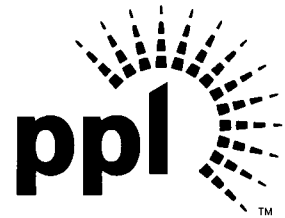


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JUN 15 2007

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**SUSQUEHANNA STEAM ELECTRIC STATION
APPLICATION FOR RENEWED OPERATING LICENSES
NUMBERS NPF-14 AND NPF-22
RESPONSES TO ENVIRONMENTAL AUDIT QUESTIONS
PLA-6218**

**Docket Nos. 50-387
and 50-388**

- Reference:*
- 1) PPL letter PLA-6110, B. T. McKinney (PPL) to USNRC, "Application for Renewed Operating Licenses," dated September 15, 2006.
 - 2) Letter from Mr. A. L. Stuyvenberg (USNRC) to Mr. B. T. McKinney (PPL), "Environmental Site Audit Regarding Susquehanna Steam Electric Station Units 1 and 2 Nuclear Power Plant License Renewal Application (TAC Nos. MD3021 and MD3022)," dated April 18, 2007.

Provided herein are PPL's responses to questions documented during the NRC's Environmental Audit associated with the NRC review of the Susquehanna Steam Electric Station (SSES) License Renewal Application (LRA) (Ref. 1). The audit was conducted at SSES from May 15 through May 17, 2007. NRC reviewers identified twenty-six (26) questions during the audit de-brief meeting that were determined to require written responses. Each written response, along with its associated question, is provided in the enclosure to this letter. (Note that each response is identified by both the NRC Question Number and the PPL database tracking number assigned during the audit. In some cases, NRC questions were edited for clarity, as shown in bracketed text.) Additionally, where a document is necessary to supplement the response, it has been provided as an attachment, or as a reference to another PPL letter as indicated in the response.

There are no new regulatory commitments contained herein as a result of these responses.

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

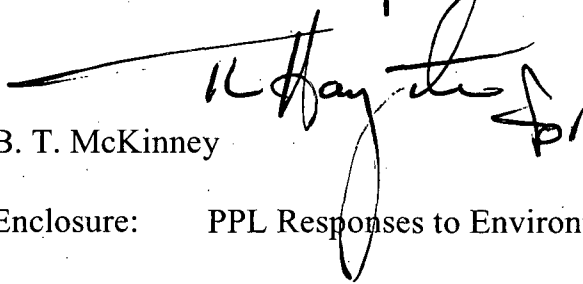
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NRR

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

Executed on:

June 15, 2007

A handwritten signature in black ink, appearing to read "B. T. McKinney", with a large, stylized flourish extending downwards and to the right.

B. T. McKinney

Enclosure: PPL Responses to Environmental Audit Questions

Attachments: Attachment 1 - BASD Tax Information

Copy: NRC Region I

Ms. Y K. Diaz-Sanabria, NRC Project Manager, License Renewal, Safety

Mr. A. L. Stuyvenberg, NRC Project Manager, License Renewal, Environmental

Mr. A. J. Blamey, NRC Sr. Resident Inspector

Mr. R. V. Guzman, NRC Sr. Project Manager

Mr. R. Janati, DEP/BRP

**Enclosure to PLA-6218
PPL Responses to Environmental Audit
Questions**

NRC Question 1:
(PPL Tracking #2)

How often are samples at the river taken by EIII?

PPL Response:

Ecology III, the environmental contractor at the Susquehanna SES, collects samples from the Susquehanna River for both the Radiological Environmental Monitoring Program (REMP) and Non-radiological Environmental Monitoring Program (NEMP).

River water surface samples are collected on a weekly basis for the REMP and quarterly for the NEMP. Five electrofishing samples and three seining samples are taken annually for NEMP. Also, two upstream and two downstream electrofishing samples are collected annually for REMP.

NRC Question 2:
(PPL Tracking #6)

Are there current burials in the cemetery north of the plant?

PPL Response:

Yes, there are current burials in the cemetery north of the plant as recently as 2004.

NRC Question 3:
(PPL Tracking #7)

Does PPL own the cemetery?

PPL Response:

No, the Beach Grove Burying Ground Association owns the cemetery north of the plant.

NRC Question 4:
(PPL Tracking #8)

Clarify the hydrology of Lake Took-A-While. Is it connected to the river via groundwater? What are the feeds?

PPL Response:

Lake Took-A-While receives water primarily from three storm water discharges from the SSES site west of US Route 11. Flows from the south, central, and north drainage areas enter the lake through pipes under the highway. A spillway is located on the east side of the lake into which small routine flows discharge into the North Branch Canal, and eventually into the Susquehanna River.

During periods of flooding and/or storm events water can enter Lake Took-A-While from the river. Also, discharge from the lake can overflow its banks and enter the canal.

NRC Question 5:
(PPL Tracking #10)

When entering the Riverlands from the Energy Information Center, there is a fenced area to the left - what is that area used for?

PPL Response:

In addition to the Radiological Environmental Monitoring Program (REMP), the Academy of Natural Sciences of Philadelphia (ANSP) conducted an Independent Radiological Safety Net Program. As part of this program, a fenced in garden was located in the Susquehanna Riverlands' recreation area near the Energy Information Center. Crops were grown in this garden and analyzed for radioactivity. The ANSP program has since been completed and this garden is no longer being used to grow crops.

NRC Question 6:
(PPL Tracking #12)

What species of fish are found in Lake Took-A-While?

PPL Response:

Commonly observed species include: three species of trout (Rainbow, Brook, Brown) stocked by the PA Fish and Boat Commission; Bluegill, Green Sunfish, Pumpkinseed, Gizzard Shad, Largemouth Bass, Crappie (white and black - predominantly white), and Carp.

NRC Question 7:
(PPL Tracking #14)

Will cultural resource surveys be done before the new transmission lines are built?

PPL Response:

There are no new transmission lines being built as part of the SSES license renewal. PPL Electric Utilities conducts the appropriate regulatory surveys and, when necessary, cultural resource surveys when locating and constructing transmission lines in new corridors.

NRC Question 8:
(PPL Tracking #16)

HVAC and Refrigerants: 1) [Provide a description of the] Refrigerant Management Program, 2) [Identify] program procedures for HVAC filter change out (Radiological contamination verification).

PPL Response:

- 1) The Refrigerant Management Program is described in procedure NDAP-00-0601, SSES Refrigerant Compliance Plan, Revision 1, and was discussed with the NRC during the audit. This procedure describes how SSES complies with sections 608 and 609 of the Clean-Air Act as amended in 1990 and implementing regulations codified in 40CFR Part 82 rules and regulations.
- 2) Maintenance and Effluents Work Orders are used to replace the HVAC filters. The overall program for processing radioactive materials is described in procedure NDAP-QA-0648 "Purchase, Receipt, and Shipment of Radioactive Material." The dose rate of the filters is measured and they are loaded into a shipping container using the measured dose rate and guidance contained in procedure WM-PS-210, Revision 8, "Packaging and Loading of DAW and Radioactive Material." Periodically, the shipping containers are shipped to a waste processing vendor (RACE) in Tennessee as described in procedure WM-PS-100 "Shipment of Radioactive Waste." This procedure provides direction and guidance for the shipment of radioactive waste to authorized disposal and processing facilities, and establishes documentation that becomes a permanent record for Low-level Radwaste Holding Facility Storage and subsequent shipment. It applies to all shipments of radioactive waste from SSES to radioactive waste disposal processing facilities excluding fissile material shipments.

NRC Question 9:
(PPL Tracking #18)

[What is the] chemical treatment [of] SW, Circ Water, Spray Pond

PPL Response:

The Service Water and Circulating Water systems are systems used by both Units 1 & 2 and receive the same water treatment consisting of:

- 1) polymeric dispersant to prevent silt settlement;
- 2) scale inhibitor to prevent calcium scale formation;
- 3) sulfuric acid for pH control;
- 4) microbiological control through a mixture of sodium hypochlorite and sodium bromide;
- 5) mollusk control which is ADBAC (quarternary amine).

The ESW Spray Pond water treatment consists of:

- 1) Aquashade (blue dye) for planktonic algae control;
- 2) quarternary amine for hair algae control;
- 3) scale inhibitor to prevent calcium scaling; and
- 4) quarternary amine for Mollusk Control.

NRC Question 10:
(PPL Tracking #19)

[Primary] Met Tower – [are] Steel Rods [used] for guide wire - or aluminum? Is cathodic protection necessary?

PPL Response:

The met tower structure and associated components (mounting hardware, etc.) is a Rohn 45GSR tower which is constructed from steel tubing with solid rod bracing, which is hot dipped zinc galvanized. The galvanized coating provides some sacrificial anode/cathodic protection benefits. There is no separate sacrificial anode rod installed. The current periodic structural inspection of the tower (Specification C1104) requires excavation of at least 6 inches of dirt around anchor rod and more if degradation is noted. All structural members are inspected for corrosion, loose bolts, cable integrity (no loose strands). The inspection results are evaluated in accordance with station programs and procedures.

NRC Question 11:
(PPL Tracking #21)

[Provide] maps for NRC [from] the CAI Report

PPL Response:

Provided in PLA-6219 as NRC Document Request #118 response.

NRC Question 12:
(PPL Tracking #25)

Are there any future plans for Gould Island?

PPL Response:

There are no current or future plans for use of Gould Island at this time.

NRC Question 13:
(PPL Tracking #26)

Send photos on wall electronically to Jennifer Davis.

PPL Response:

Provided in PLA-6221 as NRC Document Request #121 response.

NRC Question 14:
(PPL Tracking #27)

Where are the artifacts from the SSES Riverlands Survey - Potential RAI?

PPL Response:

Provided in PLA-6219 as NRC Document Request #130 response.

NRC Question 15:
(PPL Tracking #29)

Has the western part of the plant site ever been surveyed for archaeological sites?

PPL Response:

Provided in PLA-6219 as NRC Document Request #136 response.

NRC Question 16:
(PPL Tracking #33)

Was analysis done of the Peach Stand Pond sediments?

PPL Response:

The analysis was performed, however per discussion with Drew Stuyvenberg, Environmental Project Mgr, the PPL response will be provided in a subsequent letter.

NRC Question 17:
(PPL Tracking #41)

BASD tax figures in Table 2.7-1 [SSES LRA, Appendix E] do not match subsequent tax information provided. What are the correct numbers? No need for explanation of difference - just need to know correct numbers.

PPL Response:

Environmental Report Section 2.7, Taxes, has been revised to reflect the latest tax information received from BASD. The fifth paragraph of Section 2.7 is revised as follows:

From 2000 through 2004, the BASD collected between \$29 and \$41 million annually in total real estate tax revenues (Table 2.7-1) (Martz 2007). Between 2000 and 2004, SSES's real estate taxes represented 5.5 to 6.2 percent of the Berwick Area School District's total tax revenues (Table 2.7-1). A revised Table 2.7-1 is provided in Attachment 1.

(Note that on Table 2.7-1, previous numbers are shown crossed out and the revised numbers are underlined.)

NRC Question 18:
(PPL Tracking #42)

Provide a description for the cemetery surrounded by PPL property.

PPL Response:

A cemetery is located just north of the plant site along Township Road T419. The cemetery is bound by PPL property on three sides and by the township road on the fourth side. The cemetery is accessible via the township road.

NRC Question 19:
(PPL Tracking #43)

Percentages of land cover in response to Information Request XII A [based on Reference 2] - Is the cropland identified used for active agricultural production? Is this the PPL property leased for farming that is described elsewhere?

PPL Response:

Total acreage for leased cropland is 321.4 acres. This is all leased to an individual who grows string beans, potatoes, and corn. This is the leased property described in the Environmental Report.

NRC Question 20:
(PPL Tracking #44)

Open Water should be added to the list of land covers, with an appropriate percentage in the information provided in response to XII A, [based on Reference 2] (all tables).

PPL Response:

Open Water was added to the land cover list. However, per discussion with Drew Stuyvenberg, Environmental Project Mgr, the complete PPL response will be provided in a subsequent letter.

NRC Question 21:
(PPL Tracking #46)

For Federal facilities [within a 50-mile radius of SSES], identify approximate distance from SSES for each facility.

PPL Response:

Approximate distances to Federal lands within 50 miles of PPL Susquehanna are as follows: Tobyhanna Army Depot, Tobyhanna - 38 miles Fort Indiantown Gap, Annville - 50 miles; Appalachian Trail - various areas (closest is 32 miles near Hawk Mountain; farthest is 47 miles near Fort Indiantown Gap); Steamtown National Historic Site, Scranton - 34 miles; US Penitentiary (USP) Lewisburg, Lewisburg - 45 miles; Federal

Correctional Complex (FCC) Allenwood, Allenwood - 40 miles; Federal Correctional Institution (FCI) Schuylkill, Minersville - 28 miles.

NRC Question 22:
(PPL Tracking #47)

Identify any Native American lands within the 50 mile radius [of SSES].

PPL Response:

There are no known Native American lands located within 50 miles of SSES.

NRC Question 23:
(PPL Tracking #48)

Interested in geological well logs and construction detail of wells. Need to provide hydrogeological work plan for tritium monitoring well installation from Conestoga Rover when complete.

PPL Response:

The Susquehanna Steam Electric Station (SSES) – FSAR Section 2.4.13.2.3, “Aquifer Characteristics and Groundwater Conditions at the Site” describes results which includes selected LOGS of Boring Observation Well Construction Details in Figures 2.4-44 through 2.4-49.

The Conestoga Rover Tritium Monitoring Well Installation Hydrogeological Work Plan is currently in draft form. The work plan will identify Areas for Further Evaluation (AFEs) regarding potential impacts to groundwater from radioactive leaks or spills.

The work plan will review existing documentation to determine whether further evaluation is required. It will contain:

- 1) A description of the AFEs identified at SSES and the basis for including each in the plan;
- 2) The specific investigation techniques to be used to investigate each AFE and the overall groundwater system at the station; and
- 3) As appropriate; supporting documentation, procedures, and appendices for field personnel to implement the scope of work.

The table below identifies groundwater monitoring wells planned for installation in 2007, related to the industry-wide Groundwater Protection Initiative. These plans remain dynamic and subject to change, although sufficient review has been completed to suggest various locations in the Protected Area are likely sites for the wells.

Proposed Well	Aquifer	Well Depth (feet)
MW1	Bedrock	40 - 50
MW2	Overburden/Bedrock Interface	30 - 45
MW3	Overburden	30 - 40
MW4	Bedrock	40 - 50
MW5	Overburden	30 - 40
MW6	Overburden/Bedrock Interface	40 - 60

NRC Question 24:
(PPL Tracking #51)

[Provide a] description of Sewage Treatment Plant controls for offsite residue.

PPL Response:

Each batch of Sewage Treatment Plant (STP) Sewage sludge is sampled and analyzed to the Environmental Lower Limits of Detection (LLD's) before releasing it for offsite disposal currently at the Berwick Sewer Plant for digestion and disposal. If the sewage sludge is contaminated, it would be disposed as radwaste, as was done previously, by incineration and radwaste disposal at a licensed facility. PPL has taken corrective action to identify and eliminate inputs to the STP, and eliminate reconcentration. The need to dispose of sewage sludge as radwaste has been eliminated since taking these measures in the 1997 timeframe.

The liquid effluent from the STP is sampled monthly for compliance with IE Notice 80-10 for systems normally not contaminated. We have not found any radionuclides associated with the operation of Susquehanna in the liquid effluent.

NRC Question 25:
(PPL Tracking #52)

[Provide] the following publications:

- 1) SSES Units 1 & 2 - 2006 Annual Environmental Operating Report (Non-radiological)
- 2) 316(b) Entrainment Demonstration Program for SSES NPDES Permit, Special Condition C, Part C;
- 3) Range Expansion of the Asiatic Clam, *Corbicula Fluminea*, in the North Branch of the Susquehanna River by B. P. Mangan. *Journal of PA Academy of Science* 76(1):40-42 (2002).

PPL Response:

- 1) Provided in PLA-6220 as NRC Document Request #27 - (Provided ADAMS accession #ML071270217) response.
- 2) Provided in PLA-6220 as NRC Document Request #66 response.
- 3) Provided in PLA-6221 as Attachment 19.

NRC Question 26:
(PPL Tracking #53)

Does PPL sample settling ponds for chemical or radiological constituents? Does PPL sample dredge materials from around intake and diffuser structures? What protocols are in place for sampling?

PPL Response:

Yes - Storm water settling ponds are sampled for chemical constituents in accordance with National Pollutant Discharge Elimination System (NPDES) permit requirements. Radiological analysis of Peach Stand Pond is completed quarterly as part of REMP program. Intake dredging material is sampled to assure compliance with Pennsylvania Department of Environmental Protection (PADEP) clean fill requirements and discharge diffuser sediments have been sampled and river sediments are sampled as part of the REMP program.

Taxes

Page 2.7-2

September 2006

Table 2.7-1. Susquehanna Steam Electric Station Real Estate Tax Information 2000-2004.

Year	Berwick Area School District (BASD)			Luzerne County			Salem Township		
	BASD Annual Revenues	Real Estate Tax Paid to BASD by SSES	Percent of Annual BASD Revenues	Real Estate Tax Collections	Real Estate Tax Paid to Luzerne County by SSES	Percent of Luzerne County Real Estate Tax Collections	Salem Township Municipal and Street Taxes	Taxes Paid to Salem Township by SSES	Percent of Salem Township Tax Collections
2000	\$28,992,654 ^{ac} (2000-2001)	\$1,602,850 (2000-2001)	5.5	\$47,635,994 ^b	\$1,128,775	2.4	NA ^e	NA ^e	NA ^e
2001	\$30,888,277^d \$30,873,277 ^c (2001-2002)	\$1,703,022 (2001-2002)	5.5	\$60,024,566 ^b	\$1,135,552	1.9	\$123,480 ^f	\$62,140	50.3
2002	\$28,534,127 \$30,910,716 ^{ac} (2002-2003)	\$1,905,304 (2002-2003)	6.76 6.2	\$60,643,642 ^b	\$1,135,552	1.9	\$123,480 ^f	\$62,140	50.3
2003	\$31,724,705^d \$31,728,842 ^c (2003-2004)	\$1,906,035 (2003-2004)	6.0	\$61,285,895 ^d	\$1,111,857	1.8	\$123,480 ^f	\$62,140	50.3
2004	\$34,069,674^e \$40,515,341 ^c (2004-2005)	\$2,365,363 (2004-2005)	6.95 5.8	\$68,540,477 ^d	\$1,217,324	1.8	\$118,626 ^g	\$63,895	53.9

Note: Between years 2003 and 2004 there was a 24% increase in the school tax.

- a. BASD 2003
- b. Luzerne County 2002
- c. Martz 2007 2005
- d. Allabaugh 2005
- e. Year 2000 numbers are not applicable for Salem Township
- f. Fields 2005b
- g. Sampson 2005

Susquehanna Steam Electric Station Units 1 & 2
License Renewal Application