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March 4, 2014

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

**BELL BEND NUCLEAR POWER PLANT  
RESPONSE TO RAIS ENV-28 AND ENV-29  
BNP-2014-022                      Docket No. 52-039**

- References: 1) T. Terry (NRC) to R. R. Sgarro (PPL Bell Bend, LLC), Final RAIs ENV-28, email dated February 12, 2014
- 2) T. Terry (NRC) to R. R. Sgarro (PPL Bell Bend, LLC), Final RAIs ENV-29, email dated February 19, 2014

This letter provides the PPL Bell Bend, LLC (PPL) responses to the Requests for Additional Information (RAI) Nos. ENV-28 (Reference 1) and ENV-29 (Reference 2). The RAIs address information contained in the Bell Bend Nuclear Power Plant (BBNPP) Combined License Application (COLA) Part 3, Environmental Report (ER).

The Enclosure provides PPL's responses to RAI ENV-28, Questions: AE-7314; AE-7324; ALT-7318; HY-7332; NFP-7334; and, RAI ENV-29, Questions HY-7329 and TE-7338

The responses include revised COLA content which will be included in a future COLA revision, and is the only regulatory commitment in this correspondence.

Should you have questions, please contact the undersigned at 610.774.7552.

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

Executed on March 4, 2014.

Respectfully,

  
Rocco R. Sgarro

RRS/kw

Enclosure: Responses to RAI ENV-28, Questions: AE-7314; AE-7324; ALT-7318; HY-7332; NFP-7334; and RAI ENV-29, Questions HY-7329 and TE-7338

D102  
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Enclosure

Responses to RAI ENV-28, Questions: AE-7314; AE-7324; ALT-7318; HY-7332; NFP-7334;  
and RAI ENV-29, Questions HY-7329 and TE-7338

**RAI ENV-28**  
**Question AE 7314:**

ESRP Section 4.3.2 directs the staff's description, quantification, and assessment of the impacts of construction of the proposed facilities on the aquatic ecosystem. PADEP Water Obstruction and Encroachment Permit, E40-720 (ML13161A023) identifies bridge removal as an impact associated with Joint Permit Application (JPA) Impacts A (Walker Run) and B (Unnamed Tributary 1). The JPA and ER Rev 4 do not describe the bridge removal process and the associated potential impacts. Describe the bridge removal process associated with JPA Impacts A (Walker Run) and B (Unnamed Tributary 1). Characterize the potential impacts to aquatic resources from the bridge removal and describe any steps that would be taken to minimize those impacts.

**Response:**

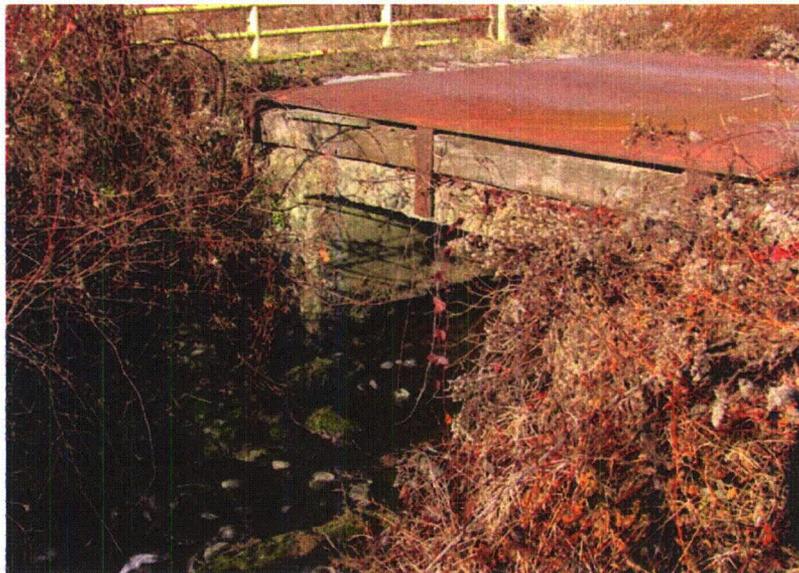
The bridge over Walker Run consists of three sections (refer to attached Figures 1 through 3). The lower section is a 10-foot long, 12-foot wide concrete arch spanning Walker Run. The top flat part of the arch is covered by a middle section consisting of 15 railroad ties laying side-by-side. Each tie is 13 feet in length, 9 inches wide and 7 inches in height. The two end sections of each tie are embedded in the top part of the stream bank. The railroad ties are covered by two 1/2-inch steel plates tack welded together at the center seam. Each plate measures 10 feet in length and is 6 feet wide. The top of the bridge measures approximately 10 feet in length and 12 feet wide. There are three vertical straps welded to each plate's side to prevent the top plate from shifting from side-to-side. The top of the bridge is about 5 feet from the bottom of the stream at low level. The bridge will be removed by a machine such as a back hoe.



**Figure 1 - Walker Run Bridge, top view**



**Figure 2 - Walker Run Bridge, looking downstream**



**Figure 3 - Walker Run Bridge, looking upstream**

The removal of the Walker Run Bridge will occur during construction of the Walker Run mitigation project. Walker Run will remain in the existing stream channel while the restored channel is being constructed under dry conditions. Following new channel construction and the installation of appropriate stabilization measures, as described in the Walker Run Mitigation Plans dated August 12, 2011 included in the Walker Run Design Report Rev 0 (JPA Rev.1 Mitigation Section), the flow will be directed from the existing channel into the new, restored channel. At this point the bridge will be removed. Since the channel will already be abandoned at the time of the bridge removal, there will not be any impacts to the watercourse resulting from bridge removal.

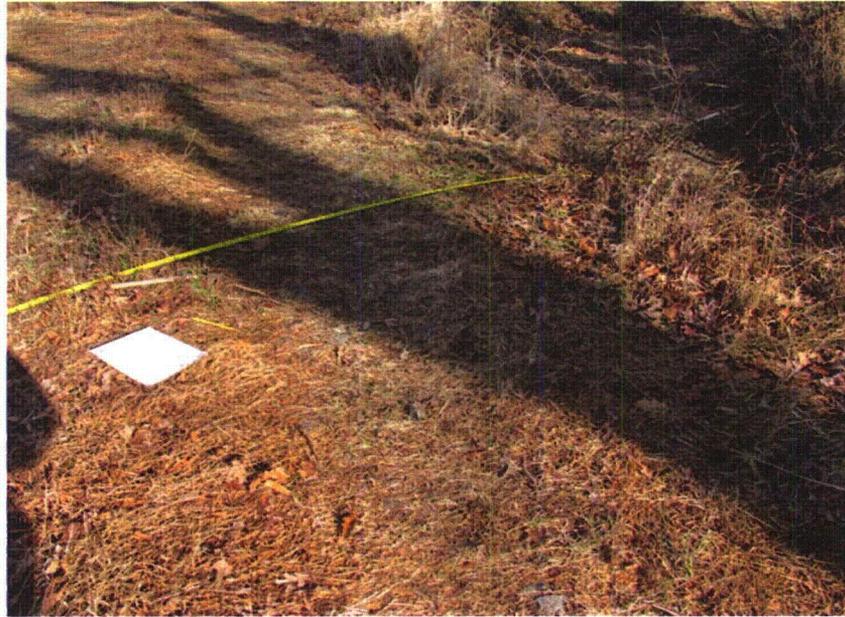
The bridge over the Walker Run Unnamed Tributary is actually a 24-inch diameter concrete pipe (culvert) that goes under the road (refer to attached Figures 4 through 7). The pipe is buried under several inches of dirt and gravel and runs approximately 19 feet from end to end. The pipe will be removed by a machine such as a back hoe.



**Figure 4 - Walker Run Unnamed Tributary Bridge, downstream outlet**



**Figure 5 - Walker Run Unnamed Tributary Bridge, Road Surface-Downstream**  
(Tape measure is over the centerline of the pipe)



**Figure 6 - Walker Run Unnamed Tributary Bridge, Road Surface-Upstream**  
(Tape measure is over the centerline of the pipe)



**Figure 7 - Walker Run Unnamed Tributary Bridge, upstream inlet**

The construction of Bridge #3 over the Unnamed Tributary will require removing the culvert that was used to allow farm equipment to cross the stream. According to the Construction Sequence in the E&S Control Plan Narrative, dated September 15, 2011, stream flow will be diverted. This diversion of flow will maintain a dry work area for bridge construction, including the removal of the existing pipe, and will prevent impacts to downstream aquatic ecology.

**COLA Impact:**

The BBNPP COLA will not be changed as a result of this response

**RAI ENV-28****Question AE 7324:**

ESRP Sections 2.4.1 and 2.4.2 direct the staff's description of the terrestrial and aquatic environments and biota at and near the site and other areas likely to be affected by the construction, maintenance, or operation of the proposed project. ER Rev 4, p. 2-8 describes the Wetlands Natural Area as having "riverine forest, marsh, swamp, and vernal pools". The Pennsylvania Natural Heritage Program lists Herbaceous Vernal Pool as an ecologically sensitive community occurring state-wide, including in Luzerne County. In general, vernal pools may be characterized by seasonally fluctuating water levels, and may dry out completely in the summer. Thus, vernal pools often lack mature fish populations and may provide critical breeding habitat for amphibians. The Wetlands Natural Area, and specifically the vernal pools, was not characterized in ER Rev 4 nor in the background biota field survey reports. The Riverlands Wetland Mitigation Design Report (Joint Permit Application Rev. 1) indicates that mitigation is expected to affect surface water hydrology in the Wetlands Natural Area, and thus could adversely affect the hydrology and functionality of the vernal pools. The Riverlands Wetland Mitigation Design Report also indicates that one of the mitigation objectives is to maintain a desired surface water elevation in the Wetlands Natural Area. Maintenance of a stable surface water elevation could eliminate fluctuating water levels and the functionality of the vernal pools. Provide what is known about the hydrology and ecology of the vernal pools. Discuss what provisions of the mitigation project would maintain the historic hydrology and functionality of the vernal pools.

**Response:**

A component of the Riverlands Mitigation project is to repair the existing control structure that currently maintains the water levels in the man-made wetlands within the Susquehanna Riverlands Wetlands Natural Area. The weir structure will be lowered slightly to maintain the existing water levels upstream of the weir, taking into account the additional flow the system will receive resulting from filling the Canal Outfall Channel. This change in hydrology will only affect the areas that are "on-line" with the existing man-made wetland complex, and will not affect any off-line wetlands. As stated in the Request for Additional Information, vernal pools are characterized by seasonally fluctuating water levels that dry out over the summer months. Vernal pools, by definition would need to be located off-line, as the current weir structure maintains a constant water surface in the on-line wetlands. The hydrology of any existing vernal pools within the Wetland Natural Area will be unaffected by the Riverlands Mitigation site or the repair and adjustment of the existing downstream weir structure.

**COLA Impact:**

The BBNPP COLA will not be changed as a result of this response.

**RAI ENV-28****Question ALT 7318:**

ESRP 9.3 directs that staff evaluate the viability of alternatives sites using several acceptability criteria among which is assurance that consumptive use of water should not cause significant adverse effects on other users. Additionally, ESRP 9.3 suggests that a site is unsuitable if it presents unacceptable conflicts with land-use planning or other restrictions established by State, county, or local governments. In its December 4, 2012 response (BNP-2102-281) and supplemental filings, to RAI Env-19 Water Availability dated November 5, 2012, PPL addressed concerns expressed in the RAI for meeting consumptive water requirements during periods of low flow at the Bell Bend Site. Since the alternatives sites would also be dependent upon the Susquehanna River and its tributaries in this same region as the Bell Bend site, please address how consumptive water requirements would be met at the Humboldt, Seedco, and Montour sites. The NRC staff needs to understand how these three sites would meet the NRC Regulatory Guide 4.7, General Site Suitability Criteria for Nuclear Power Stations, criterion of reasonable assurance that required permits could be obtained from the SRBC for consumptive water use of 28 million gallons of water per day. As stated on page 4.7-13 of RG 4.7, "To evaluate the suitability of sites, there should be reasonable assurance that permits for consumptive use of water in the quantities needed for a nuclear power plant of the stated approximate capacity and type of cooling system can be obtained by the applicant from the appropriate State, local, or regional agency".

**Response:**

Consumptive Use (CU) mitigation alternatives as identified for the Bell Bend site would also be applicable to both the Seedco and Humboldt sites. For the Montour site PPL's Rushton Mine would satisfy a portion of Susquehanna River Basin Commission (SRBC) mitigation requirements (approximately 8.8 million gallons per day (gpd) after treatment plant expansion). Multiple alternatives exist to provide the balance of CU mitigation at the Montour site. The most likely source of water for CU mitigation at Montour would be from existing abandoned mine drainage (AMD) sources in the basin and/or from third-party limestone mines situated in the West Branch Susquehanna River basin upstream of the Montour site. The SRBC, Pennsylvania Department of Environmental Protection (PADEP) and other cooperating non-governmental organizations are actively pursuing resolution of AMD sources. The references below provide further information regarding West Branch AMD remediation goals and strategy. Sufficient water exists in these sources to satisfy the balance of the Montour site's mitigation requirements. Project development at AMD sources would include the construction of a local active treatment plant and facilities needed to manage residual sludge. Generally this construction and disposal would be on previously mine-scarred lands. The net result of development would be improved downstream water quality. While PPL has not investigated specific alternatives, it is considered highly likely that any significant environmental impacts associated with development would be avoided during site selection.

**References**

<http://www.lycoming.edu/cwi/pdfs/stateOfWestBranch2005.pdf>

[http://www.srbc.net/pubinfo/techdocs/publication\\_254/techreport254.pdf](http://www.srbc.net/pubinfo/techdocs/publication_254/techreport254.pdf)

**COLA Impact:**

The BBNPP COLA will not be changed as a result of this response.

**RAI ENV-28**  
**Question HY 7332:**

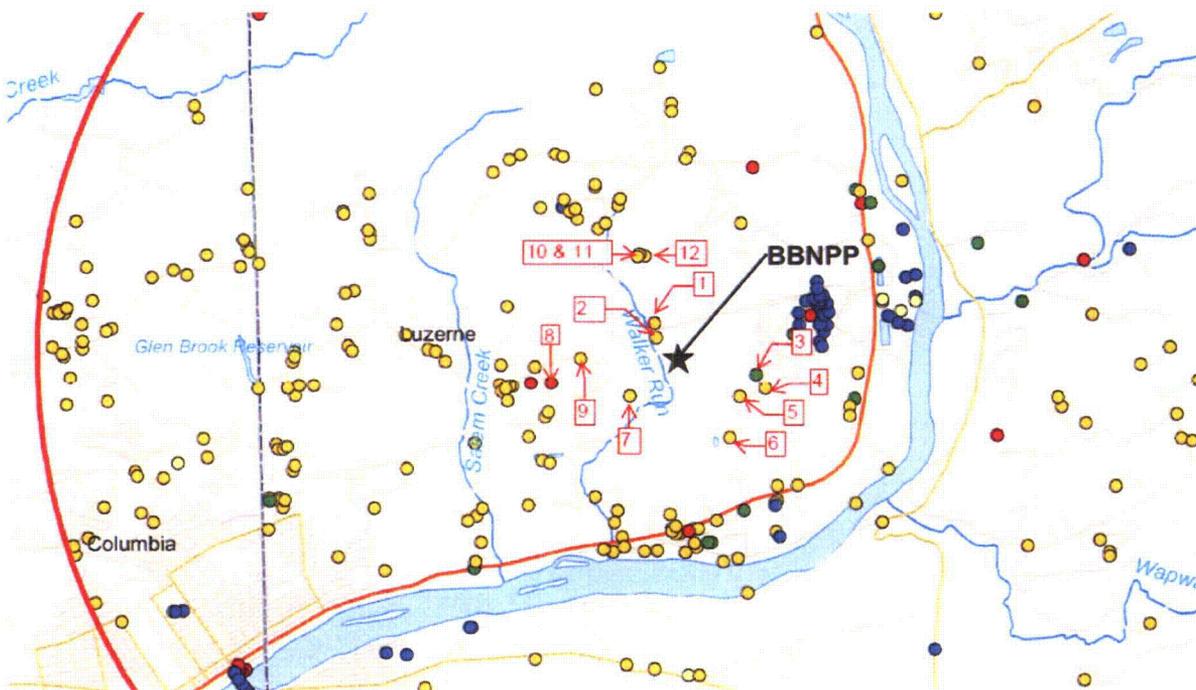
ESRP Section 2.3.2 directs the staff's description of surface water and groundwater uses and users that could be affected by the proposed project. For groundwater uses, this description includes locations and depths of the wells, identification of the aquifers from which water is withdrawn, and the average withdrawal rates. For surface water, non-consumptive water uses must be included in the description. The ER does not adequately describe water uses for nearby wells and surface water bodies. Provide groundwater use information for the wells located within approximately one mile of the BBNPP site, as shown in ER Figure 2.3-93, including the domestic well shown located near the pond on the property to the south of the site. Identify any non-consumptive uses for the surface water bodies located on the property to the south of the BBNPP site.

**Response:**

**Groundwater Uses:**

There are twelve (12) wells located within an approximate 1-mile radius from the Bell Bend Nuclear Power Plant (BBNPP) reactor centerline illustrated on Figure 2.3-93, "Groundwater Well Locations within a 5-Mile (8-km) Radius" of the BBNPP Combined License Application (COLA) Part 3, "Environmental Report" (ER). These wells are identified on the attached exploded view of ER Figure 2.3-93, below. Information for these wells are in the table, "Well Information within Approximately 1-Mile Radius," below.

**Exploded view of ER Figure 2.3-93 Groundwater Well Locations within a 5-Mile (8-km) Radius**



ER Section 2.3.1.2, "Groundwater Resources" discusses the three aquifers located at the BBNPP site and ER Figure 2.3-36, "Thickness Map of the Glacial Overburden Aquifer" provides a thickness profile of the glacial outwash thickness. Based on this information, the two shallow wells (#3 and #5) are most likely in the Glacial Outwash Aquifer. ER Section 2.3.1.2.3.1, "Site

Hydrogeology” places the division between the Shallow Bedrock and Deep Bedrock aquifers at approximately 175 feet. Therefore, all the other wells, except for Well # 8, are most likely located in the Shallow Bedrock aquifer. Well #8, at a depth of 380 feet, is most likely located in the Deep Bedrock aquifer.

**Well Locations within Approximately 1-Mile Radius\***

Well #	Well ID	Longitude	Latitude	Owner	Well Depth (ft.)	Withdrawal Rate	Use
1	129139	-76.1694	41.0933	PPL [Hummel] <sup>d</sup>	148		Domestic
2	129142	-76.1692	41.09167	PPL [Hummel] <sup>d</sup>	90	10 GPM <sup>c</sup>	Domestic
3 <sup>b</sup>		-76.1524	41.0889	PPL	55	43,200 GPD <sup>a</sup>	Public Supply
4 <sup>b</sup>		-76.1541	41.0883	PPL			Domestic
5	25412	-76.1569	41.08472	PPL [Sink] <sup>d</sup>	50	Not Applicable	Abandoned
6	129152	-76.1586	41.08	Deronde	150	40 GPM <sup>c</sup>	Domestic
7	25419	-76.1392	41.08722	PPL [Michail] <sup>d</sup>	100		Domestic
8	250845	-76.185	41.0867	Pleasant View Mobile Home Park	380	86,000 GPD <sup>a</sup>	Public Supply
9	25420	-76.1875	41.08861	Knorr	117	117 GPM <sup>c</sup>	Domestic
10	129217	-76.1714	41.10139	Krisanda	100	100 GPM <sup>c</sup>	Domestic
11	25455	-76.1717	41.10111	Krisanda	100	100 GPM <sup>c</sup>	Domestic
12	129137	-76.1706	41.10111	Honse	100	8 GPM <sup>c</sup>	Domestic

GPM = Gallons per Minute. GPD = Gallons per Day

\*Information from <http://www.dcnr.state.pa.us/topogeo/groundwater/pagwis/records/index.htm>. Accessed 12/13/2013.

<sup>a</sup>Public use withdrawal rates from ER Table 2.3-41.

<sup>b</sup>Information on this well is from PPL records except as noted.

<sup>c</sup>Values are well yield from ER Table 2.3-38.

<sup>d</sup>Well owner prior to PPL purchase.

**Surface Water Uses:**

Environmental Report Table 2.3-36, “Surface Water Users in Luzerne County” does not list any surface water bodies in the vicinity of the BBNPP site as having a specific use. The majority of the surface water bodies within the vicinity of the BBNPP site are located on PPL property and have no non-consumptive use. Information on the surface water bodies located on the property to the south of the BBNPP site is provided in the response to NRC RAI ENV-29, Question 7329 in this enclosure. These surface water bodies have no known non-consumptive use.

**COLA Impact:**

The BBNPP COLA will not be changed as a result of this response.

**RAI ENV-28**  
**Question NFP 7334:**

ESRP Section 8.2 and ISG 26 direct the staff's review of electric power demand in the need for power analysis for the EIS. Chapter 8 of ER Rev 4 presents analysis of demand conditions as they existed in 2007 and subsequent RAI responses do not address the following specific issues. The NRC Staff have observed that recent demand forecasts are trending below the levels projected by Pennsylvania New Jersey Maryland Interconnection, LLC (PJM) and others prior to the national economic downturn. This is true in the BBNPP region of influence presented in the most recent ER revision and earlier RAI responses. For example, for the BBNPP region presented in the most recent ER, the 2007 PJM (subset of PJM Mid-Atlantic region that includes the market areas in ER Figure 8.0.1-1) forecast projected 60 GW of peak demand by 2019. However, the 2013 forecast delays that demand threshold until beyond the projection period (2028). This indicates that conclusions in the current ER and related subsequent RAI responses may rely on projected demand levels that have since been extended more than 10 years out in time. Please provide discussion of PPL's interpretation of current demand forecasts and indicate how the planned BBNPP capacity will address needs as they will exist in the 2023-2025 period. Discuss any reasoning that would temper PJM's analysis of current forecasted demand projected for the BBNPP ROI. Please provide discussion of PPL's interpretation of current demand forecasts and indicate how the planned BBNPP capacity will address needs as they will exist in the 2023-2025 period. Discuss any reasoning that would temper PJM's analysis of current forecasted demand projected for the BBNPP ROI. Discuss parallel forecasts of supply that would affect PPL's need assessment in light of newer, lower, projected demand.

**Response:**

The current PJM demand forecast is not as high as the demand forecast was prior to the national economic downturn. However, PPL expects that forecasted demand will increase by the 2023-2025 timeframe. This will be due to an expected turnaround in the national economy. An economic turnaround will increase demand above the currently projected level through the 2023-2025 timeframe. Another factor pointing to an increased future demand is that in the first nine months (January-September) of 2013, demand was 2.1% higher than it was for the same time period in 2012 (Monitoring Analytics, LLC, 2013)<sup>1</sup>. This year-over-year increase in demand supports the idea that the economy is recovering. Additionally, there is a high degree of uncertainty in predicting demand greater than ten years in the future. It is possible that actual demand will be higher in the 2023-2025 timeframe than PJM is currently forecasting. These factors will lead to a need for the capacity of the Bell Bend Nuclear Power Plant (BBNPP) in the 2023-2025 period. Additionally, there will be a need for power in the BBNPP Region-of-Interest (ROI) beyond the 2023-2025 period that will need to be addressed as well. The downturn in forecasted demand is a short term issue, while in the long term there will be a need for additional power in the BBNPP ROI.

Factors that could affect PJM's current forecasted demand analysis include an improving national economy as well as retiring generation capacity, and new, stricter, environmental regulations. A healthy national economy will lead to more power consumption and will increase future demand for power in the PJM region. In addition, coal is a major source of power generation in the PJM region. Upcoming stricter environmental regulations will lead to the retirement of some coal capacity, creating a void in generation capacity creating additional need for power in the PJM region. Another factor that could affect the forecasted demand analysis is the use of Demand Side Management (DSM). While use of DSM has increased, DSM is not as reliable as an actual power plant asset ready to generate electricity. Because of the limitations

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<sup>1</sup> Monitoring Analytics, LLC, 2013. 2013 3rd Quarter State of the Market Report for PJM.

on DSM availability, PJM does not model either DSM or Energy Efficiency (EE) in their Installed Reserve Margin planning<sup>1</sup>.

PPL's forecast of supply shows that there will still be a need for power in the Bell Bend ROI in the 2023-2025 timeframe and beyond. There will be significant coal retirements due to economic factors and new strict emissions standards that are set to take place April 2015. The emissions standards will impact coal generation sequentially by tightly regulating emissions through air, water, waste and greenhouse gases starting in 2015. A decline in coal generation will lead to an initial increase in natural gas fired generation. However, as the demand for natural gas used for power generation increases, the equilibrium price of natural gas will increase as well, making other sources of power economically competitive. In addition, to maintain the reliability and stability of the power supply sector, it is important to keep a diversified fuel mix in the supply sector so that energy supply is not overly reliant on any one source of fuel. In conjunction with an economic turnaround, these factors support the need for power in the Bell Bend ROI.

There will be no change to the conclusions in the Bell Bend Need for Power analysis presented in the Bell Bend ER Chapter 8. It is anticipated that there will still be a need for power in the Bell Bend ROI in the 2023-2025 time period and beyond.

**COLA Impact:**

The BBNPP COLA will not be changed as a result of this response.

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<sup>1</sup> PJM, June 2013. Modeling of Demand Resources (DR) and Energy Efficiency (EE) in Planning Studies.

**RAI ENV-29****Question HY 7329:**

ESRP Section 2.3.1 directs the staff's description of the hydrology of the proposed plant site and the surrounding area that could be affected by construction activities and plant operation. This description includes interactions between surface water and groundwater. The ER does not adequately describe the water resources located on the property to the south of the BBNPP site. Identify the source(s) of water for the surface water bodies shown in ER Figure 2.3-3 on the property to the south of the BBNPP site. These features include the oval-shaped pond and the adjacent, smaller pond to the northwest, the stream between this smaller pond and the wetlands near the confluence of Unnamed Tributary 1 and Walker Run, and Unnamed Tributary 3. Describe the interactions between these surface water bodies and between these surface water bodies and the groundwater.

**Response:**

These surface water bodies shown in the Bell Bend Nuclear Power Plant (BBNPP) Combined License Application (COLA) Part 3, Environmental Report (ER) Figure 2.3-3 "Walker Run Watershed" occur along the surface drainage divide. The location of the ponds Wetlands 12 and 16; the surface drainage divide; and other surface drainage features, are shown on the attached annotated Final Safety Analysis Report (FSAR) Figure 2.4-47, "Surficial Deposits in the BBNPP Site and Vicinity" illustrating the surficial geologic formations in the vicinity of the BBNPP site. The oval pond is in the center of an old motorcycle racetrack, so the pond configuration and surface hydrology has been historically manipulated to provide drainage for the racetrack into the pond. The oval pond drains to an unnamed tributary to the North Branch of the Susquehanna River, originating from the southeast corner of the pond and flowing south to the river. The smaller pond drains to a stream/wetland system flowing northwest to Wetland 10 on the Bell Bend site, and ultimately to Walker Run. Despite the presence of the surface drainage divide, it is highly likely that there is a subsurface groundwater connection between the two ponds. The ponds are situated in the same glacial overburden deposits as Wetlands 12 and 16, which are located on the Bell Bend site farther north adjacent to Confers Lane. Confers Lane has been identified as the surface drainage divide between these two wetlands, but a subsurface groundwater connection has also been determined. The oval pond and smaller pond in question are in a similar landscape position and in the same geologic formation as Wetlands 12 and 16, and appear to have a similar groundwater connection. There is some visual evidence from aerial photographs that there may be a pipe connection between the two ponds from the northwest corner of the oval pond to eastern side of the smaller pond, but this has not been field verified. Note that this evaluation is based on available aerial imagery, geologic mapping, and a general understanding of the local geologic and hydrologic conditions and patterns. Field investigations have not been conducted on this site, as it is outside of Bell Bend or other PPL-owned property.

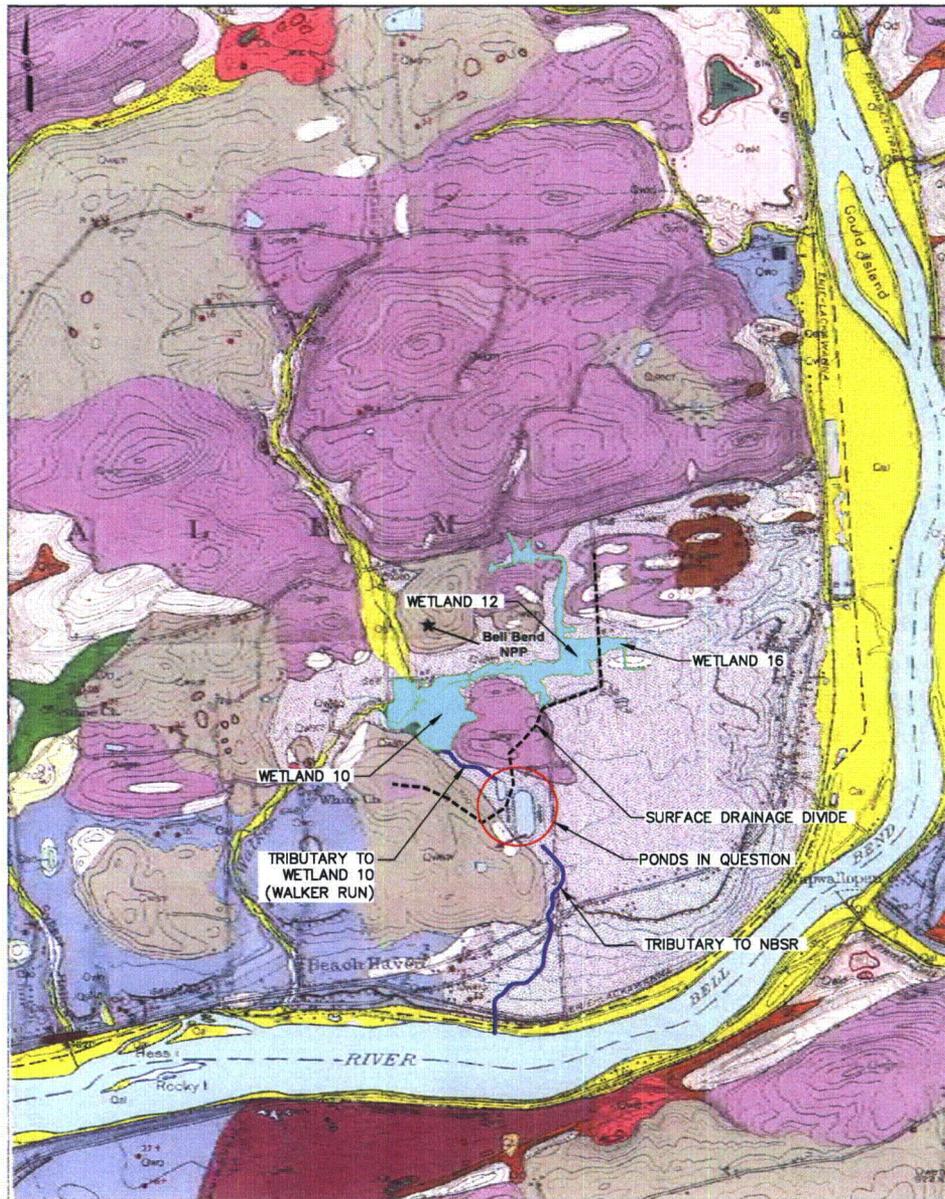
**COLA Impact:**

The BBNPP COLA will not be changed as a result of this response.

**Attachment**  
**RAI ENV-29**  
**Question HY 7329**

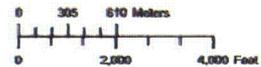
Annotated FSAR Figure 2.4-47, "Surficial Deposits in the BBNPP Site and Vicinity"

Figure 2.4-47— (Surficial Deposits in the BBNPP Site and Vicinity)



**LEGEND:**  
 ★ Proposed Center Point of Bell Bend NPP  
 Additional legend information for this figure is presented in Figure 2.4-48.

REFERENCE:  
 Inwood, 1976.



10-4310-GIS-8040

**RAI ENV-29**  
**Question TE 7338:**

ESRP Sections 2.4.1 and 2.4.2 direct the staff's description of the terrestrial and aquatic environments and biota at and near the site and other areas likely to be affected by the construction, maintenance, or operation of the proposed project. PCDNR in its scoping comment letter dated July 16, 2012 (ML12200A032) states that the Baltimore checker spot butterfly and mulberry wing, two butterfly species of concern to the Commonwealth of Pennsylvania, were found previously onsite. ER Rev. 4 (April 2013) Table 2.4-1 and Section 4.3.1.2 state that both species are known from east of the site (near Route 11), and potentially occur onsite. The Mitigation Narrative (part of the Joint Permit Application, Rev. 1) states that both species have never been documented onsite. Confirm whether these two butterfly species have ever been observed on the BBNPP site, or whether they are known to have occurred only in the vicinity, as per ER Rev. 4.

**Response:**

Several surveys of Federal, and State threatened, endangered, and species of concern were conducted in Luzerne County, PA between 1997 and 2006. These surveys covered the PPL Susquehanna Riverlands area (approximately 2,500 acres) on both sides of the Susquehanna River in Salem and Conyngham Townships<sup>1</sup>. These lands are approximately one-mile on each side of the river, and are part of Important Bird Area (IBA) No. 72 (previously IBA No. 50). The Bell Bend site was included in the survey area.

During the 1997 survey, the Mulberry wing (*Poanes massasoit*) was sighted. The Baltimore checkerspot (*Euphydryas phaeton*) was observed during the 1999 survey. However, butterfly surveys conducted at the Bell Bend Nuclear Power Plant (BBNPP) site in 2008 did not observe the Baltimore checkerspot or Mulberry wing butterflies. In a butterfly survey conducted on June 12, 2008 for the Bell Bend project, an attempt was made to confirm the presence or absence of these two species of butterflies, however, neither species was observed. Therefore, the last two sentences in the Joint Permit Application, R.1 Mitigation Narrative Rev. 1, Section 2.6, "Impacts to Threatened and Endangered Species of Special Concern", will be replaced with the following statement: "During recent butterfly surveys at the BBNPP site, the Baltimore checkerspot and Mulberry wing butterflies were not sighted. However, during surveys conducted in 1997 and 1999, both species of butterfly were sighted."

This updated information on the butterfly surveys will be submitted to appropriate agencies to serve as a notice of JPA erratum.

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<sup>1</sup> Reference 1: A Natural Areas Inventory, Luzerne County, PA, Update – 2006, Prepared by Pennsylvania Natural Heritage Program Western Pennsylvania Conservancy, Prepared for Luzerne County Board of Commissioners, 2006.

[http://www.naturalheritage.state.pa.us/cnai\\_pdfs/luzerne%20county%20nai%202006%20web.pdf](http://www.naturalheritage.state.pa.us/cnai_pdfs/luzerne%20county%20nai%202006%20web.pdf). Accessed January 28, 2014.

**COLA Impact:**

The BBNPP COLA Part 3 (ER) will be revised as shown below:

**4.3.1.2 Fauna**

A butterfly survey was conducted by an experienced entomologist as part of the terrestrial fauna studies during June and July of 2008. No mulberry wing or Baltimore checkerspot butterflies were located during the butterfly survey. However, these butterflies were sighted in earlier surveys. In 1997 the Mulberry wing was observed while the Baltimore checkerspot was observed in 1999 (PNHP, 2006).

**4.3.3 References**

**PJM, 2008.** PJM Generation Interconnection R01/R02 Susquehanna 1600 MW Impact Study Restudy, PJM Interconnection, Report Number DMS #500623, September 2008.

**PNHP, 2006.** A Natural Areas Inventory, Luzerne County, PA, Update - 2006, Prepared by Pennsylvania Natural Heritage Program Western Pennsylvania Conservancy, Prepared for Luzerne County Board of Commissioners, 2006.

[http://www.naturalheritage.state.pa.us/cnai\\_pdfs/luzerne%20county%20nai%202006%20web.p](http://www.naturalheritage.state.pa.us/cnai_pdfs/luzerne%20county%20nai%202006%20web.pdf)  
df. Accessed January 28, 2014.

**PPL, 2006.** Applicant's Environmental Report SSES Operating License Renewal Stage, Pennsylvania Power and Light, September 2006