USNRC) to Mr. Thomas Joyce (PSEG Nuclear,
LLC) "HOPE CREEK GENERATING STATION, LICENSE RENEWAL
APPLICATION - REQUEST FOR ADDITIONAL INFORMATION FOR SECTION
2.4, SCOPING AND SCREENING RESULTS: STRUCTURES (TAC NO.
ME1832)", dated March 31, 2010

In the referenced letter, the NRC requested additional information related to Section 2.4 of the
Hope Creek Generating Station License Renewal Application (LRA). Enclosed are the
responses to this request for additional information.

This letter and its enclosure contain no regulatory commitments.

If you have any questions, please contact Mr. Ali Fakhar, PSEG Manager - License Renewal, at
856-339-1646.

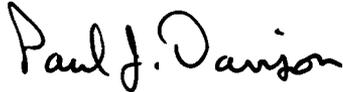
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APR 22 2010

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

Executed on 4/22/10

Sincerely,



Paul J. Davison
Vice President, Operations Support
PSEG Nuclear LLC

Enclosure: Responses to Request for Additional Information

cc: S. Collins, Regional Administrator – USNRC Region I
B. Brady, Project Manager, License Renewal – USNRC
R. Ennis, Project Manager - USNRC
NRC Senior Resident Inspector – Hope Creek
P. Mulligan, Manager IV, NJBNE
L. Marabella, Corporate Commitment Tracking Coordinator
T. Devik, Hope Creek Commitment Tracking Coordinator

Enclosure

Responses to Request for Additional Information related to Section 2.4 of the Hope Creek
Generating Station License Renewal Application (LRA)

- RAI 2.4-1
- RAI 2.4-2
- RAI 2.4-3
- RAI 2.4-4
- RAI 2.4-5
- RAI 2.4-6
- RAI 2.4-7

RAI 2.4-1

Which components, if any, in the Hope Creek Generating Station (HCGS) license renewal application (LRA) Table 2.4-3 (Auxiliary Building Service /Radwaste Area) include the main steam tunnel structural elements? If these are omitted, please justify their omission.

PSEG Response:

The main steam tunnel structural elements shown in LRA Table 2.4-3 (Auxiliary Building Service/Radwaste Area) include the following component types: "Blowout Panel, Concrete Embedments, Concrete: Interior, Penetration sleeves, Spray Shields, and Steel Components: All structural steel". These component types are included in the scope of license renewal and are included in LRA Table 2.4-3 (Auxiliary Building Service/Radwaste Area), as shown on pages 2.4-14 and 2.4-15.

RAI 2.4-2

Reinforced concrete isolation walls are included in the LRA Table 2.4-2 (Auxiliary Building Control/Diesel Generator Area); however, the isolation function is not listed as an intended function in any concrete component listed in the aforementioned table. Please clarify if this intended function is listed as a different function (shielding, structural support, etc) or justify its exclusion.

PSEG Response:

The isolation function for reinforced concrete isolation walls is listed as several different intended functions. The reinforced concrete isolation walls are described in LRA Section 2.4.2 (Auxiliary Building Control/Diesel Generator Area) and Section 3.8.4.1.2 of the HCGS UFSAR, and have the following license renewal intended functions: "Flood Barrier, HELB/MELB Shielding, Missile Barrier, Shelter, Protection, Shielding and Structural Support". These functions are listed in LRA Table 2.4-2 (Auxiliary Building Control/Diesel Generator Area) for component type, "Concrete: Interior", as shown on page 2.4-8. The reinforced concrete isolation walls separate the Auxiliary Building Control/Diesel Generator Area from the Auxiliary Building Service /Radwaste Area by fulfilling the intended functions described above, therefore an additional intended function is not required for these isolation walls.

RAI 2.4-3

Horizontal seismic restraints are shown in Figures 3.8.1 and 3.8.13 of the HCGS Updated Final Safety Analysis Report (UFSAR) for the Torus of the Primary Containment. These are not included in Table 2.4-7 of the HCGS LRA Section 2.4-7 (Primary Containment). Justify their exclusion.

PSEG Response:

The horizontal seismic restraints as shown in Figures 3.8.1 and 3.8.13 of the HCGS UFSAR for the Torus of the Primary Containment are components of the torus (suppression chamber) supports. These components are included in the scope of license renewal as component supports and are subject to aging management review.

The torus horizontal seismic restraints are described in LRA Section 2.4.4 (Component Supports Commodity Group) as being included in the commodity group identified as ASME Class MC components, as shown on page 2.4-16. Specifically, the second bullet following the first paragraph as part of the Structure Purpose reads as follows:

- Supports for ASME Class MC components, including suppression chamber seismic restraints, suppression chamber support saddles and columns, and vent system supports.

These supports are included within the LRA Table 2.4-4 (Component Supports Commodity Group) as the component type, "Supports for ASME Class MC Components (Support members; welds; bolted connections; support anchorage to building structure)", as shown on page 2.4-19.

RAI 2.4-4

Please indicate where the structural elements that transfer the reactor pressure vessel (RPV) loads to the RPV ring girder and subsequently to the RPV pedestal (shown in Figure 3.8.1 in HCGS UFSAR) are evaluated in the HCGS LRA. If they have not been evaluated, please justify their exclusion.

PSEG Response:

The RPV skirt bolting, ring girder and support anchorage are the structural elements shown in Figure 3.8.1 in HCGS UFSAR and are designed to transfer the reactor pressure vessel (RPV) loads to the RPV pedestal. These components are discussed in HCGS UFSAR Section 5.3.3.1.4.1 (Vessel Support). They are included in the scope of license renewal as component supports and are subject to aging management review.

These structural elements are described in LRA Section 2.4.4 (Component Supports Commodity Group) as being included in the commodity group identified as Supports for ASME Class 1, 2 and 3 piping and components, as shown on page 2.4-16. Specifically, the first bullet following the first paragraph as part of the Structure Purpose reads as follows:

- Supports for ASME Class 1, 2 and 3 piping and components, including reactor vessel to biological shield wall stabilizer, reactor vessel skirt support anchorage, reactor vessel support ring girder and anchorage, control rod drive (CRD) housing supports and service water pumps.

The RPV skirt bolting, ring girder and support anchorage are included within the LRA Table 2.4-4 (Component Supports Commodity Group) as the component type, "Supports for ASME Class 1 Piping and Components (Support members; welds; bolted connections; support anchorage to building structure)", as shown on page 2.4-18.

The RPV pedestal is described in LRA Section 2.4.7 (Primary Containment) on page 2.4-28. The RPV pedestal is listed in LRA Table 2.4-7 (Primary Containment) as the component type, "Concrete: Interior (RPV Pedestal)", as shown on page 2.4-31.

RAI 2.4-5

HCGS LRA Table 2.4-7 (Primary Containment) lists the torus ring girder as one of the components subject to an Aging Management Program (AMP). But this table does not include the RPV ring girder, as shown in UFSAR Figure 3.8.1. Please justify the omission of the latter.

PSEG Response:

The torus ring girders, as shown in Figure 3.8-11 of the HCGS UFSAR, are integral structural steel attachments to the interior of the torus shell and therefore are included with LRA Section 2.4.7 (Primary Containment).

The RPV ring girder is designed to transfer the reactor pressure vessel (RPV) loads to the RPV pedestal as shown in UFSAR Figure 3.8.1, and discussed in HCGS UFSAR Section 5.3.3.1.4.1 (Vessel Support). The RPV ring girder is included in the scope of license renewal as a component support and is subject to aging management.

The RPV ring girder is described in LRA Section 2.4.4 (Component Supports Commodity Group) as being included in the commodity group identified as Supports for ASME Class 1, 2 and 3 piping and components, as shown on page 2.4-16. Specifically, the first bullet following the first paragraph as part of the Structure Purpose reads as follows:

- Supports for ASME Class 1, 2 and 3 piping and components, including reactor vessel to biological shield wall stabilizer, reactor vessel skirt support anchorage, reactor vessel support ring girder and anchorage, control rod drive (CRD) housing supports and service water pumps.

The ring girder is included in the LRA Table 2.4-4 (Component Supports Commodity Group) as the component type, "Supports for ASME Class 1 Piping and Components (Support members; welds; bolted connections; support anchorage to building structure)", as shown on page 2.4-18.

RAI 2.4-6

Based on a review of the HCGS LRA Sections 2.4.7 (Primary Containment) and 2.4.8 (Reactor Building) and of Tables 2.4-7 and 2.4-8, it is not clear if the following components have been included in the scope of license renewal and subject to an AMR:

- a) Refueling seal assembly
- b) Weld pads on the drywell shell for attachment of pipe supports
- c) Water seal plates at the base of the drywell head, as shown in UFSAR Figure 3.8.1
- d) Spent fuel pool liner plate leak chase system

If these components are covered somewhere else in the LRA, please indicate the location. If they are excluded from the scope of license renewal, please provide the basis for their exclusion.

PSEG Response:

The response to items “a” and “c” is provided first, then the responses to items “b” and “d”. The following components are in the Reactor Building for items “a” and “c”:

- a) Refueling seal assembly
- c) Water seal plates at the base of the drywell head, as shown in UFSAR Figure 3.8.1

The refueling seal assembly and water seal plates provides a seal from the reactor to the primary containment drywell shell and from the exterior of the drywell shell to the liner of the reactor refuel well to permit flooding of the reactor refuel well or cavity. The assembly is included in the scope of license renewal and is subject to aging management review.

LRA Table 2.4-8 (Reactor Building) includes the component type, “Steel Components: Refueling bellows (RPV to Drywell and Drywell to Reactor Well)”, as shown on page 2.4-40. Based on a review of LRA Table 2.4-8 (Reactor Building) it has been determined that this component type should have also included the carbon steel seal plates, which were inadvertently omitted from this table.

LRA table 2.4-8 (Reactor Building) on page 2.4-40 is revised to add the carbon steel seal plates identified as the component type “Steel Components: Refueling bellows seal plates (RPV to Drywell and Drywell to Reactor Well),” as shown below. Note that new information is displayed in bolded, italicized text:

Table 2.4-8, Reactor Building

Component Type	Intended Function
<i>Steel Components: Refueling bellows seal plates (RPV to Drywell and Drywell to Reactor Well)</i>	<i>Water retaining boundary</i>

LRA Table 3.5.2-8 (Reactor Building) on page 3.5-197 is revised to add the carbon steel seal plates as shown below. Note that new information is displayed in bolded, italicized text:

Table 3.5.2-8, Reactor Building

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG 1801 Vol. 2 Item	Table 1 Item	Notes
<i>Steel Components: Refueling bellows seal plates (RPV to Drywell and Drywell to Reactor Well)</i>	<i>Water retaining boundary</i>	<i>Carbon steel</i>	<i>Treated water</i>	<i>Loss of Material/ General, Pitting and Crevice Corrosion</i>	<i>One-Time Inspection</i>	<i>VII.E4-17</i>	<i>3.3.1-17</i>	<i>C</i>
<i>Steel Components: Refueling bellows seal plates (RPV to Drywell and Drywell to Reactor Well)</i>	<i>Water retaining boundary</i>	<i>Carbon steel</i>	<i>Treated water</i>	<i>Loss of Material/ General, Pitting and Crevice Corrosion</i>	<i>Water Chemistry</i>	<i>VII.E4-17</i>	<i>3.3.1-17</i>	<i>D</i>
<i>Steel Components: Refueling bellows seal plates (RPV to Drywell and Drywell to Reactor Well)</i>	<i>Water retaining boundary</i>	<i>Carbon steel</i>	<i>Air - Indoor</i>	<i>Loss of Material/ General Corrosion</i>	<i>Structures Monitoring Program</i>	<i>III.A1-12</i>	<i>3.5.1-25</i>	<i>A</i>

LRA Table 3.3.1 (Summary of Aging Management Evaluations for the Auxiliary Systems) on page 3.3-62 and Section 3.3.2.2.7.2 on page 3.3-44 are also revised to include seal plates as a component type in the Reactor Building exposed to treated water for Table Item Number 3.3.1-17.

b) Weld pads on the drywell shell for attachment of pipe supports

These structural elements are included within LRA Table 2.4-4 (Component Supports Commodity Group) as component types, "Supports for ASME Class 1 Piping and Components (Support members; welds; bolted connections; support anchorage to building structure)" and "Supports for ASME Class 2 and 3 Piping and Components (Support members; welds; bolted connections; support anchorage to building structure)", as shown on page 2.4-18. These structural elements are included in the scope of license renewal and are subject to aging management.

d) Spent fuel pool liner plate leak chase system

The spent fuel pool liner plate leak chase system is a leak collection system composed of channels behind the fuel pool liner to permit expedient liner leak detection, which is not an

intended function for license renewal. As described in UFSAR Section 9.1.2.5, on page 9.1-30 the spent fuel liner plates are non-Seismic Category I and are not safety-related. The leak collection channels are not part of the water retaining boundary of the fuel pool liner plates and are also not safety-related. The liner plates and channels are non-load bearing members and they are not required to maintain the structural integrity of the fuel pool walls. The spent fuel pool liner plate leak chase system does not provide support, shelter, or protection for SSCs relied upon in safety analyses or plant evaluations to perform a function to demonstrate compliance with the regulations, and the system does not have the potential for spatial interaction because they are located between the liner plate and the concrete wall. Therefore, the spent fuel pool liner plate leak chase system does not perform a license renewal intended function and is not included in the scope of license renewal.

RAI 2.4-7

UFSAR Figure 3.8-29 (Biological Shield Plan and Elevation) shows details of shear ties. Please identify the component in LRA Table 2.4-7, which includes these structural elements. If these components are covered somewhere else in the LRA, please indicate the location. If they are excluded from the scope of license renewal, please provide the basis for their exclusion.

PSEG Response:

The structural elements that comprise the biological shield wall, as shown in UFSAR Figure 3.8-29, include the shear ties, liner plates, associated bolting and concrete. These components are included in the scope of license renewal and are subject to aging management review.

The biological shield wall shear ties and associated bolting are steel rods bolted to the inner and outer biological shield wall liner plates and the shear ties are embedded in concrete. The biological shield wall was designed as a composite steel-concrete structure. The biological shield wall shear ties as well as the liner plates are included as the component type, "Steel Components: Biological shield liner plates", as shown in LRA Table 2.4-7 (Primary Containment) on page 2.4-32, and the associated bolting is included in the component type, "Bolting (Structural)", on page 2.4-31, also part of LRA Table 2.4-7 (Primary Containment).

The biological shield wall concrete is included as the component type, "Concrete: Interior (Biological shield)", as shown in LRA Table 2.4-7 (Primary Containment) on page 2.4-31.