

**R. R. Sgarro**  
Director - Regulatory Affairs

**PPL Bell Bend, LLC**  
Two North Ninth Street  
Allentown, PA18101-1179  
Tel. 610.774.7552 Fax 610.774.2618  
[rrsgarro@pplweb.com](mailto:rrsgarro@pplweb.com)



July 12, 2012

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

**BELL BEND NUCLEAR POWER PLANT  
ENVIRONMENTAL AUDIT NEED FOR  
INFORMATION RESPONSES:  
SIXTH SUBMITTAL  
BNP-2012-167      Docket No. 52-039**

The purpose of this letter is to formally document PPL Bell Bend, LLC's (PPL) responses to NRC Need for Information (NFI) requests that were discussed with the NRC at the Bell Bend Supplemental Environmental Audit held the week of May 14, 2012. Additional letters providing the remainder of NFI responses requested by NRC at the audit will be provided in coming weeks.

Responses to the following NFIs are included in this letter as Enclosure 1:

- ACC-05
- MET-04
- NRHH-08
- S/EJ-02

As discussed at the audit, the information presented in NRHH-08 and S/EJ-02 require updates to the language in the Bell Bend Nuclear Power Plant (BBNPP) Combined License Application (COLA) Part 3, "Environmental Report," Rev. 3.0 to be consistent with information provided in these NFIs. The revised COLA content will be included in a future revision of the BBNPP COLA. The future revision of the COLA is the only new regulatory commitment in this letter.

Should you have questions or need additional information, please contact the undersigned at 610.774.7552.

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

Executed on July 12, 2012.

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure:      Need for Information Responses

D102  
NR0

cc: (w/ Enclosures)

Ms. Laura Quinn-Willingham  
Project Manager  
U.S. Nuclear Regulatory Commission  
11545 Rockville Pike Mailstop: T-6 C32  
Rockville, MD 20852

(w/o Enclosures)

Mr. William Dean  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region I  
2100 Renaissance Blvd., Suite 100  
King of Prussia, PA 19406-2713

**Enclosure 1**

**Need for Information Responses**

**ACCIDENTS (ACC)**



**ACC-05: Provide an SME to discuss the ER analysis of severe accidents discussed in ER 7, including 7.2 and 7.3 and all tables in those sections.**

**Audit Disposition:** During the audit, the NRC was able to review the SAMDA material in the Reading Room. An additional question was raised concerning the assumptions used in the SAMDA analysis for the cost of replacement power. PPL agreed to provide additional information on a change in the assumption of capacity factor from 60% to the value of 95% used in the ER.

**Response:**

The maximum benefit evaluation portion of the SAMDA analysis estimates the severe accident total cost impact (maximum benefit), which is determined by summing the occupational exposure costs, on-site costs, public exposure costs, and off-site property damage costs that result from a severe accident. The cost of replacement power is used as an input to estimate the on-site costs.

A sensitivity analysis was performed to determine the impact on the SAMDA analysis if the replacement power costs were based on the 95% capacity factor stated in Section 3.4.1.3.1 of the Bell Bend ER (rather than the assumed 60%, as assumed in NUREG/BR-0184, from which the analysis was based).

Using a capacity factor of 95%, the maximum benefit for Bell Bend exceeded the value reported in Section 7.3.2 of the BBNPP ER by about \$28,000 (point estimate core damage frequency, CDF) and by about \$30,000 (mean value CDF). These increased values do not change the finding contained in the BBNPP ER Section 7.3.4 "Results and Summary" that no additional plant modifications are cost beneficial to implement due to the robust design of the U.S. EPR with respect to prevention and mitigation of severe accidents.

**COLA Impact:**

No change is required to the BBNPP COLA as a result of this response.

**METEOROLOGY (MET)**

**MET-04: Discuss SSES and BBNPP meteorological tower locations and possible obstructions due to nearby vegetation or from changes in the BBNPP structure location.**

**Audit Disposition:**

During the Environmental Audit, the NRC reviewed the MET-04 NFI response and toured the proposed meteorological tower location. During the tour, NRC indicated that the proposed site appeared appropriate for the siting of the meteorological tower, but requested information on the potential impact of EMF from nearby transmission lines and an assessment of the potential for meteorological tower tree obstructions. The response below responds to this request for additional information.

**Response:**

As observed during the Environmental Audit site visit, PPL proposes installation of the BBNPP meteorological tower and associated instrumentation in an open field to the southeast of the proposed BBNPP facility. This location was selected to represent the general site area without interference per Standard Review Plan guidance (NUREG 1555, Section 6.4, III). Specifically, analyses indicate that the exposure and distance to obstructions at the selected location will allow for consistent measurement of airflow patterns representative of the area.

As designed, the proposed tower will be constructed at a location greater than five obstruction heights from nearby treelines without additional tree clearing, as described in Table 1 and shown on Figure 1. Standard Review Plan guidance indicates that when towers are sited more than five obstruction heights from major obstructions, the influence from the obstruction should be minimal. Analysis of the proposed tower location supports a conclusion that influences from the nearest treelines will have minimal, if any, influence on atmospheric measurements in this location.

Design considerations supporting this conclusion include the following:

- Height of nearby obstructions: The nearest treelines are to the north and south of the proposed tower location, and are at a distance from the tower of greater than 5 times their height. These nearest treelines are not in line with the prevailing wind directions. Proposed upland tree clearing of approximately 125' at the southern treeline will be completed to support planned construction activities, increasing the ratio of distance to obstructions included in Table 1, further reducing the potential for interference.
- Prevailing wind direction: Per ER 2.7.1.1, the prevailing wind directions are ENE and SW. In both of these directions, there are longer fetches to obstructions (treelines) than to the N and S, and in the case of the predominant wind direction, the distance from the tower to the ENE treeline approaches a factor of 13 times the obstruction height (Table 1).
- Nearby Land Use and Obstructions: There are no treelines, buildings, or other structures within 10 obstruction heights to the E, W, NW, or SE, and tree density to the NNW and SW is lower than to the N and S.
- EMF and Nearby Transmission Lines: Potential EMF interference was considered during tower siting. EMF interference from transmission lines is unlikely to have a measurable effect on meteorological tower instrumentation. This is based on the distance to the nearest transmission lines, which is greater than 500 feet to the east, and the associated magnetic field at that distance, which would approach zero (PGEC, 1994).

Additional Siting Considerations and Constraints

It is important to note that the treelines nearest to the proposed tower locations (to the N and S) could be cleared beyond the limited cutting proposed to increase the distance of the nearest obstructions to greater than 10 times their height. PPL proposes not to perform additional clearing based upon the lack of potential interference presented by these treelines, and also due to the significant ecological value of the areas to be cleared. Forested wetlands exist within the treelines to the north and south, are rated highly for wildlife habitat, and also provide other important functions and values. In addition, forest clearing to remove all trees within ten obstruction heights may result in the loss of high value potential roost trees for the Indiana bat located in upland forest to the southeast of the proposed tower location. Consequently, it is concluded that it is neither necessary nor desirable to remove the trees located north and south of the tower site.

**Table 1: Distance/Height Ratio of Nearby Obstructions**

North Tree Line	275 ft lateral distance/ 52 ft tree height = <u>5.3</u>
South Tree Line (pre-construction)	297 ft lateral distance/ 48 ft tree height = <u>6.2</u>
South Tree Line (post-construction)	425 ft lateral distance/ ~50 ft tree height = <u>8.5</u>
Predominant Prevailing Wind Direction Tree Line	642 ft lateral distance/ ~50 ft tree height = <u>12.8</u>
Distance to the north tree line has been measured at 275 feet from the proposed meteorological tower. Distance to the south tree line has been measured at 297 feet (Figure 1). Tree heights to the north of the proposed meteorological tower location range from 46 to 52 feet, and from 43 to 48 feet to the south of the proposed tower, taking into account differences in grade. Following construction, the southern tree line will be cut back approximately 125', increasing the distance to the southern treeline to approximately 425'.	

Previous RAI Response

Note that a previous response (NRC, 2009) to a Request for Additional Information (RAI MET 6.4-2) indicated that the BBNPP meteorological tower will be located more than five obstruction heights away from both the existing SSES and proposed BBNPP cooling towers and other plant structures (see ER Table 6.4-3). The information in this NFI response does not contradict the information presented in the MET 6.4-2 response.

**Data Sources:**

PGEC, 1994. Transmission Lines EMF Design Guidelines, Pacific Gas and Electric Company, May 20, 1994.

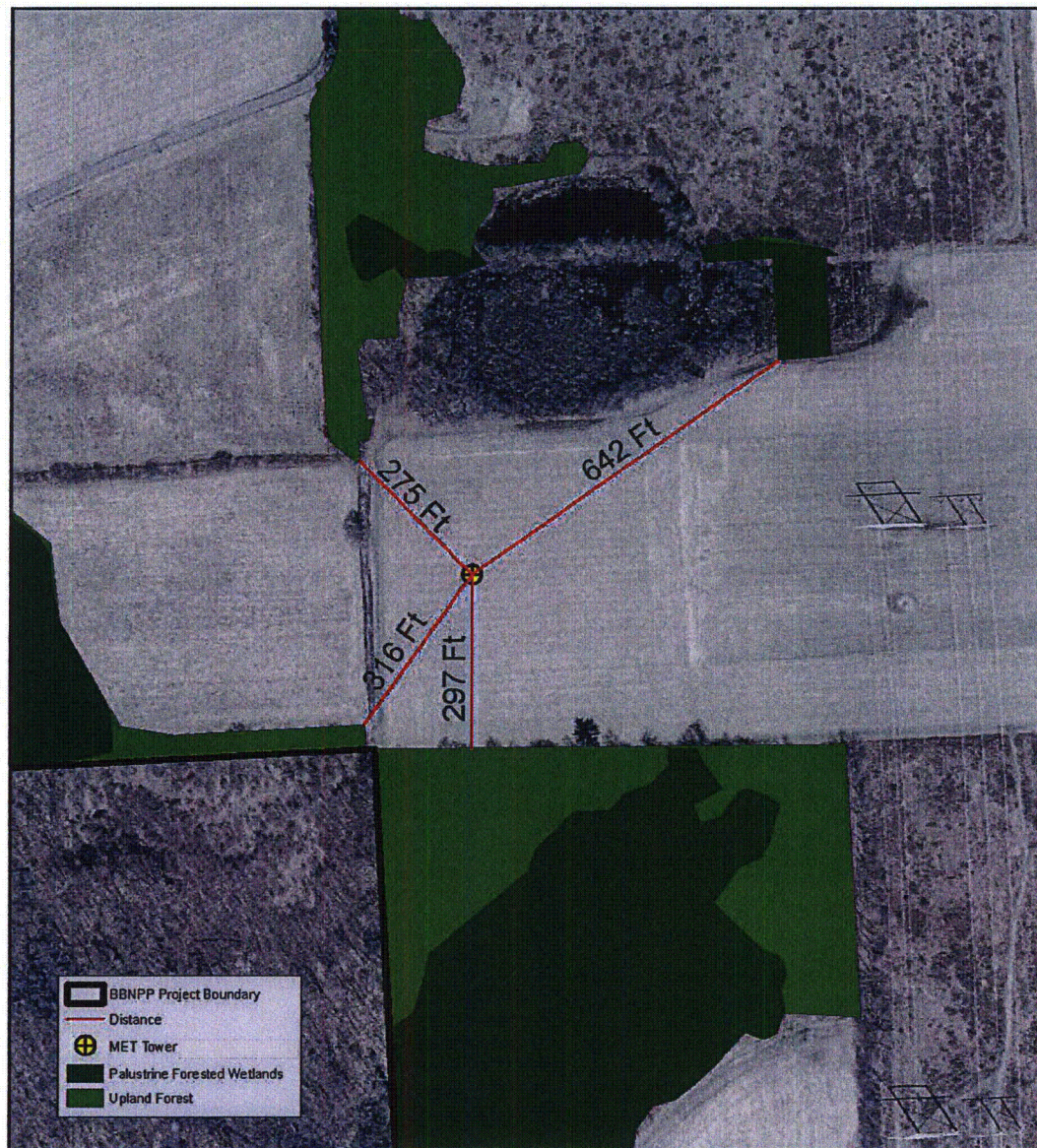
NRC, 2009. Bell Bend Nuclear Power Plant Response to Environmental Requests for Additional Information, Fourth Submittal, BNP-2009-266, Docket No. 52-039, Accession Number ML092810289.

**COLA Impact:**

No change is required to the BBNPP COLA as a result of this response.



Figure 1 - Meteorological Tower Forest Measurements



### Met Tower Forest Measurements



**NORMANDEAU ASSOCIATES**  
ENVIRONMENTAL CONSULTANTS  
400 Old Reading Pike, Bldg A, Suite 101 Stowe, PA 19464

date: 06/14/12  
prepared by: s.sherman  
project: 22081.000

rev. date:  
prepared for: p.harmon  
file name: Met\_Tower\_Forest\_Measurements

**Non-Radiological Human Health (NRHH)**

**NFI NRHH-08:**

Calculate the day/night noise average during construction for residences both onsite and offsite, including the nearest receptors.

**Audit Disposition:**

Include the following as part of the calculation:

- Noise levels that will be experienced vs. the 65 dB standard in the ESRP.
- Distances of residences from center of construction and describe what the center of construction is.
- Noise levels for offsite residences during construction.
- Salem Township Noise Ordinance.
- A figure showing lifetime lease residences and nearest offsite residential receptors in relation to the center of construction.

**Response:**

UNE/PPL conducted a construction noise analysis (Hessler, 2012) to determine the expected noise levels at nearby receptors during the seven years of BBNPP construction. The quantitative metric used to compare the construction noise results as being acceptable was the regulation referred to in the Environmental Standard Review Plan (ESRP) to the Department of Housing and Urban Development (HUD) use of the day-night average sound levels. Noise levels are acceptable if the sound level outside a residence is a day-night average (Ldn) of 65 dBA or below. See 24 CFR 51.101(a)(8) and 51.103(c). As noted in ER Section 2.7.7.2, Salem Township only has a qualitative noise ordinance.

The construction noise analysis calculated Ldn values at key receptors both on and offsite based on five phases of construction (excavation, concrete pouring, steel erection, mechanical assembly, and clean up) over the seven-year construction period. Input data was based on the results of a multi-year study of 15 large oil, coal, and nuclear fueled power plants under construction. The Ldn values were calculated at the center of construction for a worst-case scenario of construction occurring for 24 hours per day. The center of BBNPP construction was the power block, the same as in the reference study.

Figure NRHH-08-1 below is a site aerial photograph showing the power block, plant boundaries and nearby residences. Seven key analysis receptors are identified. They are the closest residents to the power block in all directions that will be occupied during BBNPP construction.

Table NRHH-08-1 lists the distance of the seven receptors from the power block and the maximum Ldn values for the worst-case scenario. The estimated construction noise levels at all locations, including the closest residence, NW1, are below 65 db. As a result, the estimated BBNPP Ldn values meet the ESRP/HUD acceptability standard.

**Data Sources:**

Hessler, 2012. Construction Noise Analysis, Bell Bend Nuclear Power Plant (BBNPP) Project, Report Number 062212-1, Hessler Associates, Inc., June 2012.

CFR, 2012. Title 24, Code of Federal Regulations, Part 51, Subpart B Noise Abatement and Control, 2012.



**Figure NRHH-08-1, Aerial Photograph Showing Analysis Locations of Residences around BBNPP**





**Table NRHH-08-1, Estimated Construction Noise Ldn Levels at Residences around BBNPP**

<b>Receptor (see Figure NRHH-08-1)</b>	<b>Distance to Center of Power Block, ft (m)</b>	<b>Maximum Ldn, dB</b>
N1	5325 (1623)	53
N2	5325 (1623)	53
<b>NW1</b>	2050 (624.8)	<b>64</b>
E1	9875 (3010)	43
S1	5775 (1760)	49
W1	3450 (1052)	57
W2	2600 (792.5)	61

**COLA Impact:**

The BBNPP COLA ER Sections 4.4.1, 4.4.1.7, and Table 4.6-1 will be revised in a future revision as shown on the following pages.

## 4.4 SOCIOECONOMIC IMPACTS

### 4.4.1 Physical Impacts

Construction activities at the BBNPP site will cause temporary and generally localized physical impacts such as increased noise, vehicle exhaust, and dust. This section addresses these potential impacts as they might affect people (the local public and workers), buildings, transportation routes, and the aesthetics of areas located near the plant site.

A description of the BBNPP site, location and surrounding community characteristics is provided in Section 2.1, Section 2.2, and Section 2.5. Chapter 3 describes the proposed facility including its external appearance.

As discussed below, the BBNPP site is located in a rural area, relatively remote from nearby population centers and communities. As a result, the potential for direct physical impacts to the surrounding communities from plant construction is expected to be SMALL.

#### 4.4.1.1 The Public and Workers

People who work at or live near the BBNPP site will be subject to physical impacts resulting from construction activities. Onsite construction workers will be impacted the most, with workers at the existing adjacent operating units subject to slightly reduced, similar impacts. People living or working adjacent to the site will be impacted significantly less due to site access controls and distance from the construction site where most activities will occur. Transient populations and recreational visitors will be impacted the least for similar reasons and the limited exposure to any impacts of construction.

#### 4.4.1.2 Noise

Section 2.7 provides information and data related to the background noise levels that exist at the construction site.

Noise levels in the site area will increase during construction primarily due to the operation of vehicles; earth moving, materials-handling, and impact equipment; and other tools. Pile driving will occur during some construction activities.

Typical noise levels from equipment that is likely to be used during construction are provided in Table 4.4-1 (Beranek, 1971). Onsite noise levels that workers will be exposed to are controlled through appropriate training, personnel protective equipment, periodic health and safety monitoring, and industry good practices. Good practices such as maintenance of noise emitting devices on vehicles and equipment, and controlling access to high noise areas, duration of emission, or shielding high noise sources near their origin will limit the adverse effects of noise on workers. Non-routine activities with potential to adversely impact noise levels such as blasting will be conducted during weekday business hours and will utilize good industry practices that further limit adverse effects.

The exposure of the public to adverse effects of noise from construction activities will be reduced at the source by many of the same measures described above and the additional distance, interposing terrain, and vegetation which provide noise attenuation. Typically, noise generated by construction equipment decreases by approximately 6 dBA for each doubling of distance (Harris, 1979). For instance, if the maximum noise levels produced by construction are 90 dBA at a reference distance of 50 ft (15 m), then at 100 ft (30 m) that noise level will be reduced to 84 dBA. Because the nearest residence is 220 ft (67 m) away from the limits of disturbance, noise effects from construction are expected to be MODERATE.

greater than 2000 ft (610 m) away from the center of construction, the estimated noise is expected to be less than the acceptable sound level of 65 dB (CFR, 2012). As a result, the noise effects from construction will be SMALL. The construction noise analysis report is provided in COLA Part 11L



- ◆ Locating the new intake structure, pump house, and discharge piping near the existing facilities on the river shoreline.
- ◆ Minimizing tree removal by locating plant facilities in either cleared fields or lightly forested areas where feasible.
- ◆ Transporting excavated and dredged material to an on-site spoils area outside designated wetlands.
- ◆ Adding a new access road to provide a direct route to BBNPP and thereby minimizing the impacts to local roads and the disruption of existing traffic patterns from construction and operation of the plant.
- ◆ Creating an exterior for new structures that is compatible with the color and texture of the surrounding area.
- ◆ Where feasible, replanting and reseeding of cleared areas with native trees and vegetation.

The existing 500 kV transmission system and the PJM Interconnection, LLC, planned upgrades being installed independent of BBNPP construction will serve the offsite needs of BBNPP, requiring no new construction of offsite transmission towers. New transmission towers and transmission lines will be constructed onsite to connect BBNPP to the existing SSES 500 kV switchyard and a new 500 kV switchyard to the north of the site. These new lines will be built on land currently owned by SSES and will be consistent with existing onsite facilities.

In summary, aesthetic impacts are expected to be SMALL and temporary, because the BBNPP site is set back from, and only limited portions of the construction will be visible from, publicly accessible areas. Most construction activities will be shielded from public view and construction activities are by nature temporary.

#### 4.4.1.7 Reference

**Beranek, 1971.** Noise and Vibration Control, Leo L. Beranek, ed., 1971.

**CFR, 2007a.** Title 40, Code of Federal Regulations, Part 50, National Primary and Secondary Ambient Air Quality Standards, 2007.

**CFR, 2007b.** Title 40, Code of Federal Regulations, Part 61, Standards for Performance for New Stationary Sources, 2007.

**CFR, 2012.** Title 24, Code of Federal Regulations, Part 51, Subpart B Noise Abatement and Control, 2012.

**Harris, 1979.** Handbook of Noise Control, 2nd edition, McGraw Hill, 1979.

**KLD, 2011.** Traffic Impact Study Related to the Proposed Construction and Operation of the Bell Bend Nuclear Power Plant - Preliminary Findings Report, KLD Engineering, P.C., October 2011.

**PADOLI, 1953.** General Safety Law, Act Number 174 (May 18, 1937), P.L. 654, Pennsylvania Department of Labor and Industry, as amended June 28, 1951 and July 13, 1953.

#### 4.4.2 Social and Economic Impacts

This analysis presents information about the potential impacts to key social and economic characteristics that could arise from the construction of the power plant at the BBNPP site. The

**Table 4.6-1— A Summary of Measures and Controls to Limit Adverse Impacts During Construction**

(Page 8 of 12)

ER Reference Section	Potential Impact Category and Description													Proposed Measures and Controls or Mitigating Circumstances	
	Limited mortality of fish and insects (i.e., resulting from sedimentation and surface water modifications). (AE)													Implement PCSM, including erosion and sediment plan (silt fences, vegetative stabilization, dust suppression, the construction of new impoundments, and other controls), as part of the Individual NPDES Permit for Discharge of Stormwater Associated with Construction Activities requirements; comply with BMP requirements.	
														Install infiltration beds and a temporary sedimentation pond.	
4.4 Socioeconomic Impacts	Erosion/Sediment (ES)														
	Air Quality (AQ)	S													
	Wastes (WS)	S													
	Surface Water (SW)														
	Groundwater (GW)														
	Land Use (L)	S													
	Water Use & Quality (W)														
	Terrestrial Ecosystems (TE)														
	Aquatic Ecosystems (AE)														
	Socioeconomic (S)						M								
	Aesthetics (A)	S													
	Noise (N)														
	Traffic (T)														
	Radiation Exposure (R)														
	Other (site specific) (O)														
4.4.1 Physical Impacts	Equipment and non-routine noise. (N)													Comply with applicable PA Department of Environmental Protection (DEP) and Salem Township noise restrictions.	
														Comply with applicable Occupational Safety and Health Administration (OSHA) noise-exposure limits.	
														Implement appropriate training, personal protective equipment, health and safety monitoring and other good industry noise control practices.	
														Maintain noise limiting devices on vehicles and equipment and shield high noise sources near their origin; conduct non-routine activities such as blasting during weekday business hours.	
	Air emissions (dust and volatiles) increase. (AQ)													Comply with applicable USEPA and PA DEP air quality regulations.	
														Implement routine vehicle/equipment inspection and maintenance program.	



**Socioeconomics and Environmental Justice (S/EJ)**

**S/EJ-02: Provide the author of community characteristics analysis to discuss the region's political structure, tax districts, detailed county-level sources and uses of funds, local and regional administrative organizations that may be directly affected by the BBNPP construction and operation.**

**Audit Disposition:**

Upon review of the S/EJ-02 NFI response at the audit, the NRC requested additional information on the Luzerne County and Columbia County budgets by providing a detailed overview of sources and uses of funds, as published by the counties, and inclusion of pertinent information in the next ER revision, as presented below.

**Response:**

Revenue and expenditures at the county level provide information on the availability of funds to support emergency management and social services. The amount of funds allocated towards these services indicates how a county is prepared to handle emergencies or incidents as well as impacts on county resources attributed to the construction and operation of the proposed BBNPP.

Luzerne County was originally managed by a three member board of County Commissioners. However, a new Home Rule Charter, adopted in 2010, increased the number of County Commissioners from three to eleven (Luzerne County, 2010), and appointed a County Manager and a Clerk of County Council.

As shown in Table 1, Luzerne County expenditures are estimated to be approximately \$123 million (Luzerne County, 2012). Of the 2012 \$123 million, expenditures by the EMS/911 services and emergency management services are estimated to be \$4,468,138 and \$259,304, respectively. The county 2012 budget also proposes to spend \$8.5 million towards human services related activities that would directly improve the quality of life and standard of living for all county residents. Approximately \$6 million of the human services budget is proposed to be spent on children and youth services that would improve help improve access and quality to children and youth, and in-turn improve the attractiveness of the county. Expenditures for these services in 2012 are higher than the levels reported in the 2011 budget.

Columbia County is managed by a three member board of County Commissioners. As shown in Table 2, the estimated expenditures of Columbia County as of 2012 are reported to be \$21.1 million (Columbia County, 2012). Total revenue that the county expects to collect during the same period is estimated to be \$21.3 million.

Columbia County levies a property tax on all land within the county and expects to collect \$7.7 million in taxes during 2012. Grants from the Commonwealth of Pennsylvania to the county during 2012 are reported to be \$7.4 million. In 2012, Columbia County expects to receive \$661,300 towards emergency management and 911 wireless services via Federal grants. Out of the total allocation; nearly 87% or \$577,000 of this grant money will be allocated to the 911 wireless services, which would be managed by the Pennsylvania Emergency management Agency (PEMA). The total expenditure associated with 911 services in Columbia County is \$989,105. Other revenue sources include \$200,000 in court costs and fines, \$219,013 in rental income, \$80,448 as total payments in lieu of taxes, \$4,675,253 in departmental earnings, \$263,500 in other revenue/reimbursed expenses and \$24,055 as transfers from other funds. Among the other county departments or agencies receiving funds, \$872,403 has been allocated to Human Services and \$485,258 to the Family Center Department. The budget for Children and Youth Services is reported to be \$4,089,282.

Additional information on tax revenue for the two counties during the construction and operational phases of BBNPP is located in ER Sections 4.4.2.6.2 and 5.8.2.4.2, respectively.

Hospitals and other nursing facilities within the two counties are not managed by their county's health departments. With the exception of the VA Medical Center in Wilkes-Barre, the remaining eight hospitals within Luzerne County and the two medical facilities in Columbia County are all managed by non-profit entities. The county budget does not allocate funds for the operation of these facilities. ER Section 2.5.2.9.6.1 provides further details on these facilities.

**Data Sources:**

Luzerne County, 2010. Recommended Home Rule Charter for Luzerne County, Pennsylvania. Luzerne County Government Study Commission. Adopted August 11, 2010. Website: <http://www.luzernecounty.org/content/File/Charter%20w%20Signatures.pdf>. Date Accessed: June 2012.

Luzerne County, 2012. Luzerne County Council, Amended Expenditure and Amended Revenue per Department for the 2012 General Fund Budget, February 6, 2012. Website: <http://www.luzernecounty.org/content/File/Agenda%2002-06-12%20rev.pdf>. Date Accessed: June 2012.

Columbia County, 2012. 2012 Preliminary Budget. Website: [http://www.columbiapa.org/commissioners/Advertised\\_Budget\\_2012.pdf](http://www.columbiapa.org/commissioners/Advertised_Budget_2012.pdf), Date Accessed: June 2012.

**Table 1: Expenditures per Department for the 2012 General Fund Budget – Luzerne County**

<b>Item/Department</b>	<b>2012 Budget</b>	<b>Percentage (%)</b>
Fixed Overhead	\$33,873, 371	27.6
Council/Commissioners	\$151,356	0.1
County Manager	\$198,085	0.2
Central Law	\$653,964	0.5
Administrative Services	\$2,148,973	1.8
Budget and Financial Services	\$2,858,573	2.3
Prison	\$26,922,802	22.0
Human Services	\$8,504,481	6.9
Children and Youth Services	\$6,200,000	5.05
Judicial Services	\$5,339,864	4.4
Operational Services	\$10,945,970	8.9
EMS/911	\$4,468,138	3.5
Emergency Management	\$259,304	0.2
Public Defenders	\$2,496,171	2.0
Controllers	\$319,600	0.3
Judicial <sup>1</sup>	\$23,696,918	19.3
District Attorney	\$4,520,463	3.7
<b>Total Expenditures</b>	<b>\$122,630,591</b>	<b>100.0</b>

Source: Luzerne County, 2012b.

Notes: <sup>1</sup>Includes expenditures on Courts, Orphan Court, Magistrate, Domestic Relations, Jury Commissioners, Court Stenographers and Probation Services



**Table 2: Expenditures per Department for the 2012 General Fund Budget – Columbia County**

<b>Item/Department</b>	<b>2012 Budget</b>	<b>Percentage (%)</b>
Council/Commissioners	\$786,523	3.7
County Buildings	\$675,614	3.2
Voter Registration	\$80,550	0.4
Conduct of Elections	\$123,452	0.6
Tax Assessment	\$362,988	1.7
Treasurer	\$182,621	0.9
Tax Collectors	\$34,775	0.2
Controller of Auditors	\$48,920	0.2
Register and Recorder	\$196,662	0.9
Human Services Department	\$872,403	4.1
Family Center Department	\$485,258	2.3
Sheriff	\$406,945	1.9
Coroner	\$75,555	0.4
Prothonotary	\$326,026	1.5
Domestic Relations	\$592,950	2.8
Public Defender	\$183,518	0.9
District Attorney	\$404,807	1.9
Victim-Witness Coordination	\$45,565	0.2
Law Library	\$45,000	0.2
Courts and Jury Commissioners	\$1,125,532	5.3
Probation and Parole	\$950,326	4.5
County Prison	\$4,556,365	21.6
Children and Youth Services	\$4,089,282	19.4
GIS	\$126,868	0.6
Emergency Management	\$181,735	0.9
Parks	\$78,073	0.4
E.M.A Act 147	\$28,000	0.1
L.E.P.C	\$11,500	0.1
911 Center (Reimbursable and Non-Reimbursable)	\$989,105	4.7
Employee Benefits	\$6,721	0.0

Item/Department	2012 Budget	Percentage (%)
Insurance Benefits	\$380,384	1.8
Capital Expenditures	\$63,500	0.3
Debt Service	\$147,279	0.7
Planning Commission	\$240,163	1.1
Ag. Extension Services	\$117,378	0.6
Contributions to Other Agencies	\$2,096,311	9.9
Total Expenditures	\$21,129,667	100.0

Source: Columbia County, 2012.

**COLA Impact:**

A future revision of BBNPP COLA ER Sections 2.5.2.2.2, 2.5.2.7.2, 2.5.2.7.3, and 2.5.2.11 will be revised to reflect the information presented in the response above for the two counties as shown on the following pages:

economic departments because no impacts would be expected to occur to community services in those areas.

#### 2.5.2.2.2 Two-County Region of Influence 11

Luzerne County was established in 1786 and occupies 891 mi<sup>2</sup> (2,308 km<sup>2</sup>) of land in northeastern Pennsylvania. The county seat of Luzerne County is the City of Wilkes-Barre. The County Legislature includes three commissioners that make up the Board (NACO, 2008). Luzerne County is comprised of the cities of Wilkes-Barre, Hazleton, Pittston, and Nanticoke, 36 boroughs, and 36 townships. The county is located in the 10th and 11th Congressional Districts; the 14th, 20th, 22nd, and 27th Senatorial Districts; and the 114th, 116th, 117th, 118th, 119th, 120th, and 121st Legislative Districts (LCBE, 2008).

, as well as a County Manager and a Clerk of County Council (Luzerne County, 2010)

Salem Township is located in the southern part of Luzerne County, along the Susquehanna River. It is classified as a second class township, typically defined by its rural character. The township encompasses approximately 36 mi<sup>2</sup> (93 km<sup>2</sup>) with a population of 4,300 people. This township is part of the 11th Congressional District and 117th Legislative District (LC, 2008).

The township is governed by three supervisors, who are elected at-large. The supervisors are elected for six year terms. The positions are further divided into chair, vice-chair/roadmaster, and supervisor. These officers comprise the Board of Supervisors (the Board). The Board meets twice a month to discuss issues pertinent to the business of the township. (STS, 2008)

The Board also oversees two primary committees, the Planning Commission and the Zoning Hearing Board. Recently, the Board expanded the Planning Commission to include five members. Additional committees/commissions are part of the governing structure, including the Shade Tree Commission. The sole purpose of this body is to advise residents and interested people about which tree plantings are permitted. A Park and Recreation Board also has been formed to address park planning within the township (STS, 2008).

Columbia County was established in 1813 and occupies 486 mi<sup>2</sup> (1,259 km<sup>2</sup>) of land in northeastern Pennsylvania. The county seat of Columbia County is the Town of Bloomsburg. The County Legislature includes three commissioners that make up the Board (NACO, 2008). Columbia County is comprised of the Town of Bloomsburg, 8 boroughs, and 24 townships. The county is located in the 11th Congressional District (PADOS, 2008); the 27th Senatorial District; and the 107th, 109th, and 117th Legislative Districts (PAGA, 2008).

### 2.5.2.3 Area Social Structure

#### 2.5.2.3.1 Luzerne County

As shown in Table 2.5-15, the 2000 median household income in Luzerne County was \$33,771, somewhat lower than the Scranton-Wilkes-Barre-Hazleton MSA (\$34,161) and significantly lower than the Commonwealth of Pennsylvania (\$40,106) and the U.S. (\$41,994) median household income. The 2006 median household income in Luzerne County was \$39,687, significantly lower than the \$46,259 median household income for the Commonwealth of Pennsylvania and the \$48,451 for the U.S. (USCB, 2000a) (USCB, 2000b) (USCB, 2000c) (USCB, 2000d) (USCB, 2000e)

As shown in Table 2.5-15, in 2000, Luzerne County's 11.1% of individuals living below the U.S. Census Bureau poverty level was equal with the 11.1% for the Scranton-Wilkes-Barre-Hazleton MSA and approximately equal with the 11.1% for the Commonwealth of Pennsylvania and lower than the 12.4% for the U.S. In 2006, Luzerne County's 13.3% of individuals living below the U.S. Census Bureau poverty level was higher than the 12.1% for the Commonwealth of



level cannot exceed 1.0%, and thus if the both a municipality and a school district levy a tax, they must share the 1.0% maximum (GHC, 2008).

#### **2.5.2.7.2 Luzerne County**

Luzerne County does not levy a sales tax on goods and services. However, in 2008, the County did levy a 5.0% tax on hotel room rentals (PDECD, 2008d).

Within Luzerne County, all real estate, unless specifically exempt, is taxable. The county imposed a rate of 94.9 mills on residential real property (PDECD, 2008d). The County splits the real estate transfer tax with the school districts, with 0.5% allocated to the County and 0.5% allocated to the school districts (GHC, 2008).

As shown in Table 2.5-27 (LC, 2008), in 2007 Luzerne County had a total of \$140.8 million in revenues and \$142.0 million in expenditures. Of the total revenues, about 52% (\$72.4 million) came from real estate taxes, 37% (\$52.4 million) came from departmental earnings, and 10% (\$13.8 million) came from claims taxes.

Insert A →

#### **2.5.2.7.3 Columbia County**

As with Luzerne County, Columbia County does not levy a sales tax on goods and services. However, in 2008, the County did levy a 3.0% tax on hotel room rentals (PDECD, 2008c).

All real estate within Columbia County is taxable, unless specifically exempt. The county imposes a rate of 7.4910 mills on real property (PDECD, 2008c).

The borough of Berwick imposes the following tax rates: 10.6 mills for the General Fund, 1.25 mills for fire protection, and 1.75 mills for street lighting.

As shown in Table 2.5-28 (CC, 2008), in 2006 Columbia County had a total of \$16.7 million in revenues and \$16.4 million in expenditures. Of the total revenues, about 35% (\$5.9 million) came from state grants, 33% (\$5.5 million) came from real estate taxes, 18% (\$0.3 million) came from departmental earnings.

Insert B →

#### **2.5.2.8 Local Land Use Plans**

##### **2.5.2.8.1 50 Mi (80 km) Comparative Geographic Area**

There are six major land uses within the 50 mi (80 km) region that account for about 5 million acres (2 million ha) of land. The major land uses are urban/built-up (9%), barren (1%), wetlands (2%), water (2%), forest (65%), and agricultural (21%). For additional information about land use, refer to Section 2.2.

##### **2.5.2.8.2 Two County Region of Influence**

###### Luzerne County

The three classifications of barren, wetlands, and water together account for 6% of the total county lands for Luzerne County. Urban or built-up lands occupy little of the county's land, with Luzerne County having only 11%. The majority of the land use is dominated by forest and agricultural lands. Luzerne County is comprised of 71% forest land and 11% agricultural lands.

The BBNPP site is characterized by forests, open, undeveloped, agricultural, mined, and developed lands. The developed portions of this area are located in and around the city of Hazleton and the eastern outskirts of the borough of Berwick. As shown in Table 2.2-1, most of the BBNPP site is zoned as an agricultural district with a much smaller portion zoned as a



#### Insert A

The 2012 Luzerne County budget expenditures are estimated to be nearly \$122 million (Luzerne County, 2012). Of the \$122 million, expenditures by the EMS 911 services and emergency management services are estimated to be nearly \$4.4 million and \$250,000, respectively. The 2012 county budget also proposes to spend nearly \$8.5 million towards human services related activities that would directly improve the quality of life and standard of living for all county residents. Approximately \$6 million of the human services budget is proposed to be spent on children and youth services that would improve help improve access and quality to children and youth, and in-turn improve the attractiveness of the county. Expenditures for these services in 2012 are slightly higher than the levels reported in the 2011 budget.

The county budget does not allocate funds for the operation of hospitals and nursing facilities. Likewise, local EMS and police services within the individual municipalities are not supported by county funds, but are supported by local taxes levied by individual municipalities.

#### Insert B

The 2012 Columbia County budget expenditures are reported to be approximately \$21.1 million (Columbia County, 2012). Total revenue that the county expects to collect during the same period is estimated to be \$21.3 million. The county expects to collect nearly \$8 million in taxes during 2012, and grants from the Commonwealth of Pennsylvania to the county during 2012 are reported to be approximately \$7.4 million. In 2012, Columbia County expects to receive approximately \$661,300 towards emergency management and 911 wireless services via Federal grants. Out of the total allocation; nearly 87% or \$577,000 will be allocated to the 911 wireless services which would be managed by the Pennsylvania Emergency management Agency (PEMA). Among the other county departments or agencies receiving funds, approximately \$872,403 has been allocated to Human Services and \$485,258 to the Family Center Department. The budget for Children and Youth Services is reported to be \$4,089,282.

Similar to Luzerne County, the Columbia County budget does not allocate funds for the operation of hospitals and nursing facilities. Local EMS and police services within the individual municipalities also are not supported by county funds, but are supported by local taxes levied by individual municipalities.

Norfolk Southern and the Canadian Pacific provide freight carrier rail services for many of the county's major manufacturing and distributing companies. The Reading and Northern provides several communities in the county with feeder service to larger carriers as well as the railroad operated by Luzerne County Rail Authority (LC, 2008).

#### **2.5.2.10.5 Freight Carriers**

There are 40 motor freight common carriers that serve Luzerne County (WBH, 2008).

#### **2.5.2.10.6 Deep Water Ports**

There are no deep water ports in Luzerne County or Columbia County.

#### **2.5.2.11 References**

**Apartments, 2008.** Apartments, Website: [www.apartments.com](http://www.apartments.com), Date accessed: March 25, 2008.

**APA, 2005.** American Planning Association, AICP Exam Preparation 1.0 Study Guide for Preparing for the AICP Exam.

**AS, 2008.** Allstays, Website; <http://www.allstays.com/us-pennsylvania-hotels.htm>, Date accessed: March 14, 2008.

**BANKRATE, 2008.** State Tax Roundup, Website: [http://www.bankrate.com/brm/itax/edit/state/profiles/state\\_tax\\_Pa.asp](http://www.bankrate.com/brm/itax/edit/state/profiles/state_tax_Pa.asp), Date accessed: August 24, 2008.

**BBD, 2008.** Bed and Breakfast Dreams, Website: <http://www.bnbdreams.com/>, Date accessed: March 14, 2008.

**BHC, 2008.** Berwick Hospital Center, Website: [www.berwick-hospital.com](http://www.berwick-hospital.com), Date accessed: May 1, 2008.

**BOOK, 2008.** Blazing the Nutrient-Removal Trail: One State's Efforts to Stay Ahead of the Compliance Curve, Water Environment Federation, July 2008, Volume 20, Number 7, Website: <http://www.wef.org/ScienceTechnologyResources/Publications/WET/08/08Jul/08JulyViewpoint.htm>, Date accessed: August 11, 2008

**BLS, 2008.** Department of Labor: Bureau of Labor Statistics; Occupational Employment and Wage Estimates, May 2006 for Scranton-Wilkes-Barre, PA Metropolitan Statistical Area, Website: [www.bls.gov](http://www.bls.gov), Date accessed: April 29, 2008.

**BPA, 2008.** Press Enterprise (Berwick Newspaper), Website: [BerwickPA.com](http://BerwickPA.com), Date accessed: August 25, 2008.

**BU, 2008.** Bloomsburg University, Website: <http://www.bloomu.edu/>, Date accessed: May 1, 2008.

**CC, 2008.** Columbia County Commonwealth of Pennsylvania, Website: [www.columbiapa.org](http://www.columbiapa.org), Date accessed: May 1, 2008.

**CCS, 2009.** Securing a Future of Excellence Together, Website accessed on April 14, 2009, <http://centralcountysafet.com/5.html>.

**Columbia County, 2012.** 2012 Preliminary Budget. Website: [http://www.columbiapa.org/commissioners/Advertised\\_Budget\\_2012.pdf](http://www.columbiapa.org/commissioners/Advertised_Budget_2012.pdf), Date Accessed: June 2012.



**HLC, 2008.** Hidden Lake Campground, Website: <http://hiddenlakecampground.com>, Date accessed: May 6, 2008.

**IAF, 2008.** IAF, Website: [www.ylwbook.iaf.net](http://www.ylwbook.iaf.net), Date accessed: March 25, 2008.

**JC, 2008.** Joint Commission, Website: <http://www.jointcommission.org/>, Date accessed: May 12, 2008.

**Kaiser, 2007.** Henry Kaiser Family Foundation (Kaiser), 2007. Statehealthfacts.org. Pennsylvania State. Website accessed on July 17, 2009, <http://www.statehealthfacts.org/profileind.jsp?cat=8&sub=94&rgn=40>.

**Karter 2006.** Karter, Michael J., 2006. U.S. Fire Department Profile Through 2005. Fire Analysis and Research Division, National Fire Protection Association. October 2006. Website accessed on August 4, 2009, [http://www.iafflocal116.org/NFPA\\_Fire\\_Dept.\\_Analysis%20page%205.pdf](http://www.iafflocal116.org/NFPA_Fire_Dept._Analysis%20page%205.pdf).

**KLD, 2011.** Traffic Impact Study Related to the Proposed Construction and Operation of the Bell Bend Nuclear Power Plant - Preliminary Findings Report, KLD Engineering, P.C., October 2011.

**Layton and Gloo, 2007.** Robert Layton and Donald Gloo. Performance Matters, Not a Trivial Exercise, in International Association of City/County Management Magazine. June 2007, Volume 89, Number 5, Website accessed on April 14, 2009, <http://icma.org/pm/8905/public/performance.cfm?author=&title=Performance%20Matters>

**LC, 2008.** Luzerne County, Website: <http://www.luzernecounty.org/>, Date accessed: March 26, 2008, May 1 and 2, 2008.

**LCBE, 2008.** Luzerne County Bureau of Elections, Website: [www.luzernecounty.org/county/departments\\_agencies/bureau\\_of\\_elections](http://www.luzernecounty.org/county/departments_agencies/bureau_of_elections), Date accessed: May 9, 2008.

**Luzerne County, 2008.** Luzerne County Trails. Website accessed on August 7, 2009, [http://www.luzernecounty.org/county/departments\\_agencies/recreation/trails](http://www.luzernecounty.org/county/departments_agencies/recreation/trails).

**MLP, 2008.** Moon Lake Park, Website: [www.moonlakepark.com](http://www.moonlakepark.com), Date accessed: May 6, 2008.

**Move, 2008.** Move, Website: [www.move.com](http://www.move.com), Date accessed: March 25, 2008.

**MTG, 2008.** My Travel Guide, Website: [www.mytravelguide.com/hotels](http://www.mytravelguide.com/hotels), Date accessed: March 14, 2008.

**NACO, 2008.** National Association of Counties, Website: [www.naco.org](http://www.naco.org), Date accessed: May 9, 2008.

**NCES, 2008.** The National Center for Education Statistics, U.S. Department of Education and the Institute of Education Sciences, Website: <http://nces.ed.gov/index.asp>, Date accessed: April 29 and 30, 2008.

**NCES, 2009.** National Center for Education Statistics (NCES), 2009. State Education Data Profiles, Pennsylvania. Website accessed on July 17, 2009, <http://nces.ed.gov/programs/stateprofiles>.

**Luzerne County, 2010.** Recommended Home Rule Charter for Luzerne County, Pennsylvania. Luzerne County Government Study Commission. Adopted August 11, 2010. Website: <http://www.luzernecounty.org/content/File/Charter%20w%20Signatures.pdf>. Date Accessed: June 2012.

**Luzerne County, 2012.** Luzerne County Council, Amended Expenditure and Amended Revenue per Department for the 2012 General Fund Budget, February 6, 2012. Website: <http://www.luzernecounty.org/content/File/Agenda%2002-06-12%20rev.pdf>. Date Accessed: June 2012.