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August 19, 2010

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**BELL BEND NUCLEAR POWER PLANT**
**RESPONSE TO ENVIRONMENTAL**
**INFORMATION NEEDS, THIRD SUBMITTAL**
**BNP-2010-201 Docket No. 52-039**

Reference: 1) BNP-2010-196, R. R. Sgarro, (PPL Bell Bend, LLC) to U.S. NRC, "Response to Environmental Information Needs, Third Submittal", dated August 13, 2010

This letter supersedes the referenced letter in its entirety. Three figures associated with the response to Information Needs item H-9 were inadvertently omitted from the referenced letter and are included in this submittal.

The purpose of this letter is to respond to the following Environmental Information Needs discussed at the June 15-17, 2010, Alternative Sites Audit:

- AE-32
- ALT-5
- ALT-6
- ALT-17
- H-9
- LU-6
- SE-1
- SE-3
- SE-5

The commitment contained in this submittal is the future revision of the Alternative Site Evaluation Report, as indicated in the enclosure.

If you have any questions, please contact the undersigned at 570-802-8102.

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

Executed on August 19, 2010

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure: Information Needs Responses, Alternative Sites Audit, June 15-17, 2010, Bell Bend Nuclear Power Plant, Luzerne County Pennsylvania

D102
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**Enclosure**

**Information Needs Responses**
**Alternative Sites Audit**
**June 15-17, 2010**
**Bell Bend Nuclear Power Plant**
**Luzerne County Pennsylvania**

**AE-32**

New Verbal Request During Site Visit

**Information Needs Text:** The river at the conceptual intake/discharge location for Humboldt is described as a "narrow channel" where the river is deep, fast, and has turbulent flow (IFIM Study Plan). What is the evidence for the assumption that the potential effects of operation (e.g., the discharge plume, impingement/entrainment) in this stretch of river would be similar to those at BBNPP (p. 48), which is on a hydrodynamically different stretch of the river?

**Response:** In response to concerns expressed by the U.S. Army Corps of Engineers regarding the conceptual water pipeline route for the Humboldt site, the conceptual water pipeline for the site has been re-routed more directly to the Susquehanna River following a northwesterly route that is approximately 12.8 miles long. The conceptual intake/discharge location for the Humboldt site is now further upstream from the previous location and is located approximately 2.4 miles downstream from the proposed BBNPP cooling water intake structure, in a hydrodynamically similar location.

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

No changes to the BBNPP ASER are required as a result of this Information Need response.

**ALT-5**

ER Section 9.3

**Information Needs Text:** Provide an expert who can explain why the weights used in Tables 6-1 and 7-1 differ from those listed on page D-1. For example, the weight used for criterion 16 is 8.33 on page 28, but the wetland weight on page D-1 is 8.0. Appendix D does not indicate that averaging was used for weighting.

**Response:** A subject matter expert will be available to explain why the weights used in Tables 6-1 and 7-1 differ from those listed on page D-1 of the Bell Bend Nuclear Power Plant Alternative Site Evaluation Report (ASER). As stated in the response to Information Need ALT 9.3-4, the 9-member Delphi panel independently assigned a weight to each criterion to indicate the relative importance of that criterion to the site evaluation process. The weights assigned by each panel member were averaged and then rounded to the nearest whole number, with the exception of Criteria 5 and 14, as listed on page D-1. The weights for Criteria 5 and 14 were assigned a value of 5.5 in order for the assigned weights of all the criteria to total to 100.

The weights in Table 6-1 and 7-1 should match those on page D-1 and the weighted scores in Tables 6-1 and 7-1 are actually based on multiplying the scores shown in the tables by the whole number weights on page D-1, with the exception of Criterion 10. There is a typographical error in the weight for Criterion 10 on page D-1; the weight for Criterion 10 should be 5.0. The weight for Criterion 10 on page D-1 will be revised to 5.0 and the weights shown in Tables 6-1 and 7-1 will be revised to match page D-1 in the next update to the ASER. Because the weighted scores are actually based on the weights on page D-1, there is no change to the weighted scores or total weighted scores in Tables 6-1 and 7-1 of the ASER or ER Table 9.3-10. Note that apparent math errors in the tables reflect truncated/rounded numbers from the originating spreadsheet.

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

BBNPP ASER Table 6-1 will be revised, as follows, in a future revision of the ASER:

**Table 6-1**
**Weighted Scoring & Ranking to Determine Alternative Sites**

| Criteria[1] | Weight | Bainbridge | | Conowingo | | Humboldt | | Martins Creek (NJ) | | Montour | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score |
| **1. Land use, including availability, and areas requiring special consideration** | ~~6.33~~ 6.0 | **2.47** | **14.80** | **3.00** | **18.00** | **3.26** | **19.58** | **3.35** | **20.12** | **3.49** | **20.93** |
| 1a. Land Area and Existing Facilities: Ability to support the combined EPR footprint including the protected area, cooling towers, ponds, switchyard, construction support areas | | 4.78 | | 3.00 | | 3.44 | | 5.00 | | 4.78 | |
| 1b. Special Areas: Hazardous waste or spoils areas | | 1.89 | | 5.00 | | 3.44 | | 3.44 | | 3.89 | |
| 1c. Zoning | | 1.22 | | 5.00 | | 5.00 | | 5.00 | | 1.44 | |
| 1d. Distance to dedicated land | | 3.00 | | 1.00 | | 3.00 | | 1.00 | | 5.00 | |
| 1e. Topography | | 1.44 | | 1.00 | | 1.44 | | 2.33 | | 2.33 | |
| **2. Hydrology, water quality, and water availability** | 9.0 | **4.67** | **42.00** | **4.67** | **42.00** | **4.33** | **39.00** | **4.33** | **39.00** | **4.33** | **39.00** |
| 2a. Water Quality (chemistry) | | 4.00 | | 4.00 | | 5.00 | | 5.00 | | 5.00 | |
| 2b. Receiving Body Water Quality | | 5.00 | | 5.00 | | 3.00 | | 3.00 | | 3.00 | |
| 2c. Volume | | 5.00 | | 5.00 | | 5.00 | | 5.00 | | 5.00 | |
| **3. Terrestrial resources (including endangered species)** | ~~7.28~~ 7.0 | **2.50** | **17.50** | **2.50** | **17.50** | **5.00** | **35.00** | **5.00** | **35.00** | **4.50** | **31.50** |
| 3a. Endangered/threatened habitats | | 1.00 | | 1.00 | | 5.00 | | 5.00 | | 5.00 | |
| 3b. Floodplains | | 4.00 | | 4.00 | | 5.00 | | 5.00 | | 4.00 | |
| **4. Aquatic biological resources (including endangered species)** | ~~7.28~~ 7.0 | **1.00** | **7.00** | **1.00** | **7.00** | **4.00** | **28.00** | **2.00** | **14.00** | **4.00** | **28.00** |
| 4a. Endangered/threatened habitats | | 1.00 | | 1.00 | | 5.00 | | 1.00 | | 5.00 | |
| 4b Thermal Discharge Sensitivity | | 1.00 | | 1.00 | | 3.00 | | 3.00 | | 3.00 | |
| **5. Socioeconomics (including aesthetics, demography, and infrastructure)** | ~~5.50~~ 5.5 | **4.00** | **22.00** | **4.00** | **22.00** | **4.00** | **22.00** | **4.20** | **23.10** | **2.40** | **13.20** |
| 5a. Emergency services | | 5.00 | | 5.00 | | 5.00 | | 5.00 | | 3.00 | |
| 5b. Construction traffic | | 5.00 | | 5.00 | | 5.00 | | 3.00 | | 3.00 | |
| 5c. Construction workforce | | 5.00 | | 5.00 | | 5.00 | | 5.00 | | 3.00 | |
| 5d. Housing and necessities | | 1.00 | | 1.00 | | 1.00 | | 3.00 | | 1.00 | |
| 5e. Schools | | 4.00 | | 4.00 | | 4.00 | | 5.00 | | 2.00 | |
| **6. Environmental Justice** | ~~4.72~~ 5.0 | **3.50** | **17.50** | **4.00** | **20.00** | **4.50** | **22.50** | **4.50** | **22.50** | **4.50** | **22.50** |
| 6a. Minority population | | 3.00 | | 4.00 | | 5.00 | | 5.00 | | 5.00 | |
| 6b. Low-income population | | 4.00 | | 4.00 | | 4.00 | | 4.00 | | 4.00 | |
| **7. Historic and Cultural Resources** | ~~4.94~~ 5.0 | **1.00** | **5.00** | **1.00** | **5.00** | **4.00** | **20.00** | **3.00** | **15.00** | **4.00** | **20.00** |
| 7a. Historic properties | | 1.00 | | 1.00 | | 3.00 | | 3.00 | | 3.00 | |
| 7b. Historic districts | | 1.00 | | 1.00 | | 5.00 | | 3.00 | | 5.00 | |
| **8. Air Quality** | ~~4.00~~ 4.0 | **3.50** | **14.00** | **3.50** | **14.00** | **5.00** | **20.00** | **4.00** | **16.00** | **5.00** | **20.00** |

**Table 6-1**
**Weighted Scoring & Ranking to Determine Alternative Sites**

| Criteria[1] | Weight | Bainbridge | | Conowingo | | Humboldt | | Martins Creek (NJ) | | Montour | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score |
| 8a. Climate and Meteorology: Weather risks/conditions | | 4.00 | | 4.00 | | 5.00 | | 5.00 | | 5.00 | |
| 8b. Class 1 Areas, Attainment / non-attainment Area | | 3.00 | | 3.00 | | 5.00 | | 3.00 | | 5.00 | |
| **9. Human Health** | **~~6.06~~ 6.0** | **1.33** | **8.00** | **2.67** | **16.00** | **2.67** | **16.00** | **1.00** | **6.00** | **3.00** | **18.00** |
| 9a. Emergency preparedness program– proximity of residences/businesses for exclusion zone | | 1.00 | | 3.00 | | 1.00 | | 1.00 | | 3.00 | |
| 9b. Radiological pathways – water | | 2.00 | | 4.00 | | 4.00 | | 1.00 | | 5.00 | |
| 9c. Radiological pathways - food | | 1.00 | | 1.00 | | 3.00 | | 1.00 | | 1.00 | |
| **10. Postulated Accidents(a)** | **~~4.56~~ 5.0** | **1.00** | **5.00** | **1.00** | **5.00** | **1.00** | **5.00** | **1.00** | **5.00** | **1.00** | **5.00** |
| 10a. Distance to Nearby Potential Hazards [per definition of Reg Guide 4.7] | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| **11. Transport of Radioactive Material (a)** | **~~3.00~~ 3.0** | **1.00** | **3.00** | **2.00** | **6.00** | **1.00** | **3.00** | **1.00** | **3.00** | **2.00** | **6.00** |
| 11a. Operations/ Transportation: Support/challenges to transport of nuclear fuel and wastes | | 1.00 | | 2.00 | | 1.00 | | 1.00 | | 2.00 | |
| **12. Transmission corridors (land used, feasibility, and resources affected)** | **~~7.72~~ 8.0** | **4.00** | **32.00** | **4.00** | **32.00** | **3.00** | **24.00** | **3.00** | **24.00** | **2.00** | **16.00** |
| 12a. Environmental impact of Proposed Transmission Interconnection | | 4.00 | | 4.00 | | 3.00 | | 3.00 | | 2.00 | |
| **13. Population distribution and density** | **~~8.67~~ 9.0** | **3.00** | **27.00** | **3.50** | **31.50** | **4.00** | **36.00** | **2.00** | **18.00** | **4.00** | **36.00** |
| 13a. Distance to Population Centers | | 4.00 | | 4.00 | | 5.00 | | 2.00 | | 4.00 | |
| 13b. Population Density | | 2.00 | | 3.00 | | 3.00 | | 2.00 | | 4.00 | |
| **14. Facility costs** | **~~5.50~~ 5.5** | **4.95** | **27.20** | **1.50** | **8.25** | **3.00** | **16.50** | **2.50** | **13.75** | **1.56** | **8.55** |
| 14a. Transportation: Barge access and capacity – distance, construction, or upgrade requirements | | 5.00 | | 1.89 | | 1.00 | | 1.00 | | 1.00 | |
| 14b. Transportation: Rail line access and capacity – distance, spur requirements, line capacity, or upgrade requirements | | 4.89 | | 1.11 | | 5.00 | | 4.00 | | 2.11 | |
| **15. Geology/Seismology** | **~~7.11~~ 7.0** | **4.00** | **28.00** | **4.50** | **31.50** | **4.25** | **29.75** | **2.75** | **19.25** | **4.75** | **33.25** |
| 15a. Geology/ Seismology: Vibratory ground motion – seismic peak ground acceleration | | 5.00 | | 5.00 | | 5.00 | | 4.00 | | 5.00 | |
| 15b. Geology/Seismology: Depth to bedrock, soil stability, and compaction | | 3.00 | | 5.00 | | 5.00 | | 1.00 | | 5.00 | |
| 15c. Geology/Seismology: Surface faulting and deformations | | 5.00 | | 5.00 | | 5.00 | | 5.00 | | 5.00 | |
| 15d. Geology/Seismology: Other geological hazards | | 3.00 | | 3.00 | | 2.00 | | 1.00 | | 4.00 | |
| **16. Wetlands** | **~~8.33~~ 8.0** | **5.00** | **40.00** | **4.33** | **34.67** | **4.33** | **34.67** | **5.00** | **40.00** | **5.00** | **40.00** |
| 16a. Total wetlands | | 5.00 | | 5.00 | | 5.00 | | 5.00 | | 5.00 | |
| 16b. Wetlands Component of Site | | 5.00 | | 3.00 | | 3.00 | | 5.00 | | 5.00 | |
| 16c. High Quality Wetlands | | 5.00 | | 5.00 | | 5.00 | | 5.00 | | 5.00 | |
| **Total** | | | 310.0 | | 310.4 | | **371.0** | | 313.7 | | **357.9** |
| **Alternative Site? (Yes/No)[2]** | | **NO** | | **NO** | | **YES** | | **NO** | | **YES** | |

BBNPP ASER Table 7-1 will be revised, as follows, in a future revision of the ASER:

**Table 7-1**
**Evaluation for "Environmentally Preferred"**

| Criteria[1] | Weight | BBNPP Score | BBNPP Wt. Score | Humboldt Score | Humboldt Wt. Score | Montour Score | Montour Wt. Score | Seedco Score | Seedco Wt. Score |
|---|---|---|---|---|---|---|---|---|---|
| **1. Land use, including availability, and areas requiring special consideration** | ~~6.33~~ 6.0 | 3.89 | 23.34 | 3.26 | 19.58 | 3.49 | 20.93 | 3.58 | 21.47 |
| 1a. Land Area and Existing Facilities: Ability to support the combined EPR footprint includin protected area, cooling towers, ponds, switchyard, construction support areas | | 5.00 | | | | | | | |
| 1b. Special Areas: Hazardous waste or spoils areas | | 4.78 | | | | | | | |
| 1c. Zoning | | 3.67 | | | | | | | |
| 1d. Distance to Dedicated Land | | 3.00 | | | | | | | |
| 1e. Topography | | 3.00 | | | | | | | |
| **2. Hydrology, water quality, and water availability** | ~~9.00~~ 9.0 | 4.33 | 39.00 | 4.33 | 39.00 | 4.33 | 39.00 | 4.33 | 39.00 |
| 2a. Water Quality (chemistry) | | 5.00 | | | | | | | |
| 2b. Receiving Body Water Quality | | 3.00 | | | | | | | |
| 2c. Volume | | 5.00 | | | | | | | |
| **3. Terrestrial resources (including endangered species)** | ~~7.28~~ 7.0 | 4.50 | 31.50 | 5.00 | 35.00 | 4.50 | 31.50 | 4.50 | 31.50 |
| 3a. Endangered/Threatened Habitats | | 5.00 | | | | | | | |
| 3b. Floodplains | | 4.00 | | | | | | | |
| **4. Aquatic biological resources (including endangered species)** | ~~7.28~~ 7.0 | 4.00 | 28.00 | 4.00 | 28.00 | 4.00 | 28.00 | 4.00 | 28.00 |
| 4a. Endangered/Threatened Habitats | | 5.00 | | | | | | | |
| 4b Thermal Discharge Sensitivity | | 3.00 | | | | | | | |
| **5. Socioeconomics (including aesthetics, demography, and infrastructure)** | ~~5.50~~ 5.5 | 3.00 | 16.50 | 4.00 | 22.00 | 2.40 | 13.20 | 4.00 | 22.00 |
| 5a. Emergency services | | 5.00 | | | | | | | |
| 5b. Construction Traffic | | 3.00 | | | | | | | |
| 5c. Construction Workforce | | 3.00 | | | | | | | |
| 5d. Housing and Necessities | | 1.00 | | | | | | | |
| 5e. Schools | | 3.00 | | | | | | | |
| **6. Environmental Justice** | ~~4.72~~ 5.0 | 4.50 | 22.50 | 4.50 | 22.50 | 4.50 | 22.50 | 1.00 | 5.00 |
| 6a. Minority Population | | 5.00 | | | | | | | |
| 6b. Low-income Population | | 4.00 | | | | | | | |
| **7. Historic and Cultural Resources** | ~~4.94~~ 5.0 | 4.00 | 20.00 | 4.00 | 20.00 | 4.00 | 20.00 | 4.00 | 20.00 |
| 7a. Historic Properties | | 3.00 | | | | | | | |
| 7b. Historic Districts | | 5.00 | | | | | | | |
| **8. Air Quality** | ~~4.00~~ 4.0 | 5.00 | 20.00 | 5.00 | 20.00 | 5.00 | 20.00 | 5.00 | 20.00 |
| 8a. Climate and Meteorology: Weather risks/conditions | | 5.00 | | | | | | | |
| 8b. Class 1 Areas, Attainment / non-attainment Area | | 5.00 | | | | | | | |

**Table 7-1**
**Evaluation for "Environmentally Preferred"**

| Criteria[1] | Weight | BBNPP | | Humboldt | | Montour | | Seedco | |
|---|---|---|---|---|---|---|---|---|---|
| | | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score | Score | Wt. Score |
| **9. Human Health** | ~~6.06~~ 6.0 | 3.00 | 18.00 | 2.67 | 16.00 | 3.00 | 18.00 | 2.33 | 14.00 |
| 9a. Emergency preparedness program– proximity of residences/businesses for exclusion zo | | 3.00 | | | | | | | |
| 9b. Radiological pathways – water | | 5.00 | | | | | | | |
| 9c. Radiological pathways – food | | 1.00 | | | | | | | |
| **10. Postulated Accidents(a)** | ~~4.56~~ 5.0 | 1.00 | 5.00 | 1.00 | 5.00 | 1.00 | 5.00 | 1.00 | 5.00 |
| 10a. Distance to Nearby Potential Hazards [per definition of Reg Guide 4.7] | | 1.00 | | | | | | | |
| **11. Fuel Cycle Impacts(a)** | ~~3.00~~ 3.0 | 1.00 | 3.00 | 1.00 | 3.00 | 2.00 | 6.00 | 1.00 | 3.00 |
| 11a. Operations/ Transportation: Support/challenges to transport of nuclear fuel and wastes | | 1.00 | | | | | | | |
| **12. Transmission corridors (land used, feasibility, and resources affected)** | ~~7.72~~ 8.0 | 4.78 | 38.24 | 3.00 | 24.00 | 2.00 | 16.00 | 3.00 | 24.00 |
| 12a. Environmental impact of proposed transmission interconnection | | 4.78 | | | | | | | |
| **13. Population distribution and density** | ~~8.67~~ 9.0 | 3.50 | 31.50 | 4.00 | 36.00 | 4.00 | 36.00 | 4.50 | 40.50 |
| 13a. Distance to population centers | | 4.00 | | | | | | | |
| 13b. Population density | | 3.00 | | | | | | | |
| **14. Facility costs (environmental)** | ~~5.50~~ 5.5 | 2.95 | 16.20 | 3.00 | 16.50 | 1.56 | 8.55 | 3.00 | 16.50 |
| 14a. Transportation: Barge access and capacity – distance, construction, or upgrade require | | 1.00 | | | | | | | |
| 14b. Transportation: Rail line access and capacity – distance, spur requirements, line capaci upgrade requirements | | 4.89 | | | | | | | |
| **15. Geology/Seismology** | ~~7.11~~ 7.0 | 4.00 | 28.00 | 4.25 | 29.75 | 4.75 | 33.25 | 3.75 | 26.25 |
| 15a. Geology/ Seismology: Vibratory ground motion – seismic peak ground acceleration | | 5.00 | | | | | | | |
| 15b. Geology/Seismology: Depth to bedrock, soil stability, and compaction | | 3.00 | | | | | | | |
| 15c. Geology/Seismology: Surface faulting and deformations | | 5.00 | | | | | | | |
| 15d. Geology/Seismology: Other geological hazards | | 3.00 | | | | | | | |
| **16. Wetlands** | ~~8.33~~ 8.0 | 3.67 | 29.33 | 4.33 | 34.67 | 5.00 | 40.00 | 5.00 | 40.00 |
| 16a. Total wetlands | | 5.00 | | | | | | | |
| 16b. Wetlands Component of Plot | | 1.00 | | | | | | | |
| 16c. High Quality Wetlands | | 5.00 | | | | | | | |
| **Total** | | | 370.1 | | 371.0 | | 357.9 | | 356.2 |
| **Is Alternative Site "Environmentally Preferred"? (Yes/No)** | | | | NO | | NO | | NO | |

Notes:
[1]Yellow highlighted row is from Ref NUREG-1555 Subject Areas for Candidate Site Selection and Screening. No fill is Functional Evaluation Elements [Ref EPRI Siting Study]

BBNPP ASER Appendix D table will be revised, as follows, in a future revision of the ASER:

| Criteria Topic | Weight |
|---|---|
| 1. Land use, including availability, and areas requiring special consideration | 6.0 |
| 2. Hydrology, water quality, and water availability | 9.0 |
| 3. Terrestrial resources (including endangered species) | 7.0 |
| 4. Aquatic biological resources (including endangered species) | 7.0 |
| 5. Socioeconomics (including aesthetics, demography, and infrastructure) | 5.5 |
| 6. Environmental Justice | 5.0 |
| 7. Historic and Cultural Resources | 5.0 |
| 8. Air Quality | 4.0 |
| 9. Human Health | 6.0 |
| 10. Postulated Accidents(a) | ~~6.0~~ 5.0 |
| 11. Fuel Cycle Impacts(a) | 3.0 |
| 12. Transmission corridors (land used, feasibility, and resources affected) | 8.0 |
| 13. Population distribution and density | 9.0 |
| 14. Transportation Access | 5.5 |
| 15. Geology/Seismology | 7.0 |
| 16. Wetlands | 8.0 |

**ALT-6**

ER Section 9.3

**Information Needs Text:** Provide an expert who can clarify the discussion on Page 26, in particular, if the Bell Bend site were rated greater than one standard deviation lower than another site, would PPL consider it environmentally preferable and use commercial criteria in the overall evaluation? For example, if Criterion 16c High Quality Wetlands, p. 26, is changed from the current score of 5 for the Bell Bend site to a 1 based on State Designation of Exceptional Value (EV) wetlands, the net effect on the score would be a change to 360.18, which is greater than one standard deviation less than Humboldt's score.

**Response:** A subject matter expert will be available to clarify the discussion on page 26 of the Bell Bend Nuclear Power Plant (BBNPP) Alternative Site Evaluation Report (ASER). If the BBNPP were greater than one standard deviation lower than another site, BBNPP would not be considered environmentally preferable. An additional step of the alternative site evaluation would be performed to determine whether any site determined to be environmentally preferable to the BBNPP would be considered "obviously superior" to the BBNPP. This additional step of the alternative site evaluation would include the use of commercial criteria.

However, there is a typographical error on page 26 of the ASER. The standard deviation in the total weighted scores of the BBNPP and nine candidate sites being evaluated and ranked is 24.4 instead of 7.8. Therefore, a change in the current score of Criterion 16c for BBNPP from 5 to 1 would not result in a difference between the Humboldt and BBNPP site scores of greater than 1 standard deviation. As a result, there would be no need to perform an additional step in the alternative site evaluation to determine whether any site is "obviously superior" to the BBNPP.

**COLA Impact:**
No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**
BBNPP ASER Section 7 will be revised, as follows, in a future revision of the ASER:

**7. Validation of Preferred Site**
One standard deviation of the Alternative Site scores is 24.4 ~~7.8~~ points. The difference between the Humboldt score and the score for BBNPP, the Proposed Site, is 0.9 points or less than 1 percent different from the BBNPP score. This level of difference between the scores was considered to be insignificant, and consequently, none of the Alternative Sites were found to be "Environmentally Preferred" to the Proposed Site following scoring and ranking with the selected environmental criteria. Consequently, commercial criteria were not used in the overall alternative site evaluation.

**ALT-17**

ER Section 9.3

**Information Needs Text:** Provide an expert who can discuss Appendix A, Criterion 14b. Please clarify the apparent redundancy in score 2 regarding need for refurbishment.

**Response:** A subject matter expert will be available to discuss Criterion 14b in Appendix A of the Alternative Site Evaluation Report (ASER). There is a typographical error on page A-12 of the ASER in the scoring basis for a score of 2. The current scoring basis is as follows: "2 = Rail line 1 mi (2 km) to less than 5 mi (8 km) from site but inactive or needing refurbishment and needing refurbishment." The ASER will be revised to delete "and needing refurbishment" from the end of the scoring basis for a score of 2.

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

BBNPP ASER Appendix A will be revised, as follows, in a future revision of the ASER:

| **14. Facility costs [Transportation Access]** | | |
|---|---|---|
| 14b. Rail line access and capacity – distance, spur requirements, line capacity, or upgrade requirements<br><br>SCORED BY EXPERT PANEL[4] | Estimated distance and condition of nearest accessible active rail line | 5 = Active rail line less than 1 mi (2 km) from site<br>4 = Rail line less than 1 mi (2 km) from site but inactive or needing refurbishment<br>3 = Active rail line 1 mi (2 km) to less than 5 mi (8 km) from site<br>2 = Rail line 1 mi (2 km) to less than 5 mi (8 km) from site but inactive or needing refurbishment ~~and needing refurbishment~~<br>1 = Rail line greater than or equal to 5 mi (8 km) from site |

**H-9**

ER Section 9.3.2

**Information Needs Text:** Provide an expert who can discuss groundwater at all alternative sites. Please make available a list of nearby groundwater and surface-water users who could be affected directly by plant construction and operation.

**Response:** A subject matter expert will be available to discuss groundwater at all alternative sites.

The Pennsylvania Groundwater Information System (PaGWIS) (Pennsylvania Department of Conservation and Natural Resources [PA DCNR], 2009a) was used to identify the groundwater wells within a one-mile radius of each of the alternative sites. A list of the groundwater wells within a one-mile radius of each of the alternative sites and the use type (e.g., private, commercial utility, industry) and township is provided in the attached Table 1.

Construction activities such as excavations, hard fills, and foundation emplacements may cause localized changes in groundwater levels and flow paths and could also induce potential migration of contaminants. Accidental spills of petroleum and other fluids associated with construction activities (e.g., operation of heavy machinery) could introduce contaminants into the groundwater.

Because surface water will be used as the source of cooling water for the site and groundwater usage is not anticipated for operations at any of the alternative sites, no long term impacts to the groundwater system are anticipated. Adherence to engineering best management practices (e.g., pollution prevention plans) should preclude impacts to groundwater resources.

Surface water users within a five-mile radius of the Montour, Humboldt, and Seedco alternative sites are shown on Figures 1, 2, and 3, respectively. Surface water used for the power plant will be obtained from and returned to the Susquehanna River. Therefore, local surface water bodies will not be affected during plant operations. Best Management Practices (BMP) will be used during construction to minimize erosion and sediment entering local streams.

Data Source:

**PA DCNR, 2009a**. Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Groundwater Information System, Website: http://www.dcnr.state.pa.us/topogeo/groundwater/PaGWIS/SelectRecords.asp?Page=&UserType=, Date accessed: June 16, 2010.

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

No changes to the BBNPP ASER are required as a result of this Information Need response.

Table 1. List of Groundwater Wells within 1-mile Radius of Alternative Sites

| Well ID | Date Drilled | Type of User | County | Township | Comments |
|---|---|---|---|---|---|
| **Montour site** | | | | | |
| 133303 | NA | Private | Montour | Anthony | |
| 28742 | 6/22/1966 | Private | Montour | Anthony | |
| 133292 | 1/1/1967 | Private | Montour | Anthony | |
| 28740 | 6/19/1967 | Private | Montour | Anthony | |
| 251211 | NA | Private | Montour | Anthony | |
| 28741 | 6/1/1972 | Utility | Montour | Anthony | |
| 28749 | 1/1/1974 | Utility | Montour | Anthony | |
| 251216 | NA | Unknown | Montour | Anthony | |
| 251215 | NA | Unknown | Montour | Anthony | |
| 28751 | 4/30/1968 | Private | Montour | Anthony | |
| 28738 | 4/2/1974 | Private | Montour | Derry | |
| 133329 | 12/1/1980 | Private | Montour | Derry | |
| 133325 | 7/1/1986 | Private | Montour | Derry | |
| 133324 | 7/1/1986 | Private | Montour | Derry | |
| **Humboldt site** | | | | | |
| 25733 | NA | Utility | Luzerne | Hazle | |
| 25726 | 5/1/1965 | Industry | Luzerne | Hazle | |
| 250028 | NA | Industry | Luzerne | Hazle | |
| 250031 | NA | Industry | Luzerne | Hazle | |
| 250029 | NA | Industry | Luzerne | Hazle | |
| 250030 | NA | Industry | Luzerne | Hazle | |
| **Seedco site** | | | | | |
| 28886 | NA | Not listed | Northumberland | Coal | Unused |
| 28894 | NA | Not listed | Northumberland | Coal | Unused |
| 28880 | 1/1/1975 | Not listed | Northumberland | Coal | Unused |
| 28882 | NA | Not listed | Northumberland | Coal | Unused |
| 29128 | NA | Not listed | Northumberland | Coal | Unused |
| 28890 | NA | Not listed | Northumberland | Coal | Unused |
| 29127 | NA | Not listed | Northumberland | Coal | Unused |
| 28893 | NA | Not listed | Northumberland | Coal | Unused |

NA = Not available

Unused = Well not known to be in active use

Figure 1. Surface Water Users within a Five-Mile Radius of the Montour Site

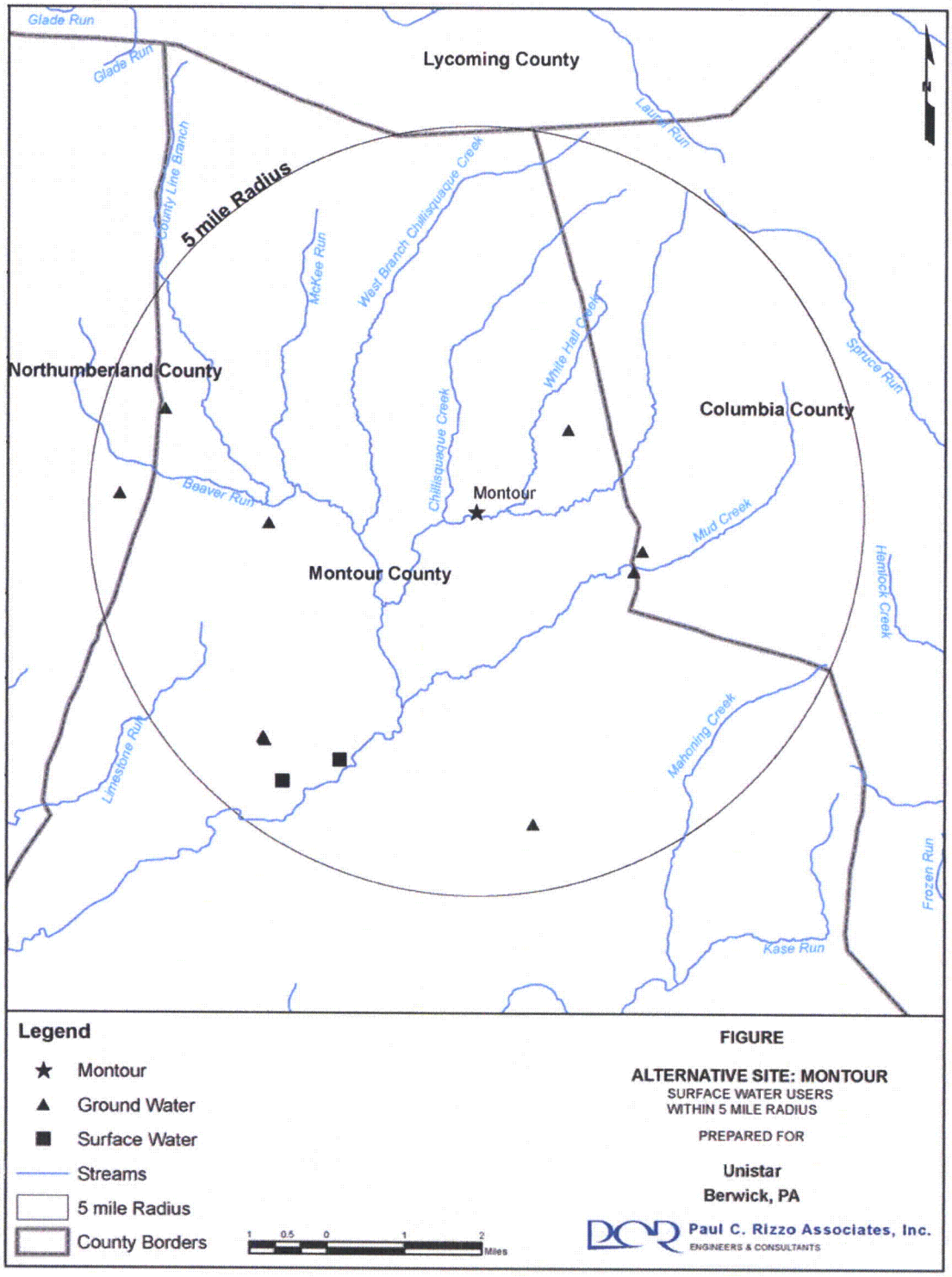


Figure 2. Surface Water Users within a Five-Mile Radius of the Humboldt Site

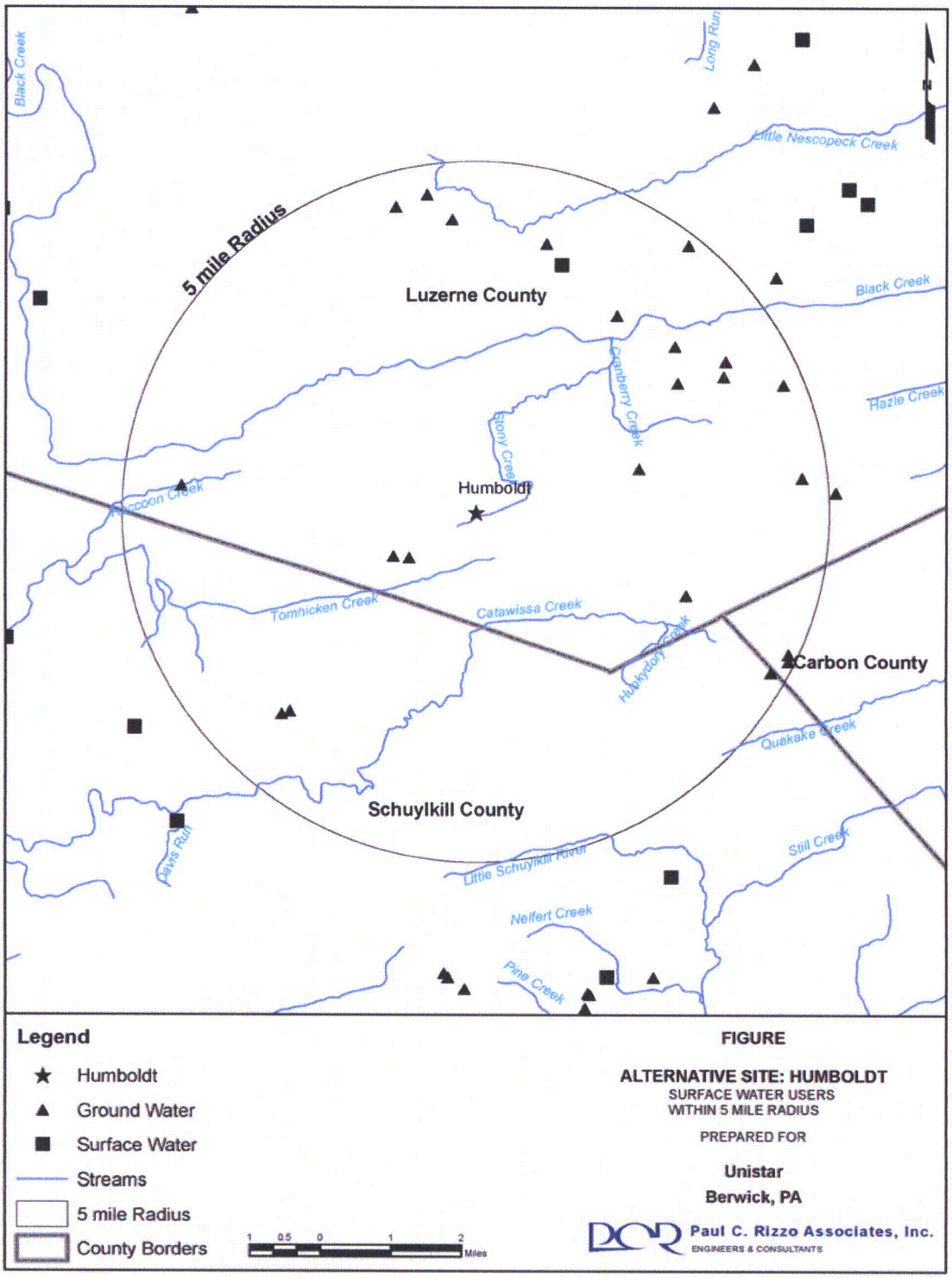
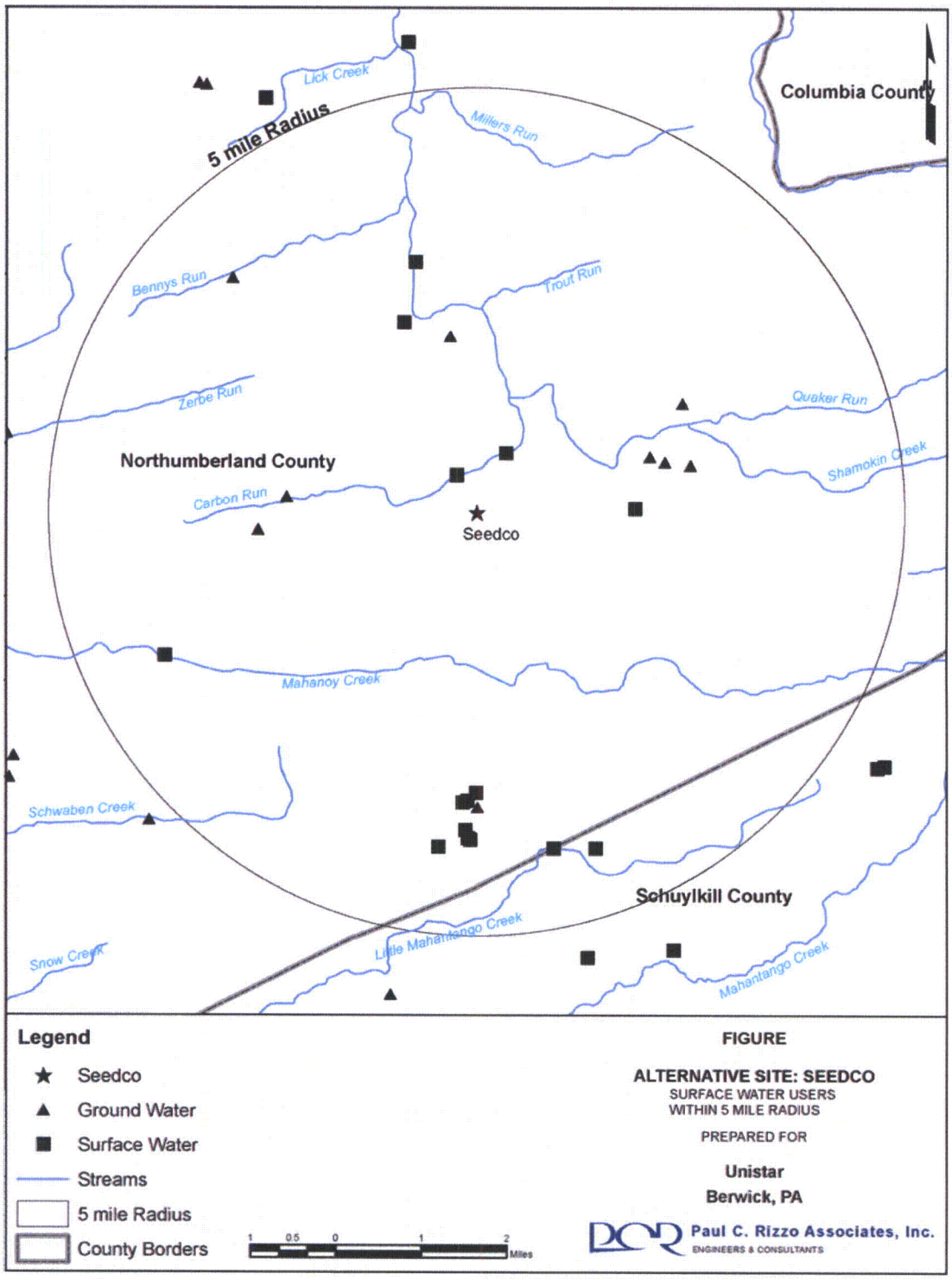


Figure 3. Surface Water Users within a Five-Mile Radius of the Seedco Site



**LU-6**

ER Section 9.3

**Information Needs Text:** Provide a knowledgeable expert who can confirm whether or not the proposed construction and operation activities will conflict with local land use plans.

**Response:** A subject matter expert will be available to discuss whether or not the proposed construction and operation activities will conflict with local land use plans.

Because the alternative site evaluation is a reconnaissance-level evaluation, readily available resources, such as internet sources, were used for the evaluation. Contacts and meetings with local land use planning boards/committees were not made for the evaluation. While land use and growth management profiles for Luzerne, Montour, and Northumberland Counties are available, they did not contain specific information regarding land use plans within each county. Information for Columbia County, through which proposed transmission lines would be located for the Seedco site, was also evaluated.

In 2005, the Pennsylvania Department of Community and Economic Development (PDCED) developed land use and growth management profiles for all 67 counties. Profiles present for Luzerne, Montour, and Northumberland counties call for updating each county's comprehensive plans, as well as their land use plans (PDCED, 2010). No detailed land use planning information is presented.

According to the Lackawanna and Luzerne Counties Open Space Master Plan (EDAW, 2004), there are no plans for development of open spaces, greenways, or outdoor recreational facilities at or near the Humboldt site. The Lackawanna/Luzerne Bi-County Comprehensive Plan and Long Range Transportation Plan present a proposal to develop a Bus Rapid Transit (BRT) system that could potentially intersect the proposed transmission line for the Humboldt site (Lackawanna/Luzerne Metropolitan Planning Organization, 2010).

Montour County has a comprehensive plan which presents a generalized conceptual land use plan; however, it does not provide detailed land use designations (Montour County Planning Commission, 2009). Planning information for Hazle, Anthony, and Coal Townships is also not available. The Montour County land use plan (Montour County, 1972) presents land use districts. Based on this information, no conflict exists between the proposed activities and these plans.

Local land use plans could not be readily obtained at the reconnaissance level for Northumberland County; however, plans were obtained for Columbia County to evaluate if conflicts could exist in transmission line siting for the Seedco site. Based on the information obtained for Columbia County, no conflict appears to exist.

Comprehensive planning documents of surrounding counties and the State, such as the Scranton-Abingtons Planning Association's Comprehensive Plan (Scranton-Abingtons Planning Association, 2005), the Comprehensive Plan in Pennsylvania (PDCED, 2001), and PennDOT's Sound Land Use Implementation Plan (Parsons Brinckerhoff, 2005), were also reviewed. These sources did not provide detailed information on land use plans for the alternative sites and utility corridors.

Data Sources:

**EDAW, 2004.** Open Space, Greenways, & Outdoor Recreation Master Plan, Lackwanna and Luzerne Counties, Pennsylvania, Final Plan, 2004.

**Lackawanna/Luzerne Metropolitan Planning Organization, 2010.** Connections, Winter 2010.

**Montour County, 1972.** Montour County Zoning Map, 1972.

**Montour County Planning Commission, 2009**. Montour County Comprehensive Plan, Goals, Objectives Recommendations & Strategies, 2009.

**Parsons Brinckerhoff, 2005**. PennDOT's Sound Land Use Implementation Plan, Linking Land Use and Transportation, 2005.

**PDCED, 2001**. The Comprehensive Plan in Pennsylvania, Planning Series #3, Seventh Edition, 2001.

**PDCED, 2010.** 2005 Land Use & Growth Management Report, Regional and County Land Use Profiles, Website: http://www.newpa.com/get-local-gov-support/community-planning/land-use-reports/regional-and-county-land-use-profiles/index.aspx, Date accessed: July 26, 2010.

**Scranton-Abingtons Planning Association, 2005**. Scranton-Abingtons Planning Association Comprehensive Plan, Final Draft, 2005.

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

No changes to the BBNPP ASER are required as a result of this Information Need response.

**SE-1**

ER Section 9.3

**Information Needs Text:** Provide a knowledgeable expert who can present estimates of sales and income tax generated by the construction workforce at each of the three alternative sites – Montour, Humboldt, and Seedco.

**Response:** A subject matter expert will be available to discuss estimates of sales and income tax generated by the construction workforce at each of the three alternative sites – Montour, Humboldt, and Seedco.

As discussed in ER Sections 9.3.2.2.6, 9.3.2.3.6, 9.3.2.4.6 and in Table 10.4-1, an increase in tax revenues is expected from construction and operation of the proposed new unit at all three alternative sites. It should be noted that the referenced sections identified above were updated after issuance of Revision 2 of the COLA and, as such, only appear in Bell Bend letter BNP-2009-371 dated November 25, 2009, which identifies the updated information in a license basis document change request to be incorporated in a future revision of the COLA. The updated sections identify that the total actual county tax revenues for fiscal year 2006 were $3.6 million for Montour County (Montour site), $65.8 million for Luzerne County (Humboldt site), and $14.8 million for Northumberland County (Seedco site). Section 9.3.2.1.6 identifies that it is estimated that Luzerne County and Columbia County would experience a $41.4-million increase and $43.8-million increase in annual wages from the direct workforce, respectively.

Quantitative estimates of sales and income tax that would be generated by the BBNPP construction work force are contained in the BBNPP ER in Sections 4.4.2.6 and 5.8.2.4, Tax Revenue Generation. Estimates are also included in the Response to RAI SE 4.4-10 (attached) contained in Letter BNP-2009-266, dated September 17, 2009.

At the reconnaissance-level of the alternative sites evaluation, estimates of sales and income tax generated by the construction workforce at each of the three alternative sites have not been prepared. It is anticipated that sales and income tax generated by the construction workforce at each of the three alternative sites would be similar to that for the proposed site (the BBNPP site).

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

No changes to the BBNPP ASER are required as a result of this Information Need response.

**SE 4.4-10**

ESRP 4.4.2

***Summary:*** *Provide estimates of sales or income tax generated by the BBNPP construction workforce.*

**Full Text:** Several revenue streams to local jurisdictions will be generated through the construction of the BBNPP. Real estate, income, sales, and other tax receipts will also be generated through wages and salaries earned by the construction workforce and the homes they build or purchase. Provide estimates of these taxes to the region and to the proximate communities.

**Response:**

Annual Income Taxes

In 2006-2007, the actual statewide collections from personal income tax were $10,261.6 million (PDR, 2008). Based upon a 2006 statewide population of 12,440,621 (USCB, 2006a), this would amount to approximately $825 annually per person; or based upon the 2006 total number of households (4,845,603) (USCB, 2006b), $2,118 annually per household (USCB, 2006a and b).

As indicated in ER Tables 4.4-7 and 4.4-8, a peak of 3,950 direct construction employees will build the BBNPP. Under the 20% in-migration scenario, an estimated 688 workers and their families are expected to in-migrate into the ROI. Based upon this amount, approximately $1,457,184 will be generated annually in income taxes by the 688 households. Under the 35% in-migration scenario, an estimated 1,204 workers and their families are expected to in-migrate into the ROI. Based upon this amount, approximately $2,550,072 will be annually generated in income taxes by the 1,204 households.

Annual Sales Taxes

In 2006-2007, the actual collections from state sales tax were $8,590.8 million (PDR, 2008). Based upon a 2006 statewide population of 12,440,621, this would amount to approximately $690.54 annually per person; or based upon the 2006 total number of households (4,845,603), $1,773 annually per household (USCB, 2006a and b).

As indicated in ER Tables 4.4-7 and 4.4-8, a peak of 3,950 direct construction employees will build the BBNPP. Under the 20% in-migration scenario, an estimated 688 workers and their families are expected to in-migrate into the ROI. Based upon this amount, approximately $1,219,824 will be generated annually in sales taxes by the 688 households. Under the 35% in-migration scenario, an estimated 1,204 workers and their families are expected to in-migrate into the ROI. Based upon this amount, approximately $2,134,692 in sales taxes will be generated annually by the 1,204 households.

Annual Real Estate Taxes

Real estate taxes are collected by the individual counties. As shown in ER Section 4.4.2.6.2, PPL Susquehanna, LLC paid approximately $1.2 million in real estate taxes to Luzerne County and approximately $2.7 million in real estate taxes to the Berwick Area School District.

Real estate taxes from individual property owners can be estimated based upon current revenues generated in Luzerne County. As shown in ER Table 2.5-26, total county revenue generated from real estate taxes was $72,398,609. In 2006, the population estimate for Luzerne County was 313,020, as indicated in ER Table 2.5-4 (USCB, 2006c). The total number of households was 130,034 in 2006 (USCB, 2006d). Based upon the amount of revenue generated and the population, approximately $231.29 is generated annually per person or $556.77 annually per household.

As stated in ER Section 4.4.2.4, there is adequate existing vacant housing available to meet the needs of the assumed in-migrating construction workforce and their families. The owners of these units are already paying real estate taxes for these vacant units. Therefore, it is expected that no new real estate tax revenues would be generated by the in-migrating construction workforce for BBNPP.

However, if one were to assume that new potential in-migrants to Luzerne County were to occupy new homes, using the average of $556.77 of real estate taxes paid annually per household and 334 workers and their families (i.e., 334 households) under the 20% in-migration, approximately $185,961 will be generated annually in additional real estate taxes. Under the 35% in-migration to Luzerne County, using the average of $556.77 of real estate taxes paid per household and 585 workers and their families (i.e., 585 households), approximately $325,710 will be generated annually in additional real estate taxes.

Real estate taxes for the individuals can be estimated based upon current revenues generated in Columbia County. As shown in ER Table 2.5-27, total revenue generated from real estate taxes was $5,521,606. In 2006, the population estimate for Columbia County was 65,014, as indicated in ER Table 2.5-4 (USCB, 2006e). The total number of households was 25,302 in 2006 (USCB, 2006f). Based upon the amount of revenue generated and the population, approximately $84.93 is generated annually per person or $218.23 annually per household.

Using this amount for the 20% in-migration, approximately $74,569 will be generated annually by the workers moving into Columbia County (878 total people). As previously indicated, there is enough vacant housing to meet the in-migration needs, but if there were 354 workers and their families occupying new homes in Columbia County (i.e., 354 households), approximately $77,253 will be generated annually in additional real estate taxes.

Using this amount for the 35% in-migration, approximately $130,452 will be generated by the workers moving into Columbia County (1,536 total people). Once again, there is enough vacant housing to meet the in-migration needs, but if there were 619 workers and their families occupying new homes in Columbia County (i.e., 619 households), approximately $135,084 will be generated in additional real estate taxes.

The table shown below provides a summary of the information presented regarding potential annual income, sales, and real estate taxes for the 20% and 35% construction in-migration scenarios.

**Potential Annual Income, Sales, and Real Estate Taxes Generated in the ROI During Construction**

| Taxes/Jurisdictions | 20% In-Migration | 35% In-Migration |
|---|---|---|
| | | |
| **Households** | | |
| Luzerne County | 334 | 585 |
| Columbia County | 354 | 619 |
| Total | 688 | 1,204 |
| | | |
| **Income Taxes** | | |
| Luzerne County | n/a | n/a |
| Columbia County | n/a | n/a |
| State Total | $1,457,184 | $2,550,072 |
| | | |
| **Sales Taxes** | | |
| Luzerne County | n/a | n/a |
| Columbia County | n/a | n/a |
| State Total | $1,219,824 | $2,134,692 |
| | | |
| **Real Estate Taxes*** | | |
| Luzerne County | $185,961 | $325,710 |
| Columbia County | $77,253 | $135,084 |
| State Total | n/a | n/a |

* Assumes in-migrating workers occupy new homes

**References cited in response:**

BLS, 2006. Bureau of Labor Statistics (BLS), 2006. May 2006 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates. Scranton-Wilkes Barre, PA. Website accessed on August 3, 2009, http://www.bls.gov/oes/2006/may/oes_42540.htm.

PDR, 2008. Pennsylvania Department of Revenue (PDR), 2008. Commonwealth of Pennsylvania: 2008-2009 Budget in Brief. Website accessed on August 4, 2009, http://www.portal.state.pa.us/portal/server.pt?open=512&objID=4571&mode=2#2008-09.

USCB, 2006a. United States Census Bureau (USCB), 2006. ACS Demographic and Housing Estimates: 2006. Pennsylvania. Website accessed on August 4, 2009, http://factfinder.census.gov/servlet/ADPTable?_bm=y&-state=adp&-context=adp&-qr_name=ACS_2006_EST_G00_DP5&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=false&-_caller=geoselect&-geo_id=04000US42&-format=&-_lang=en.

USCB, 2006b. United States Census Bureau (USCB), 2006. Selected Social Characteristics in the United States: 2006. 2006 American Community Survey. Pennsylvania. Website accessed on August 4, 2009, http://factfinder.census.gov/servlet/ADPTable?_bm=y&-state=adp&-context=adp&-qr_name=ACS_2006_EST_G00_DP2&-

ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=false&-_caller=geoselect&-geo_id=04000US42&-format=&-_lang=en.

USCB, 2006c. United States Census Bureau (USCB), 2006. ACS Demographic and Housing Estimates: 2006. Luzerne County, Pennsylvania. Website accessed on August 4, 2009, http://factfinder.census.gov/servlet/ADPTable?_bm=y&-state=adp&-context=adp&-qr_name=ACS_2006_EST_G00_DP5&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=true&-_caller=geoselect&-geo_id=05000US42079&-format=&-_lang=en.

USCB, 2006d. S1101- Households and Families. 2006 American Community Survey. Luzerne County, Pennsylvania. Website accessed on August 18, 2009, http://factfinder.census.gov/servlet/STTable?_bm=y&-context=st&-qr_name=ACS_2006_EST_G00_S1101&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=true&-_caller=geoselect&-geo_id=05000US42079&-format=&-_lang=en.

USCB, 2006e. United States Census Bureau (USCB), 2006. ACS Demographic and Housing Estimates: 2006. Columbia County, Pennsylvania. Website accessed on August 4, 2009, http://factfinder.census.gov/servlet/ADPTable?_bm=y&-state=adp&-context=adp&-qr_name=ACS_2006_EST_G00_DP5&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=true&-_caller=geoselect&-geo_id=05000US42037&-format=&-_lang=en.

USCB, 2006f. S1101- Households and Families. 2006 American Community Survey. Columbia County, Pennsylvania. Website accessed on August 18, 2009, http://factfinder.census.gov/servlet/STTable?_bm=y&-context=st&-qr_name=ACS_2006_EST_G00_S1101&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=true&-_caller=geoselect&-geo_id=05000US42037&-format=&-_lang=en.

**COLA Impact:**
BBNPP COLA ER Sections 4.4.2 and 4.4.3 will be revised as follows in a future revision of the COLA:

Note: *This text reflects changes made in response to BBNPP ER RAI SE 4.4-7 as well.*

**4.4.2.2.1 Labor Force Availability and Potential Composition**

There would be an estimated maximum 3,950-FTE person workforce constructing the BBNPP power plant from 2012 to 2018, representing a significant increase in the overall employment opportunities for construction workers. In comparison, Luzerne County had 8,164 construction jobs in 2006 and Columbia County had 2,134 construction jobs (USCB, ~~2006~~2006a). As shown in Table 4.4-3, this peak is estimated to last for about 12 months, from about the third quarter of the fourth year of construction through about the second quarter of the fifth year.

**4.4.2.6.2 Two-County Region of Influence**

In 2008, PPL Susquehanna, LLC, paid approximately $1.2 million in real estate taxes to Luzerne County for SSES Units 1 and 2 and surrounding properties. PPL Susquehanna, LLC, also paid approximately $2.7 million in real estate taxes to the Berwick School District. In 2008, PPL Bell Bend, LLC, will generate approximately $30,000 in total property taxes in its current, substantially undeveloped state. Based on a countywide property reassessment in 2008, the 2009 real estate taxes are expected to increase significantly on these properties. Additional real estate tax increases are expected once BBNPP secures the approvals for the required rezoning for the properties that will make up the BBNPP site. Taxes will also escalate during the time frame between the commencement of construction and commercial operation of the plant in 2018. Those increases will be based on the reassessed value determined by the County Assessor based on the percentage of work completed. It is anticipated that these reassessments will occur annually until construction is complete, at which time a final assessment will be determined. This total property tax paid during construction will represent a significant increase in revenues for Salem Township, the Berwick Area School District, and Luzerne Country.

These increased property tax revenues would either provide additional revenues for existing public facility and service needs or for new needs generated by the power plant and associated workforce. The increased revenues could also help to maintain or reduce future taxes paid by existing non-project related businesses and residents, to the extent that project-related payments provide tax revenues that exceed the public facility and service needs created by BBNPP. However, the payment of those taxes often lags behind the actual impacts to public facilities and services, or the time needed to plan for and provide the additional facilities or services. Thus, it is concluded that these increased power plant property tax revenues would be a LARGE economic benefit to Luzerne County.

Some additional real estate tax revenue will be generated from the in-migrating population of direct and indirect workers and their families. However, any increase in tax revenues is not expected to be significant, because the existing supply of vacant housing available to meet the needs of the in-migrating workers is anticipated to be adequate. As the existing owners of these housing units likely pay real estate taxes currently, the purchase or rental of these units by in-migrating workers will have little impact on overall real estate tax revenues within the ROI.

~~Additional state and local income taxes would be generated by the in-migrating residents, although the amount cannot be estimated because of the variability of investment income, retirement contributions, tax deductions taken, applicable tax brackets, and other factors. It is estimated that Luzerne County would experience a $41.4 million increase in annual wages from the direct workforce. Columbia County would experience an estimated annual increase of $43.8 million from the direct workforce. Relative to the existing total wages for the ROI, it is concluded that the potential increase in income taxes represent a SMALL economic benefit to the jurisdictions.~~

Additional state income taxes would be generated by the in-migrating residents. Although the amount cannot be accurately estimated because of the variability of investment income, retirement contributions, tax deductions taken, applicable tax brackets, and other factors, tax revenue data from the Pennsylvania Department of Revenue can be used to project potential tax revenue impacts within the ROI. In 2006, the Commonwealth of Pennsylvania collected $10,261.6 million in income taxes. Based on the 2006 total number of households (4,845,603), this amounts to approximately $2,118 annually per household. As indicated in Tables 4.4-7 and 4.4-8, a peak of 3,950 direct construction employees will build BBNPP. Under the 20% in-migration scenario, an estimated 688 workers and their families will locate within the ROI. Based upon this amount, approximately $1,457,184 will be generated annually in income taxes by the 688 households. Under the 35% in-migration scenario, an estimated 1,204 workers and their families will locate within the ROI. Therefore, approximately $2,550,072 will be generated annually in income taxes by the 1204 households.

As with the 50 mi (80 km) comparative geographic area, additional sales taxes also would be generated within the ROI by the power plant and the in-migrating residents. However, these purchases would be much smaller within the ROI. The amount of increased sales tax revenues generated by the in-migrating residents would depend upon their retail purchasing patterns, but would only represent a small benefit to this revenue stream for the Commonwealth of Pennsylvania. The amount of increased sales tax revenues generated by the in-migrating residents would depend upon their retail purchasing patterns, but would only represent a small benefit to this revenue stream for the Commonwealth of Pennsylvania. In 2006-2007, the state collected $8,590.8 million from sales tax (PDR, 2008). Based upon the 2006 total number of households (4,845,603), approximately $1,773 in sales taxes will be generated annually per household (USCB, 2006b and c). As indicated in Tables 4.4-7 and 4.4-8, a peak of 3,950 direct construction employees will build BBNPP. Under the 20% in-migration scenario, an estimated 688 workers and their families are expected to in-migrate into the ROI. Based upon this amount, approximately $1,219,824 in annual sales taxes will be generated by the 688 households. Under the 35% in-migration scenario, an estimated 1,204 workers and their families are expected to in-migrate into the ROI. Therefore, approximately $2,134,692 in annual sales taxes will be generated by the 1,204 households.

Additional income and sales tax also will be generated within the ROI by the 316 in-migrating operational personnel and their families during the last 4 years of construction and 601 indirect workers. Based upon the 2006 state income and sales tax collections, approximately $669,288 in annual income taxes and $560,268 in annual sales taxes will be generated by the in-migrating households of 316 direct workers; and approximately $495,612 in annual income taxes and $405,522 in annual sales taxes will be generated by the households of the 234 indirect workers that are noted in Table 5.8-2.

It is estimated that Luzerne County will experience a $41.4 million increase in annual wages from the direct construction workforce and $11.8 million from the direct operational workforce. Columbia County would experience an estimated annual increase of $43.8 million from the direct construction workforce and $12.5 million from the direct operational workforce. Relative to the existing total wages for the ROI, it is concluded that the potential increase in income taxes represent a SMALL economic benefit to the jurisdictions.

Overall, although all tax revenues generated by the BBNPP and the related workforce would be substantial, as described above, they would be relatively small compared to the overall tax base in the ROI. Thus, it is concluded that the overall beneficial impacts to tax revenues would be SMALL.

**4.4.2.10 References**

**BLS, 2006.** May 2006 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, Scranton-Wilkes-Barre, PA, Bureau of Labor Statistics, Website: http://www.bls.gov/oes/2006/may/oes_42540.htm, Date accessed August 3, 2009.

**PDR, 2008.** Commonwealth of Pennsylvania: 2008-2009 Budget in Brief, Pennsylvania Department of Revenue, Website: http://www.portal.state.pa.us/portal/server.pt?open=512&objID=4571&mode=2#2008-09, Date accessed: August 4, 2009.

**USCB, ~~2006~~2006a**. American FactFinder 2006 American Community Survey: Economic Characteristics 2006, U.S. Census Bureau, Website: http://www.factfinder.census.gov.

**USCB, 2006b.** ACS Demographic and Housing Estimates: 2006, Pennsylvania, United States Census Bureau, Website: http://factfinder.census.gov/servlet/ADPTable?_bm=y&-state=adp&-context=adp&-qr_name=ACS_2006_EST_G00_DP5&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=false&-_caller=geoselect&-geo_id=04000US42&-format=&-_lang=en, Date accessed: August 4, 2009.

**USCB, 2006c.** Selected Social Characteristics in the United States: 2006. 2006 American Community Survey, Pennsylvania, United States Census Bureau, Website: http://factfinder.census.gov/servlet/ADPTable?_bm=y&-state=adp&-context=adp&-qr_name=ACS_2006_EST_G00_DP2&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=false&-_caller=geoselect&-geo_id=04000US42&-format=&-_lang=en, Date accessed: August 4, 2009.

**USCB, 2006d.** ACS Demographic and Housing Estimates: 2006, Pennsylvania, United States Census Bureau, Website: http://factfinder.census.gov/servlet/ADPTable?_bm=y&-state=adp&-context=adp&-qr_name=ACS_2006_EST_G00_DP5&-ds_name=ACS_2006_EST_G00_&-tree_id=306&-redoLog=true&-_caller=geoselect&-geo_id=05000US42079&-format=&-_lang=en, Date accessed: August 4, 2009.

**SE-3**

ER Section 9.3.

**Information Needs Text:** Provide a knowledgeable expert who can estimate the property tax impacts of a nuclear power plant at each of the three alternative sites.

**Response:** A subject matter expert will be available who can discuss the property tax impacts of a nuclear power plant at each of the three alternative sites.

The estimated property tax impacts of the proposed Bell Bend Nuclear Power Plant (BBNPP) are available in Section 10.4.1.4 of the ER (as Proprietary Information – 10CFR2.390(a)(4)).

In Pennsylvania, property taxes represent the principal revenue source of and are paid to Counties, School Districts and Townships. Tax payments associated with the three alternative sites are expected to be comparable to those estimated for a nuclear power plant at the Bell Bend site; however, some variation is anticipated because tax rates vary among the counties associated with each of the alternative sites. For example, base millage rates are currently 4.9882 for Luzerne County, 16.133 for Northumberland County and 3.249 for Montour County.

Data (attached) available for the Susquehanna Steam Electric Station (SSES) are indicative of the magnitude of property tax payments and the impact that would be made by "a nuclear power plant at the three alternative sites." Combined Real Estate Tax Payments by the SSES to Luzerne County, Berwick area School District, and Salem Township ranged from $2.73 million in year 2000 to $3.65 million in year 2004. These payments represented an average of 2.34% of the County, 6.12% of the School District and 51.2% of the Township real estate tax collections. (SSES, 2006)

A new nuclear power plant at any of the alternative sites would, therefore, be expected to have a positive impact on the local economy.

Data source:

SSES, 2006. Susquehanna Steam Electric Station Units 1 & 2 License Renewal Application, September 2006.

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

No changes to the BBNPP ASER are required as a result of this Information Need response.

## 2.7 TAXES

In the past, PPL Susquehanna paid real estate taxes to the Commonwealth of Pennsylvania for their generating, transmission, and distribution facilities. Under authority of the Pennsylvania Utility Realty Tax Act (PURTA), real estate taxes collected from all utilities (water, telephone, electric, and railroads) were redistributed to the taxing jurisdictions within the Commonwealth. In Pennsylvania, these jurisdictions include counties, cities, townships, boroughs, and school districts. The distribution of PURTA funds was determined by formula, and was not necessarily based on the individual utility's effect on a particular government entity.

In 1996, Electricity Generation Customer Choice and Competition Act became law, which allowed consumers to choose among competitive generation suppliers. As a result of utility restructuring, Act 4 of 1999 revised the tax base assessment methodology for utilities from the depreciated book value to the market value of utility property. Additionally, as of January 1, 2000, PPL Susquehanna was required to begin paying real estate taxes directly to local taxing jurisdictions, ceasing payments to the Commonwealth's PURTA fund.

PPL Susquehanna pays annual real estate taxes to the Berwick Area School District (BASD), Luzerne County, and Salem Township.

Luzerne County revenues fund County operations, judicial services, correctional facilities, emergency management services, parks and recreation, public works, social services, public safety, the community college, nursing homes, libraries, and conservation and development projects (Luzerne County 2002). From 2000 through 2004, Luzerne County collected between $48 and $69 million annually in total real estate tax revenues (Table 2.7-1). Between 2000 and 2004, SSES's real estate taxes represented 1.8 to 2.4 percent of Luzerne County's total real estate tax revenues (Table 2.7-1).

From 2000 through 2004, the BASD collected between $28 and $35 million annually in total real estate tax revenues (Table 2.7-1) (BASD 2003 and Martz 2005). Between 2000 and 2004, SSES's real estate taxes represented 5.5 to 6.9 percent of the Berwick Area School District's total tax revenues (Table 2.7-1).

From 2000 to 2004, Salem Township collected between $118,000 and $124,000 in municipal and street taxes (Table 2.7-1). Between 2000 and 2004, SSES's real estate taxes represented 50.3 to 53.9 percent of Salem Township's municipal and street taxes.

**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[a] (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[a] (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[a] (2002-2003) | $1,905,304 (2002-2003) | 6.7 | $60,643,642[b] | $1,135,552 | 1.9 | $123,480[f] | $62,140 | 50.3 |
| 2003 | $31,724,705[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 | $34,059,674[c] (2004-2005) | $2,365,363 (2004-2005) | 6.9 | $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 2005
d. Allabaugh 2005
e. Year 2000 numbers are not applicable for Salem Township
f. Fields 2005b
g. Sampson 2005

**SE-5**

ER Section 9.3

**Information Needs Text:** Provide a knowledgeable expert who can provide information regarding the presence of recreational areas that would be impacted by the aesthetics of building a new nuclear plant at each of the three alternative sites.

**Response:** A subject matter expert will be available to provide information regarding the presence of recreational areas that would be impacted by the aesthetics of building a new nuclear plant at each of the three alternative sites.

ER Sections cited below are from BNP-2009-371, submitted to the NRC on November 25, 2009.

As stated in ER Section 9.3.2.2.6, the Montour Preserve is a PPL-owned recreation area less than 1.5 miles north of the Montour site. The Montour site is adjacent to an existing coal-fired power plant with three stacks, two cooling towers, and associated plumes. The plumes from the proposed new unit at the Montour site would likely be visible at a considerable distance; however, these new plumes would not introduce a new element to the visual landscape. No other state or federal recreation areas are located within five miles of the site or the proposed utility lines (American Trails, 2010) (Pennsylvania Department of Conservation and Natural Resources [PDCNR], 2010) (U.S. Department of Interior [DOI], 2010).

Two of the three alternative sites, Humboldt and Seedco, are located within industrial parks and any recreational activities near these two sites would likely already be impacted by the aesthetics of industrial facilities in the vicinity. However, these two alternative sites (Humboldt and Seedco sites) do not have industrial facilities in the industrial park with cooling towers and associated plumes.

As discussed in ER Section 9.3.3.2.1, the closest recreational area to the Humboldt site is the Eagle Rock Resort and Country Club, which is a residential and private recreational development southwest of the existing industrial park where the Humboldt site is located. The viewscape for the Eagle Rock Resort and Country Club has already been impacted because of this industrial park. Aesthetic impacts from the presence of cooling towers and potential associated plumes to this recreational area could be minimized through tower design and selection. No other state or federal recreational areas are located within five miles of the site or the proposed locations or utilities lines (American Trails, 2010) (PDCNR, 2010) (DOI, 2010).

Similarly at the Seedco site, the introduction of large plumes from the cooling towers into the skies where there are currently no plumes of this magnitude has the potential to adversely affect the character and quality of views in the area surrounding the Seedco site (ER Section 9.3.2.4.6). However, there are no dedicated recreational areas within five miles surrounding this site or the proposed utility routes (American Trails, 2010) (PDCNR, 2010) (DOI, 2010). The aesthetic impacts of the cooling towers and plumes could be minimized through tower design and selection.

The northern and main branches of the Susquehanna River where the alternative sites' cooling water intakes/discharges will be located are part of the Susquehanna River Water Trail. The Susquehanna River Water Trail-North Branch extends from Cherry Tree to Sunbury, Pennsylvania. The potential locations of the cooling water intake/discharge for the Humboldt and Seedco sites are in this section of the Water Trail. The Montour site's potential cooling

water intake/discharge is located in the West Branch of the Water Trail. Activities on the water trails include boating, canoeing, kayaking, and birdwatching (American Trails, 2010). However, because the potential water intake/discharge structures on the Susquehanna River would be located greater than 10 miles from the alternative sites, aesthetic impacts of the cooling towers and plumes at the alternative sites on the Susquehanna River Water Trail would be minimal.

Data Sources:

**American Trails, 2010**. Resources and Library: Pennsylvania Trail Resources, Website: http://www.americantrails.org/resources/statetrails/PAstate.html, Date accessed: July 30, 2010.

**Pennsylvania Department of Conservation and Natural Resources (PDCNR), 2010**. Find A Park, Website: http://www.dcnr.state.pa.us/stateparks/parks/index.aspx#region, Date accessed: July 30, 2010.

**U.S. Department of Interior (DOI). 2010.** National Park Service. Pennsylvania, Website: http://www.nps.gov/applications/parksearch/state.cfm?st=PA, Date Accessed: July 30, 2010.

**COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this Information Need response.

**ASER Impact:**

No changes to the BBNPP ASER are required as a result of this Information Need response.