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U. S. Nuclear Regulatory Commission
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**SUSQUEHANNA STEAM ELECTRIC STATION
COMMENTS ON DRAFT PLANT-SPECIFIC SUPPLEMENT 35 TO THE
GENERIC ENVIRONMENTAL IMPACT STATEMENT FOR LICENSE
RENEWAL OF NUCLEAR PLANTS (GEIS) REGARDING
SUSQUEHANNA STEAM ELECTRIC STATION,
UNITS 1 & 2
PLA-6394**

**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. L. Lund (USNRC) to Mr. B. T. McKinney (PPL), "Notice of Availability of the Draft Plant-Specific Supplement 35 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS) Regarding Susquehanna Steam Electric Station, Units 1 and 2 (TAC Nos. MD3022 and MD3021)" dated April 25, 2008.*

In accordance with the requirements of 10 CFR 50, 51, and 54, PPL Susquehanna, LLC (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 the NRC's notice of availability of the Draft Plant-Specific Supplement 35 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS) Regarding Susquehanna Steam Electric Station, Units 1 and 2.

The Attachment provides PPL's comments on the draft GEIS as a result of PPL's review.

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

A120
NRC

Sincerely,

A handwritten signature in black ink, appearing to read "B. T. McKinney". The signature is written in a cursive style with a large initial "B" and "M".

B. T. McKinney

Attachment - Comments on Draft Generic Environmental Impact Statement for License
Renewal of Nuclear Power Plants, NUREG 1437,
Supplement 35, Regarding Susquehanna Steam Electric Station,
Units 1 and 2

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

Attachment to PLA-6394

**Comments on Draft Generic Environmental Impact
Statement for License Renewal of Nuclear Power Plants,
NUREG 1437, Supplement 35, Regarding Susquehanna
Steam Electric Station, Units 1 and 2**

1. Page xix, line 9 – Remove the “.” after “MODERATE”.
2. The correct acronym for PA Department of Environmental Protection is “PaDEP”. This affects Page xxiv, Page 21, lines 24, 25 and 35, Page 2-23, line 26, Page 4-47, lines 25 and 28 and Page 4-48, lines 13 and 14.
3. Page 2-1, line 5 – Change the statement to reflect correct ownership as delineated on Page 1.3-1 of the Susquehanna SES License Renewal Environmental Report, the plant is jointly owned by PPL Susquehanna, LLC (90%) and Allegheny Electric Cooperative, Inc. (10%).
4. Page 2-1, line 28 – Change “..two mechanical draft cooling towers ...” to “..two natural draft cooling towers ...”. SSES does not have mechanical draft cooling towers.
5. Page 2-7, line 4 - Suggest rewording the sentence as follows: “After entering the intake embayment, water passes through a skimmer wall, bar screen, trash rack, and traveling screens, which prevent large floating debris from clogging the intake.”
6. Page 2-9, line 35 - Add "chemical composition" after conductivity.
7. Page 2-9, line 40 – Delete “reverse osmosis”. SSES does not use reverse osmosis in the radwaste treatment system. Reference FSAR Section 11.2.
8. Page 2-11, line 7 – Change “condenser leakage” to “condenser air inleakage”
9. Page 2-12, line 16 – Change “Dry solid wastes” to “Dry activated wastes”.
10. Page 2-12, line 30 – Change “generated” to “shipped”.
11. Page 2-12, line 32 – Change “noncompacted wastes” to “disposed volume including all volume reduction activities”.
12. Page 2-12, line 40 - Suggest inserting the word “to” between “due” and “implementation”.
13. Page 2-13, line 36 – Add “(light ballasts and small capacitors)” after “waste” for clarification.
14. Page 2-14, line 7 – Suggest rewording the last sentence as follows: “No violations were noted in the last compliance audit conducted by the PaDEP at SSES (PPL2007e)”.

15. Page 2-14, line 10 – For clarity, add the word “penetration” after “lead”.
16. Page 2-14, line 29 – For clarity, change the sentence to read: “The waste accumulation area at SSES is a locked, fenced area for the storage of hazardous waste, residual waste, and universal waste awaiting offsite disposal or recycling”.
17. Page 2-15, line 7 – Change the last sentence to read “Federal regulations exempting LLMW from RCRA storage and treatment regulations provided the waste meets specific conditions is an option available for SSES via Pennsylvania’s incorporation by reference of EPA’s regulations (40 CFR 266.220)”.
18. Page 2-15, lines 34-37 – Change the first paragraph to read “PPL recycles numerous waste streams generated at SSES to offsite vendors. Lead, mixed metals, cardboard, plastic, paper, mixed glass, wood waste, used oil, food waste, batteries, and consumer electronics are recycled or beneficially reused, diverting tons of waste from the local landfills. Source Reduction Strategies are required to be maintained by PaDEP for the various waste streams (PPL 2007e)”.
19. Page 2-16, lines 27-28 – Change the statement to include the fact that PPL Electric Utilities operates all of the SSES transmission lines; however, 42.3 miles of the 44.2 miles of the Sunbury – Susquehanna #2 500 kV line is owned by Allegheny Electric Cooperative Inc. (Reference: NRC – PPL Susquehanna LLC; SSES, Units 1 & 2 Final Environmental Assessment, Federal Register Vol. 72, No. 241/Monday, December 16, 2007, Page 71451).
20. Page 2-19, line 24 - Insert “the” at the end of the line.
21. Page 2-21, line 13 – Remove the word “apparently”. There is documented evidence that the Susquehanna River has improved since monitoring in 1971.
22. Page 2-21, line 16 – Suggest rewording of “termination of upriver anthracite coal mining” since this phrase is not technically correct. There are still small-scale anthracite mines operating upstream of SSES.
23. Page 2-21, line 34 – A comma should be inserted between “chlorine” and “and”.
24. Page 23, line 11 – In the list, please add the following: “Aquashade is added to the ESW Spray Pond.”
25. Page 2-23, line 37. Remove the statement “...Sulfuric acid is no longer used for circulating water treatment.” (Sulfuric acid treatment of the Circulating Water System is currently accomplished via portable acid tanks located alongside each cooling tower basin.)

26. Page 2-24, line 15 – In two places insert “tritium” prior to the word “groundwater”. This clarifies the intent of the monitoring.
27. Page 2-24, line 18 – Insert “private” prior to “well”. This makes it clear as to the intent of the statement.
28. Page 2-24, line 24 – Change “town” to “borough”. The only town in the Commonwealth of Pennsylvania is Bloomsburg.
29. Page 2-26, line 14 – For clarity suggest rewording to : “... of the primary tower which provide horizontal wind speed, wind direction and calculation of the standard deviation of horizontal wind direction.”.
30. Page 2-28, line 8 – Suggest rewording as follows: “and Lake Took-A-While, and a restored section of the North Branch Canal”.
31. Page 2-28, line 12-14 – Suggest clarifying this statement to apply only to transmission line maintenance. It should not be construed as an umbrella statement for herbicide application around the plant. PPL, via Ecology III, has been permitted by the Pa Department of Environmental Protection (PaDEP) to apply chemical herbicides in the Riverlands and around Lake Took-A-While.
32. Page 2-29, line 6 – Suggest rewording this sentence as follows: “Water quality is monitored at one control site and one indicator site.” Subsequently, sentence part two should read, “The control site is upstream...” Previous Ecology III annual reports interpreted the water quality monitoring site and the temperature/flow station at the laboratory as *separate* control sites.
33. Page 2-29, lines 14-15 – This sentence should be reworded as follows: “The level of total iron in the river has decreased, associated with the 1972 cessation of pumping mine water into the river upstream from SSES.” There are still small-scale anthracite mines operating upstream of SSES.
34. Page 2-29, lines 17-18 – The line 17 sentence should be reworded to : “Water quality variables at the control and indicator sites tend to be similar for most parameters at most river flows.” The line 18 sentence should be reworded to: “Total mineral solid levels are higher at the indicator site due to concentrations of solids in the blowdown, particularly at low river flows, but do not exceed PaDEP restrictions...” Restructuring the sentences this way decreases the onus on dilution from river flow.

35. Page 2-30 - The water quality sampling site label shown onshore is misleading. The monitoring sites shown relate to the continuous monitors for water temperature and river depth. Suggest deleting the onshore site from the figure.
36. Page 2-31, lines 15-23 – Suggest rewording “Annual surveys have not discovered zebra mussels...” to “Zebra mussels were reported in the Susquehanna River near Great Bend in the summer of 2007 by PaDEP biologists.” The ESW Spray Pond has been treated twice for Asian clams.
37. Page 2-32, line 26 – Insert “juvenile” before “American shad”.
38. Page 2-32, lines 28-29 – Change “From 2001 to 2005, only one shad was collected from the intake screens” to “No American shad was collected from the screens at SSES.”
39. Page 2-33, line 6 – Change “Wyoming Valley “ to “Susquehanna Valley”. A more accurate reference would be to the Susquehanna Valley, the Wyoming Valley refers to the Wilkes-Barre-Kingston area.
40. Page 2-33, line 23 – Suggest rewording to: Township Roads 419 and 438, since these are not U.S. or State “Routes”.
41. Page 2-35, lines 15-16 – Suggest rewording as follows: Plant (flora) surveys were conducted through 1986; 708 species were identified (Table F-3 in Ecology III, Inc., 1987).
42. Page 2-35, line 31 - The correct name for clubmoss is *Lycopodium digitatum*.
43. Page 2-36, line 33 - If the Arbutus Peak mentioned is the one in Mountain Top, Luzerne County, then it is only about 16 miles NE of SSES.
44. Page 2-37, line 3 – The park is called “Nescopeck State Park”.
45. Page 2-37, lines 21-28 – Bird impaction studies were conducted and documented in annual reports until the early 1980s. The numbers of birds killed was greater than 82.
46. Page 2-37, lines 23-24 – Suggest adding the following text: “that once the towers were placed in operation, bird impactions decreased dramatically.”
47. Page 2-37, lines 32-33 – Change: “Hunting is allowed on the property...”to “Hunting is permitted on the east side of the river only...”

48. Page 2-37, line 39 – Remove:...”camping sites”...and ...”wildlife feeding areas”... There are no camping sites provided and with the exception of bird feeders at the Energy Information Center, there are no wildlife feeding areas.
49. Page 2-69, line 17 – Change: “SSES Biological Laboratory” to “SSES Environmental Laboratory”.
50. Page 2-69, line 29 – Change “occasionally” to “annually”. This clarifies the actual monitoring being performed.
51. Page 4-14, lines 20-24 and Page 4-49, lines 37-40 – Change:...”60.9” to “52”. The flow values provided in these lines have no bases from PPL license renewal or extended power uprate submittals. PPL stated a withdrawal rate of 52 MGD in correspondence with the Susquehanna River Basin Commission.
52. Page 4-15, lines 2-3, Page 4-42, lines 9-11 and Page 4-50, lines 2-3 – The values of 38 and 44 MGD should be stated as “maximum 30-day averages”.
53. Page 4-15, lines 5-6, Page 4-42, lines 13-14 and Page 4-50, lines 5-7 – The 1 percent value is incorrect. During low flow conditions, the evaporative loss could approach 10 percent of river flow. The reference to PPL 2006b is incorrect.
54. Page 4-15, lines 8-10 and Page 4-50, lines 9-11 – Change “manages” to “regulates” and change “...along the entire length of the Susquehanna River .” to “....within the entire Susquehanna River watershed”.
55. Page 4-18, line 25 - Change the statement to include the fact that PPL Electric Utilities operates all of the SSES transmission lines; however, 42.3 miles of the 44.2 miles of the Sunbury – Susquehanna #2 500 kV line is owned by Allegheny Electric Cooperative Inc. (Reference: NRC – PPL Susquehanna LLC; SSES, Units 1 & 2 Final Environmental Assessment, Federal Register Vol. 72, No. 241/Monday, December 16, 2007, Page 71451).
56. Page 4-41, line 25 – Insert “average” before “groundwater”.
57. Page 4-47, line 7 – Change: “2” to “1”. The Intake Building is about 1 mile above the mouth of Wapwallopen Creek.
58. Page 4-47, line 15 – Change “cities” to “population centers”.
59. Page 4-47, line 23 – Add the following: “combined sewer overflow” after “...wastewater,”. One major factor in degraded river water quality pertaining to northeastern PA is the combined sewer overflow (CSO) issue.

60. Page 4-47, line 35 – Delete the comma.
61. Page 4-47, line 39 and Page 4-48, line 6 – Change “mining effluents” to “acid mining drainage”.
62. Page 4-48, line 10 – Delete: “cessation of upriver mining”. There are still small-scale anthracite mines operating upstream of SSES.
63. Page 4-49, lines 25-26 – The statement as written is not correct. The Fiber Dam at Sunbury (a state-owned facility) still blocks American Shad migration up the Susquehanna River because the fish ladder is not completed.
64. Page 4-49, lines 33-34 – Delete: “...only one shad”. Change to: “no shad”. No juvenile American Shad were ever collected at the SSES river intake screens.
65. Page 4-50, lines 5-7 – Change: “1” to “7”. Withdrawal losses would exceed 1%. It can approach 7% at low river flows.
66. Page 4-50, lines 33-34 – Delete: “less than 2 per cent”. Change to: “could approach 15 per cent.” Withdrawal could approach 15% of total river volume.
67. Page 4-53, line 12 – Change “a biologist” to “the station’s environmental staff”.
68. Page 4-53, line 14 – Change “protected area” to “unprotected area”. There are no forests or wetlands within the protected area.
69. Page 4-53, line 19 – Delete “previously disturbed”. Not all the adjacent land was previously disturbed. The statement on Page 8-39, third paragraph under “Land Use” is correct.
70. Page 4-54, line 27 – Insert “SSES’s” at the beginning of the line.
71. Page 8-38 – Change : “PPL Electric Utilities” to “PPL Nuclear Development, LLC”. PPL Nuclear Development, LLC will be submitting the COL application. (This change also applies elsewhere in the Draft SEIS).
72. Page G-2, line 18 – Delete: “...an updated version”. Change to: “...a complete upgrade”. A more accurate characterization of the current PRA model is that it is a complete upgrade of the IPE version, not an update. The PPL Environmental Report, Page E.2-7 states that the model is not an upgrade but a new model. Also, the NUREG makes the same claim about the model (new) in the last sentence of paragraph four on Page G-10.

73. Page G-7, line 20 - The last sentence of that paragraph contradicts the information in the subsequent paragraph regarding the status of the remaining Level B F&Os. Therefore, this sentence should be deleted.
74. Page G-10, line 23 and G-14, line 26 - Clarification regarding the SAMA 9 treatment of external events is warranted. Per the SSES LRA, Appendix E, Environmental Report, Page E.6-30, the first paragraph following table, "It should be noted that the PRA based averted cost-risk estimate still includes the doubling factor to account for the general external events contributions even though explicit fire contributions are addressed separately."

Suggested rewording for G-10 is: "In the ER, PPL explained that in addition to the multiplier of 2.0 impact to account for external events, a separate contribution is included in the benefit assessment for SAMA 9 to specifically address the fire contributions from a fire zone (Fire Zone 0-28B-II) where the damage could render critical DC equipment inoperable."

Suggested rewording for G-14 is: "...25 potential impact of external events, the estimated benefit based on internal events were multiplied by a factor of 2.0 (with the exception of SAMA 9 for which in addition to the multiplier of 2.0, the potential for specific benefit from selected fire events were separately assessed)."

75. Page G-12, lines 26 and 28 - Two references have been added (i.e., USCB 2000a and USCB 2000b) that were not included in the PPL submittal to the NRC. The source material is contained in Section E.3.2 of the September 2006 License Renewal Application. The new NRC references refer to census data available from the U.S. Census Bureau web site. For the MACCS2 analysis, all population data was obtained via the SECPOP2000 code (appropriately referenced in line 25). The SECPOP2000 code is distributed with 1990 and 2000 census data that may be consistent with references USCB 2000a and USCB 2000b, but this can not be confirmed. It is suggested that the reference to census data be changed to 1990 and 2000.
76. Page G-22, line 4 - Additional clarification regarding the SAMA 9 treatment of external events is also warranted. Suggested rewording is: "The risk reduction for SAMA 9 was calculated by setting the DC bus failure initiating events, independent failure events, and common cause failure events to zero in the PRA model. A separate contribution was also included to specifically address the potential benefit for fire contributions from a fire zone (Fire Zone 0-28B-II) where fire damage could render critical DC equipment inoperable."

77. Page G-32, line 1 – It is stated that PPL will consider five potentially cost beneficial SAMAs (2a, 2b, 3, 5 and 6). The Conclusion section of the Environmental Report, E.8 discusses these five SAMAs and the last sentence of paragraph one on Page E.8-2 states, “This SAMA (2b) is not recommended for consideration.” Suggested rewording is proposed as follows: “...that four potentially cost-beneficial SAMAs (2a, 3, 5, and 6) will be considered for..”
78. Pages G-20 and G-21 – Foot note (a) states that the potentially cost-beneficial SAMAs are in bold. However, no SAMAs are in bold. Note SAMAs 2a and 6 were determined to be potentially cost-beneficial and SAMAs 2b, 3 and 5 are potentially cost-beneficial when uncertainties for the 95th percentile are used. Therefore, SAMAs 2a, 2b, 3, 5 and 6 should be bolded.