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JUL 0 8 2008

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SUSQUEHANNA STEAM ELECTRIC STATION
REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE SUSQUEHANNA STEAM ELECTRIC STATION UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (LRA) SECTIONS B.2.39, 3.5, and 4.6
PLA-6381

Docket Nos. 50-387 and 50-388

References: 1) *PLA-6110, Mr. B. T. McKinney (PPL) to Document Control Desk (USNRC), "Application for Renewed Operating License Numbers NPF-14 and NPF-22," dated September 13, 2006.*

2) *Letter from Ms. E. H. Gettys (USNRC) to Mr. B. T. McKinney (PPL), "Request for Additional Information for the Review of the Susquehanna Steam Electric Station, Units 1 and 2 License Renewal Application," dated June 17, 2008.*

In accordance with the requirements of 10 CFR 50, 51, and 54, PPL requested the renewal of the operating licenses for the Susquehanna Steam Electric Station (SSES) Units 1 and 2 in Reference 1.

Reference 2 is a request for additional information (RAI) related to License Renewal Application (LRA) Sections B.2.39, 3.5, and 4.6. The enclosure to this letter provides the additional requested information.

There are no new regulatory commitments contained herein as a result of the attached RAI responses.

If you have any questions, please contact Mr. Duane L Filchner at (610) 774-7819.

A120
NRR

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

Executed on: 7/08

B. T. McKinney

Enclosure: PPL Responses to NRC's Request for Additional Information (RAI)

Copy: NRC Region I
Ms. E. H. Gettys, NRC Project Manager, License Renewal, Safety
Mr. R. Janati, DEP/BRP
Mr. F. W. Jaxheimer, NRC Sr. Resident Inspector
Mr. A. L. Stuyvenberg, NRC Project Manager, License Renewal, Environmental

Enclosure to PLA-6381
PPL Responses to NRC's
Request for Additional Information (RAI)

RAI B.2.39-1

In the LRA, AMP B.2.40 "RG 1.127 Water-Control Structures Inspection" states under the "acceptance criteria" program element that the structures monitoring program will be enhanced to include acceptance criteria as delineated in the Gall Report Section XI.S7 for water control structures. Please explain why the AMP B.2.39 "Structures Monitoring Program" "acceptance criteria" program element does not include the enhancements pertaining to Regulatory Guide (RG) 1.127, Rev. 1 for water-control structures.

PPL Response:

SSES LRA Section B.2.39, Structures Monitoring Program, is amended as follows to include the Acceptance Criteria for Regulatory Guide (RG) 1.127, Water-Control Structures Inspection under the Required Enhancements section.

B.2 Aging Management Programs

B.2.39 Structures Monitoring Program

Required Enhancements

- The fourth bullet in the Required Enhancements discussion in Section B.2.39 (LRA page B-117) is revised by addition (***bold italics***).

- **Scope, Parameters Monitored or Inspected, *Acceptance Criteria* –**

The Structures Monitoring Program procedure will be enhanced to include RG 1.127 inspection elements for water-control structures.

RAI 3.5-1

In Table 3.5.2-10 "Aging Management Review Results – Bulk Commodities," there are several line items for stainless steel material exposed to weather environment which refer to GALL Volume 2 items III.B2-7 & III.B4-7, and Volume 1 item 3.5.1-50. The GALL Report recommends the structures monitoring program to manage aging effects of loss of material/pitting and crevice corrosion. These SSES LRA items have the same component, material, and environment combination as in the GALL Report. Please provide the technical basis for not following the GALL Report recommendation.

PPL Response:

The line items for stainless steel material exposed to weather environment are amended to align with the GALL Report recommendations and applicable SSES Aging Management Programs.

Table 3.5.2-10 is amended as follows to indicate the Aging Effect Requiring Management as "Loss of Material" and the Aging Management Program as "Structures Monitoring Program" or "ISI-IWF" for the following stainless steel Components/ Commodities with the Environment, "Exposed to Weather".

Anchorage / Embedments [Stainless Steel];
Component and Piping Supports (ASME Class 1, 2, 3 and MC) [Stainless Steel];
Equipment Component Supports [Stainless Steel];
Pipe Supports [Stainless Steel];
Anchor Bolts [Stainless Steel];
Anchor Bolts (ASME Class 1, 2, 3 and MC Supports Bolting) [Stainless Steel];
Expansion Anchors [Stainless Steel]

3.5 AGING MANAGEMENT OF CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORTS

Table 3.5.2-10, Aging Management Review Results – Bulk Commodities

- The Components/Commodities in Table 3.5.2-10 (LRA pages 3.5-111, 3.5-114, 3.5-117, 3.5-122, 3.5-126, 3.5-127, 3.5-129 and 3.5-138) are revised by addition (***bold italics***) and deletion (~~strikethrough~~).

Table 3.5.2-10 Aging Management Review Results - Bulk Commodities								
Component/ Commodity	**Intended Function[1]**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Programs**	**NUREG-1801 Volume 2 Item**	**Table 1 Item**	**Notes**
Anchorage / Embedments	SNS, SRE, SSR	Stainless Steel	Protected from weather	None	None	III.B2-8 III.B3-5 III.B4-8 III.B5-5	3.5.1-59	A
			Exposed to weather	~~None~~ ***Loss of material***	~~None~~ ***Structures Monitoring Program***	III.B2-7 III.B4-7	3.5.1-50	~~I,~~ ~~0522~~ ***A, 0528***
Component and Piping Supports (ASME Class 1, 2, 3 and MC)	SNS, SRE, SSR	Stainless Steel	Protected from weather	None	None	III.B1.1-9 III.B1.2-7 III.B1.3-7	3.5.1-59	A
			Exposed to weather	~~None~~ ***Loss of material***	~~None~~ ***ISI-IWF***	III.B2-7 III.B4-7	3.5.1-50	~~I,~~ ~~0522~~ ***E, 0528***
			Exposed to treated water	Loss of material	ISI-IWF BWR Water Chemistry Program	III.B1.1-11	3.5.1-49	A
			Exposed to raw water	Loss of material	ISI-IWF	VII.C3-7	3.3.1-78	E, 0523

Table 3.5.2-10 Aging Management Review Results - Bulk Commodities								
Component/ Commodity	**Intended Function[1]**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Programs**	**NUREG-1801 Volume 2 Item**	**Table 1 Item**	**Notes**
Equipment Component Supports	SNS, SRE, SSR	Stainless Steel	Protected from weather	None	None	III.B2-8 III.B3-5 III.B4-8 III.B5-5	3.5.1-59	A
			Exposed to weather	~~None~~ ***Loss of material***	~~None~~ ***Structures Monitoring Program***	III.B2-7 III.B4-7	3.5.1-50	~~I,~~ ~~0522~~ ***A, 0528***
Pipe Supports	SNS, SRE, SSR	Stainless Steel	Protected from weather	None	None	III.B2-8 III.B4-8	3.5.1-59	A
			Exposed to weather	~~None~~ ***Loss of material***	~~None~~ ***Structures Monitoring Program***	III.B2-7 III.B4-7	3.5.1-50	~~I,~~ ~~0522~~ ***A, 0528***
			Exposed to weather	Loss of material	Structures Monitoring Program	III.B5-7	3.5.1-39	A

Table 3.5.2-10 Aging Management Review Results - Bulk Commodities								
Component/ Commodity	**Intended Function[1]**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Programs**	**NUREG-1801 Volume 2 Item**	**Table 1 Item**	**Notes**
Anchor Bolts	SNS, SRE, SSR	Stainless Steel	Protected from weather	None	None	III.B2-8 III.B3-5 III.B4-8 III.B5-5	3.5.1-59	A
			Exposed to weather	~~None~~ ***Loss of material***	~~None~~ ***Structures Monitoring Program***	III.B2-7 III.B4-7	3.5.1-50	~~I,~~ ~~0522~~ ***A, 0528***
Anchor Bolts (ASME Class 1, 2, 3 and MC Supports Bolting)	SNS, SRE, SSR	Stainless Steel	Protected from weather	None	None	III.B1.1-9 III.B1.2-7 III.B1.3-7	3.5.1-59	A
			Exposed to weather	~~None~~ ***Loss of material***	~~None~~ ***ISI-IWF***	III.B2-7 III.B4-7	3.5.1-50	~~I,~~ ~~0522~~ ***E, 0528***
			Exposed to treated water	Loss of material	ISI-IWF BWR Water Chemistry Program	III.B1.1-11	3.5.1-49	A

Table 3.5.2-10 Aging Management Review Results - Bulk Commodities								
Component/ Commodity	**Intended Function[1]**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Programs**	**NUREG-1801 Volume 2 Item**	**Table 1 Item**	**Notes**
Expansion Anchors	SNS, SRE, SSR	Stainless Steel	Protected from weather	None	None	III.B2-8 III.B3-5 III.B4-8 III.B5-5	3.5.1-59	A
			Exposed to weather	~~None~~ ***Loss of material***	~~None~~ ***Structures Monitoring Program***	III.B2-7 III.B4-7	3.5.1-50	~~I,~~ ~~0522~~ ***A, 0528***

Plant-Specific Notes:

0528	***This aging effect was determined not applicable in aging management review since SSES is located in an in-land rural environment and is not exposed to aggressive environmental conditions. However, it is conservatively made consistent to the listed GALL items. The identified AMP is used to manage aging effects for the period of extended operation.***

RAI 4.6.2-1

In the LRA Section 4.6.2 "Downcomer Vents and Safety Relief Valve Discharge Piping," the applicant summarized the maximum cumulative usage factors (CUF) for the downcomers in Table 4.6-1. The staff noted that the Operational Cases 4 and 6 are identical, while the CUF values are different. Please explain this discrepancy.

PPL Response:

SSES LRA Table 4.6-1, Maximum Cumulative Usage Factors for Downcomers is incorrect and will be revised to be consistent with SSES Units 1 and 2 Design Assessment Report (DAR), Table 7-3. The SSES LRA is amended as follows to change Operational Case 6 to be "Emergency/Faulted - SBA: CHUG + SSE(6)".

4.6 CONTAINMENT LINER PLATE, METAL CONTAINMENTS, AND PENETRATION FATIGUE ANALYSES

Table 4.6-1, Maximum Cumulative Usage Factors for Downcomers

- The sixth Operational Case in Table 4.6-1 (LRA page 4.6-2) is revised by addition (***bold italics***) and deletion (~~strikethrough~~).

Table 4.6-1
Maximum Cumulative Usage Factors for Downcomers

Operational Case(1)	Cumulative Usage Factor
	40 Years and 60 Years(8)
1-Normal/Upset –SRV1(2)+SRV2(3)+OBE(4)	0.0083
2-Normal/Upset –SRV1+SRV2+CHUG(7)	0.608
3-Normal/Upset –SRV1+SRV2	0.774
4-Emergency/Faulted –SBA:SRV(5)+CHUG	0.774
5-Emergency/Faulted –SBA:SRV(5)+CHUG+SSE(6)	0.791
6-Emergency/Faulted –SBA:~~SRV(5)+~~CHUG***+SSE(6)***	0.782

RAI 4.6.3-1

In the LRA, Section 4.6.3 "Safety Relief Valve Quenchers," the last sentence of the second paragraph references a "Code Paragraph NF" component support. Please identify this Code Paragraph NF as it is not referenced elsewhere in the LRA.

PPL Response:

SSES LRA Section 4.6.3 is incorrect and "Code Paragraph NF" will be revised to "Code Subsection NF". The SSES LRA is amended as follows:

4.6 CONTAINMENT LINER PLATE, METAL CONTAINMENTS, AND PENETRATION FATIGUE ANALYSES

4.6.3 Safety Relief Valve Quenchers

- The second paragraph in the Safety Relief Valve Quencher discussion in Section 4.6.3 (LRA page 4.6-3) is revised by addition (***bold italics***) and deletion (~~strikethrough~~).

The component parts of a quencher installation are the sphere, arms, support stub, and base support. The quencher was designed in accordance with the requirements of ASME Section III. 1977 Edition, including Summer, 1977 Addenda. Code Paragraph NC-3200, Appendix XIII, and Appendix XIV were used in the design and analyses of all components of the quencher, except for the base support, which was designed as a Code ~~Paragraph~~ ***Subsection*** NF component support.