

October 29, 2009

MEMORANDUM TO: Robert G. Schaaf, Branch Chief  
Environmental Projects Branch 3  
Division of Site and Environmental Reviews

FROM: Tomeka L. Terry, Project Manager/**RA**/  
Environmental Projects Branch 2  
Division of Site and Environmental Reviews

SUBJECT: SUMMARY OF THE ENVIRONMENTAL SITE AUDIT RELATED TO THE  
REVIEW OF THE COMBINED LICENSE APPLICATION FOR BELL  
BEND NUCLEAR POWER PLANT

The U.S. Nuclear Regulatory Commission (NRC) staff, Pacific Northwest National Laboratory (PNNL) and Numark Associates, Inc. participated in an environmental site audit related to the review of the combined license (COL) application submitted by PPL Bell Bend LLC (PPL). The environmental site audit was held on April 27, 2009 to May 1, 2009, at the East Mountain Business Center located in Wilkes-Barre, Pennsylvania. The purpose of the trip included 1) discussions with PPL concerning the environmental report submitted as part of the application and associated information needs; 2) review of additional documentation related to the environmental report; 3) tour the site and surrounding areas; and 4) meet with Federal, state and local officials regarding the application and review process.

This report provides a summary of the audit and site tour. Enclosure 1 is a list of attendees that participated in the environmental site audit. Enclosure 2 is the environmental site audit schedule. Enclosure 3 contains the information needs status after the site audit. Enclosure 4 contains a list of publicly available references provided by the applicant at the site audit.

Each day of the site audit included opening remarks, a follow-up of the previous day's events, discipline-specific discussions, and a summary of the day's discussions. Additionally, PPL provided special presentations during the week including: general site characterization, site safety, plans for Walker Run and the status of permitting. PPL also provided a general tour of the Bell Bend site, as well as discipline-specific tours. These discipline-specific tours included proposed intake and discharge locations; the meteorological tower; the proposed footprints of Bell Bend; historic structures; and the areas to be disturbed by construction related activities.

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R. Schaaf

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From March 30 to April 2, 2009, PPL personnel led a small NRC and PNNL team on a tour of the Bell Bend site and the following three alternative sites: The Sandy Bend site, which is a brownfield site located in Mifflin County, Pennsylvania; the Martins Creek site, which is a greenfield site located in Warren County, New Jersey; and the Montour site, which is also a greenfield site located in Montour County, Pennsylvania.

Docket No. 52-039

Enclosures:  
As stated

cc w/enclosures: See next page

From March 30 to April 2, 2009, PPL personnel led a small NRC and PNNL team on a tour of the Bell Bend site and the following three alternative sites: The Sandy Bend site, which is a brownfield site located in Mifflin County, Pennsylvania; the Martins Creek site, which is a greenfield site located in Warren County, New Jersey; and the Montour site, which is also a greenfield site located in Montour County, Pennsylvania.

Docket No. 52-039

Enclosures:  
As stated

cc w/enclosures: See next page

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DATE	07/20/2009	07/13/2009	07/23/2009	09/ 25 /2009	10/29/2009

**OFFICIAL RECORD COPY**

COL - Bell Bend Mailing List

(Revised 7/28/2009)

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COL - Bell Bend Mailing List

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**Enclosure 1**  
**List of Attendees – Bell Bend Site Audit**  
**April 27- May 1, 2009**

<b>Name</b>	<b>Affiliation</b>
Stacey Imboden	U.S. Nuclear Regulatory Commission (NRC)
Tomeka Terry	NRC
Jessie Muir	NRC
Paul Michalak	NRC
Nancy Kuntzleman	NRC
Dan Mussatti	NRC
Chris Cook	NRC
Jack Cushing	NRC
Leah Spradley	NRC
Jill Caverly	NRC
Jennifer Davis	NRC
Rao Tammara	NRC
Mark McBride	NRC
Tom Nicholson	NRC
Mike Canova	NRC
Theresa Clark	NRC
Michelle Hart	NRC
Joe Giacinto	NRC
Peyton Doub	NRC
Bruce McDowell	PNNL
Kim Leigh	PNNL
Tara O'Neil	PNNL
Roy Kropp	PNNL
Tim Lynch	PNNL
Patrick Balducci	PNNL
Lara Aston	PNNL
Jeremy Rishel	PNNL
Robin Durham	PNNL
Eva Hickey	PNNL
Tom Anderson	PNNL
Dick Codell	Numark Associates, Inc (Numark)
Jim Scherrer	Numark
Richard Warnock	Numark
Marty Marchaterre	Numark
Adrian Miron	Numark
Bill Dornsife	Numark
Ted Johnson	Numark
Michael French	Numark
Steve McDougal	Pennsylvania SHPO
Kevin Magerr	U.S. Environmental Protection Agency
Paula Ballaron	Susquehanna River Basin Commission (SRBC)
Jennifer Hoffman	SRBC
Amy Elliott	U.S. Army Corps of Engineers

<b>Name</b>	<b>Affiliation</b>
Gene Trowbridge	Pennsylvania Department of Environmental Protection
Tonda Lewis	Pennsylvania Department of Environmental Protection
Rich Janati	Pennsylvania Department of Environmental Protection
Larry Winker	Pennsylvania Department of Environmental Protection
Melinda Turner	U.S. Fish and Wildlife Service
Cindy Tibbott	U.S. Fish and Wildlife Service
Shawn Beeler	Pennsylvania Department of Conservation & Natural Resources
Mark Abrams	PPL
Steve Daderko	PPL
Mike Detamore	PPL
Ben Ehrhart	PPL
Fred Eisenhuth	PPL
Nancy Evans	PPL
Jerry Fields	PPL
Katie Fitzpatrick	PPL
John Fridman	PPL
Mark Gutshall	PPL
Terry Harpster	PPL
Frank Hickey	PPL
Lisa Higgins	PPL
Ted Jacobsen	PPL
Vince Kelly	PPL
George Kuczynski	PPL
Terry Mackay	PPL
Brian Mangan	PPL
Jerrold McCormick	PPL
Mike Micca	PPL
Jim Montgomery	PPL
R. Mike Peal	PPL
Jan Phillips	PPL
Harry Riley	PPL
Curtis Saxton	PPL
Karen Scopelliti	PPL
Rocky Sgarro	PPL
Kim Beecher	UniStar
Lisa Dashnau	UniStar
Gregg Ellis	UniStar
Jim Freels	UniStar
Paul Goldstein	UniStar
Keith Graham	UniStar
Vernon Hull	UniStar

<b>Name</b>	<b>Affiliation</b>
Dimitri Lutchenkov	UniStar
Wayne Massie	UniStar
Federico Perdomo	UniStar
Bob Peters	UniStar
Terry Solazzo	UniStar
David Sullivan	UniStar
John Tynan	UniStar
Roger Wink	Ameren UE
Paul Jacobson	ALION
Cheryl Baker	CH2M-Hill
Rich Zeroka	CH2M-Hill
Ed Buchak	ERM
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Bryan Lees	NORMANDEAU
Keith Maurice	NORMANDEAU
Ed Cumming	AREVA
Peter Gluckler	AREVA
Andrew Hodgdon	AREVA
Barbara Hubbard	AREVA
Ray Lewis	AREVA
Ted Messier	AREVA
Martin Owens	AREVA
Pedro Perez	AREVA
Joshua Reinhart	AREVA
Kelli Voelsing	AREVA
Rick Williamson	AREVA
Antonio Fernandez	RIZZO
Fehmida Mesania	RIZZO
Jeff Schubert	RIZZO
Ron Cook	SARGENT & LUNDY
Robert Hameetman	SARGENT & LUNDY
Dan Kocunik	SARGENT & LUNDY
Maury Pressburger	SARGENT & LUNDY

**Enclosure 2  
Bell Bend Nuclear Power Plant Environmental Site Audit Schedule**

Time	Action/Item	Location	PNNL / Numark	NRC	PPL	UNE TEAM LEADS	Other Agencies	Vendor	Objective
<b>Monday, April 27, 2009</b>									
<b>8:00 AM - 5:00 PM</b>	Hydrology Safety Review	EMBC- see Room Selection worksheet	Dick Codell, Ted Johnson	Chris Cook Mark McBride Jill Caverly Mike Canova Tom Nicholson	Jan Phillips Mike Detamore	Jim Freels			Discuss info. Needs
<b>Tuesday, April 28, 2009</b>									
<b>8:00 AM</b>	Arrive at the East Mountain Business Center and complete sign in.	East Mountain Business Center (EMBC)	All	All					Track team
<b>8:15 - 9:00 AM</b>	Opening Meeting, Introductions, PPL Presentations, Overview	East Mountain Business Center (EMBC) Auditorium	All	All					Introductions, coordination and schedule discussions
<b>9:00 AM - 10:30 AM</b>	Site and Technical Overview and General Plant Information	EMBC Media Work Room	Bruce McDowel I Kim Leigh	Stacey Imboden Jessie Muir		David Sullivan		Rick Williams on Kelli Voelsing Robert Halden	Coordination / Tracking Information Exchange/ Discuss needs

**Enclosure 2**  
**Bell Bend Nuclear Power Plant Environmental Site Audit Schedule**

<b>9:00 AM - 10:30 AM</b>	Cultural Resources	EMBC-see Room Selection worksheet	Michael French Tara O'Neil (M)	Jennifer Davis	Jerrold McCormick John Fridman	John Tynan	Steve McDougal (SHPO)	Barbara Munford (GAI)	Discuss needs; calculation packages; document reviews; expectations for tours
<b>9:00 AM - 10:30 AM</b>	Non-rad Human Health	EMBC-see Room Selection worksheet	Lara Aston	Leah Spradley	Jerry Fields	Fred Perdomo		Paul Jacobson (Alion)	Discuss needs; calculation packages; document reviews; expectations for tours
<b>9:00 AM - 10:30 AM</b>	Alternatives/ Need for Power	EMBC-see Room Selection worksheet	Tom Anderson	Paul Michalak	Fred Eisenhuth	Keith Graham Dimitri Lutchenkov		Peter Gluckler Cheryl Baker Charlie Uhlarik (By Phone) Rick Zeroka (CH2M Hill) Ray Lewis	Discuss needs; calculation packages; document reviews; expectations for tours
<b>9:00 AM - 10:30 AM</b>	Transportation	EMBC-see Room Selection worksheet	Bill Dornsife	Jessie Muir	Mike Micca	Paul Goldstein		Satya Muthuswamy (KLD) (By Phone), William McShane (KLD)	Discuss needs - call NRC counterparts (Jessica Glenny, 301-492-3285)
<b>9:00 AM - 10:30 AM</b>	Terrestrial / Aquatic Ecology	EMBC-see Room Selection worksheet	Robin Durham Roy Kropp	Nancy Kuntzlem an Peyton Doub (until 10:30am)	Ted Jacobsen Mark Gutshall	Kim Beecher	Melinda Turner (FWS), Cindy Tibbott (FWS), Jennifer Hoffman (SRBC)	Gary Alt Bryan Lees (Normandeau) Ron Cook Robert Hameetman Keith Maurice Paul Harmon	Discuss needs; calculation packages; document reviews; expectations for tours
<b>9:00 AM - 11:30 AM</b>	Socioeconomics / EJ /Cost Benefit Balance	EMBC-see Room Selection worksheet	Patrick Balducci	Dan Mussatti Rao Tammara	Nancy Evans	Wayne Massie		Greg Poremba (ERM) Bob Mickler (Alion) (By Phone)	Discuss needs; calculation packages; document reviews; expectations for tours

**Enclosure 2**  
**Bell Bend Nuclear Power Plant Environmental Site Audit Schedule**

<b>9:00 AM - 11:30 AM</b>	Meteorology / Air Quality/ Severe Accidents	EMBC- see Room Selection worksheet	Jeremy Rishel/ Adrian Miron	Jack Cushing (till 10:30) Theresa Clark	Frank Hickey Linda Boyer (Phone)	Vern Hull		Ted Messier Joshua Reinhart Mark Abrams Pedro Perez	Discuss needs; calculation packages; document reviews; expectations for tours
<b>9:00 AM - 11:30 AM</b>	Health Physics / Rad Waste / Decommissioning, Uranium Fuel Cycle	EMBC- see Room Selection worksheet	Tim Lynch, Eva Hickey (M)	Richard Warnock (Numark Safety Review)	Harry Riley Terrance Mackay	Roger Wink	Shawn Beeler (DCNR) ?, Rich Janati (DEP)? Larry Winker (DEP)?	Andrew Hodgdon,Ed Cumming	Discuss needs; calculation packages; document reviews; expectations for tours
<b>9:00 AM - 11:30 AM</b>	Hydrology	EMBC- see Room Selection worksheet	Dick Codell Ted Johnson	Chris Cook (till 10:30) Mark McBride Jill Caverly Mike Canova Tom Nicholson	Jan Phillips Curtis Saxton	Jim Freels	Shawn Beeler (DCNR) Paula Ballaron (SRBC)	Fehmida Messania Jeff Schubert Maury Pressburger Dan Kocunik Ed Buchak (ERM)	Discuss needs; calculation packages; document reviews; expectations for tours
<b>9:00 AM - 11:30 AM</b>	Land Use/ Transmission Lines	EMBC- see Room Selection worksheet	Martin Marchaterre	Peyton Doub (after 10:30am)	Vince Kelly	Gregg Ellis	Amy Elliott (USACE)	Ron Cook	Discuss needs; calculation packages; document reviews; expectations for tours
<b>10:30 - 11:30 AM</b>	NRC / State and Federal Agencies Meeting	EMBC Media Room	Bruce McDowell Kim Leigh Dick Codell Robin Durham Roy Kropp Lara Aston	Stacey Imboden Jessie Muir Paul Michalak Chris Cook Jack	NA	NA	Amy Elliott (USACE), Melinda Turner/Cindy Tibbott (FWS), Kevin White/Rich Janati/Larry	Independent Interaction between NRC & Regulators to identify issues	

**Enclosure 2**  
**Bell Bend Nuclear Power Plant Environmental Site Audit Schedule**

			Michael French Tara O'Neil Tom Anderson	Cushing Nancy Kuntzleman Jennifer Davis Leah Spradley			Winker/Gene Trowbridge (PA DEP) Steve McDougal (SHPO), Kevin Magerr (EPA), Paula Ballaron/Jennifer Hoffman (SRBC), Shawn Beeler (DCNR)		
<b>11:30 - 12:30 PM</b> Lunch	Lunch	EMBC-Lunch Room	All	All			All		
<b>12:30 - 1:30 PM</b>	Travel to Bell Bend Site in PPL arranged transportation	Meet at lobby of EMBC	All	All					
<b>1:30 - 3:30 PM</b>	General Site Tour	Bell Bend Site	All	All	Jan Phillips Ted Jacobsen Mark Gutshall	Tour Guide: Mike Detamore		Mark Abrams	General Site Familiarity
<b>3:30 - 4:30 PM</b>	Travel to EMBC		All	All					
<b>4:30 - 5:30 PM</b>	Daily Close Out: NRC-PNNL Team with PPL Team	EMBC-see Room Selection worksheet	All	All	Bell Bend Staff	Team Leads		Break Out Session Participants	Each technical reviewer meets with Bruce/Kim and Stacey to coordinate data or document needs, Identify issues from the days interactions, briefly discuss plans for the next day

**Enclosure 2**  
**Bell Bend Nuclear Power Plant Environmental Site Audit Schedule**

<b>5:15 PM</b>	Meet with Karen Karchner, Salem Township Zoning Officer	Field	Martin Marchaterre	Peyton Doub	NA	NA	NA		Land Use appointment
<b>Wednesday, April 29, 2009</b>									
<b>8:00 - 8:15 AM</b>	Arrive at EMBC/ Sign In / Announcements	EMBC-Auditorium	All	All					Coordination
<b>8:15 - 10:00 AM</b>	PPL Presentations-Walker Run, Permitting Plans	EMBC-Auditorium	All	All					Reserved for PPL
<b>10:00- 11:00 AM</b>	Robert Aungst, Director, and Rachel Swartwood, Planner, Columbia County Office of Planning	Field	Martin Marchaterre	Peyton Doub	NA	NA	NA		Land Use Appointment
<b>10:00 -10:55 AM (leave EMBC at 9:45 AM)</b>	Jim Morris, Berwick Emergency Mgmt. Director	Field	Patrick Balducci	Dan Mussatti	NA	NA	NA		Socio Appointments
<b>11:15 - 12:00 PM</b>	John Kristel, CEO, Mike Supczenski, Asst. Admin, Berwick Hospital Center	Field	Patrick Balducci	Dan Mussatti	NA	NA	NA		Socio Appointments
<b>10:00 - 12:00 PM</b>	Team Leads/Site and Tech Overview	EMBC-see Room Selection worksheet	Bruce McDowell Kim Leigh	Stacey Imboden Tomeka Terry					Coordination / Tracking Information Exchange

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<b>10:00 - 12:00 PM</b>	Terrestrial / Aquatic Ecology	EMBC-see Room Selection worksheet	Robin Durham Roy Kropp	Nancy Kuntzlema n Peyton Doub (after 11:00am)	Ted Jacobsen Mark Gutshall	Kim Beecher		Gary Alt Bryan Lees (Normandeau) Ron Cook Robert Hameetman Keith Maurice Paul Harmon	Site visit prep; Document review
<b>10:00 - 12:00 PM</b>	Hydrology	EMBC-see Room Selection worksheet	Dick Codell	Chris Cook	Jan Phillips Curtis Saxton Ben Ehrhart	Jim Freels		Fehmida Messania Jeff Schubert Maury Pressburger Dan Kocunik Ed Buchak (ERM)	Site visit prep; Document review
<b>10:00 - 12:00 PM</b>	Non-rad Human Health	EMBC-see Room Selection worksheet	Lara Aston	Leah Spradley	Jerry Fields	Fred Perdomo		Paul Jacobson (Alion)	Site visit prep; Document review
<b>10:00 - 12:00 PM</b>	Alternative Site Selection / Evaluation and Alternative System Designs / Need for Power	EMBC-see Room Selection worksheet	Tom Anderson	Paul Michalak	Fred Eisenhuth Mike Detamore	Keith Graham Dimitri Lutchenkov	Amy Elliott (USACE)	Peter Gluckler Cheryl Baker Rick Zeroka (CH2M Hill) Ray Lewis	Discuss needs; Calculation review; document examination
<b>10:00 - 12:00 PM</b>	Met / Severe and Design Basis Accidents / SAMAs	EMBC-see Room Selection worksheet	Jeremy Rishel (M) Adrian Miron	Jack Cushing Theresa Clark	Frank Hickey	Vern Hull		Ted Messier Joshua Reinhart Mark Abrams Pedro Perez	Discuss needs; Calculation review; document examination
<b>10:00 - 12:00 PM</b>	Health Physics / Rad Waste / Decommissioning / Uranium Fuel Cycle	EMBC-see Room Selection worksheet	Tim Lynch, Eva Hickey (M)	Richard Warnock (Numark for Safety Review)	Harry Riley Terry Mackay	Roger Wink		Andrew Hodgdon, Barbara Hubbard Ed Cumming	Discuss needs; Calculation review; document examination
<b>10:00 - 12:00 PM</b>	Cultural	EMBC-	Michael	Jennifer	Jerrold	John Tynan		Barbara	Site visit prep;

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	Resources	see Room Selection worksheet	French Tara O'Neil (M)	Davis	McCormick John Fridman			Munford (GAI)	Document review
<b>12:00 - 1:00 PM</b>	Lunch	EMBC-Lunch Room	All	All					
<b>1:00 - 1:30 PM</b>	James Thomas, Rich Kisner, Bloomsburg, Columbia Co. Housing and ReDevelop. Authority	Field	Patrick Balducci	Dan Mussatti	NA	NA	NA		Socio Appointments
<b>2:00 - 3:00 PM</b>	Steve Phillips, Exec Director, Berwick Industrial Develop Association, 1st	Field	Patrick Balducci	Dan Mussatti	NA	NA	NA		Socio Appointments
<b>1:00 - 4:00 PM</b>	Hydro/Eco/Non-Rad/Land Use tour -see tours requested worksheet	Field	Robin Durham Roy Kropp Lara Aston Martin Marchaterre Dick Codell	Nancy Kuntzleman Leah Spradley Chris Cook Peyton Doub	Jerry Fields Jan Phillips Ted Jacobsen Vince Kelly Mark Gutshall		Amy Elliott (USACE)		Site observations; needs discussions; USACE to participate
<b>1:00 - 4:00 PM</b>	Rad tour -see tours requested worksheet	Field	Tim Lynch Eva Hickey (M)	Richard Warnock (Numark)	Harry Riley Terry Mackay		? Larry Winker (DEP) ?		
<b>1:00 - 4:00 PM</b>	Met/ Air Quality tour-see tours requested worksheet	Field	Jeremy Rishel	Tomeka Terry	Frank Hickey Corey Poncavage				
<b>1:00 - 4:00 PM</b>	Cultural Resources	Field	Michael French	Jennifer Davis	Jerrold McCormick				Site specific tour and/or continue

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	Tour- see tours requested worksheet		Tara O'Neil (M)		John Fridman				discussions
<b>1:00 - 4:45 PM</b>	Team Leads	EMBC-see Room Selection worksheet	Bruce McDowell Kim Leigh	Stacey Imboden					Coordination
<b>1:00 - 4:45 PM</b>	Alternative Site Selection / Evaluation and Alternative System Designs / Need for Power	EMBC-see Room Selection worksheet	Tom Anderson	Paul Michalak	Fred Eisenhuth Mike Detamore	Keith Graham Dimitri Lutchenkov		Peter Gluckler Cheryl Baker Charlie Uhlarik Rick Zeroka (CH2M Hill) Ray Lewis	Reserved
<b>1:00 - 4:45 PM</b>	Met/ Severe and Design Basis Accidents / SAMAs	EMBC-see Room Selection worksheet	Adrian Miron	Jack Cushing Theresa Clark	Frank Hickey	Vern Hull		Ted Messier Joshua Reinhart Pedro Perez Mark Abrams	Reserved
<b>1:00 - 4:45 PM</b>	Health Physics / Rad Waste / Decommissioning / Uranium Fuel Cycle	EMBC-see Room Selection worksheet	Tim Lynch Eva Hickey (M)	Richard Warnock (Numark)	Harry Riley Terrance Mackay	Roger Wink		Andrew Hodgdon, Ed Cumming	Reserved
<b>1:00 - 4:45 PM</b>	Geology	Phone Call in EMBC-A	Jim Scherrer (484) 875-1700	Stacey Imboden	Steve Daderko	Paul Goldstein		Antonio Fernandez Jeff Shubert	Reserved
<b>4:00 - 4:45 PM</b>	Staff Data Needs	EMBC-see Room Selection worksheet	Bruce McDowell Kim Leigh	Stacey Imboden Tomeka Terry					Each technical reviewer meets with Bruce and Stacey to coordinate data or document needs

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<b>4:45 - 5:30 PM</b>	Daily Close Out: NRC-PNNL Team with PPL Team	EMBC- see Room Selection worksheet	All	All	As Needed				Identify issues from the days interactions, briefly discuss plans for the next day
<b>Thursday, April 30, 2009</b>									
<b>8:00 - 8:15 AM</b>	Arrive at EMBC/ Sign In / Announcements	EMBC- Media Work Room	All except socio and any other tours	All except socio and any other tours					
<b>9:00-10:00 AM</b>	Stephen Bekanich, EMA Coordinator Luzerne Co Emergency Management	Field	Patrick Balducci	Dan Mussatti Leah Spradley	NA	NA	NA		Socio Appointments
<b>11:00 - 12:00 PM</b>	Adrian Merrolli, Director, Luzerne Co Planning	Field	Patrick Balducci Martin Marchaterre	Dan Mussatti Leah Spradley	NA	NA	NA		Socio and Land Use Appointments
<b>TBD</b>	Ecology / Land Use - Specific Tour of Transmission Lines or other resource areas	Field	Robin Durham Roy Kropp Martin Marchaterre	Nancy Kuntzlema n Peyton Doub	Brian Mangan Ted Jacobsen Vince Kelly Mark Gutshall		Amy Elliott (USACE)		Site observations; needs discussions; USACE to participate
<b>TBD</b>	Aquatic Ecology / Hydrology Boat Tour	Field	Roy Kropp Dick Codell	Chris Cook Nancy Kuntzlema n	Brian Mangan Ted Jacobsen Vince Kelly Mark		Amy Elliott (USACE)		Tour Aquatic areas

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					Gutshall				
<b>10:30 - 11:30 AM</b>	Cultural Resources PA-SHPO visit	Field	Michael French Tara O'Neil (M)	Jennifer Davis	NA	NA	NA		Visit SHPO
<b>8:00 - 10:00 AM</b>	Team Leads (Tentative Purpose and Need discussion)	EMBC-see Room Selection worksheet	Bruce McDowell Kim Leigh	Stacey Imboden Tomeka Terry			Amy Elliott (USACE)		Coordination / Tracking Information Exchange
<b>9:00 AM- 11:00 AM</b>	Talk with Dr. Brian Mangan	EMBC-see Room Selection worksheet	Roy Kropp Robin Durham	Nancy Kuntzleman Peyton Doub	Brian Mangan Ted Jacobsen				
<b>TBD</b>	Non-Rad Waste (NRHH) (if needed)	EMBC-see Room Selection worksheet	Lara Aston	Leah Spradley	Jerry Fields				Cross-cutting issues and/or needs
<b>TBD</b>	Land Use (if needed)	EMBC-see Room Selection worksheet	Martin Marchaterre	Peyton Doub	Vince Kelly				Cross-cutting issues and/or needs
<b>TBD</b>	Met / Severe and Design Basis Accidents / SAMAs (if needed)	EMBC-see Room Selection worksheet	Jeremy Rishel (M) Adrian Miron	Jack Cushing Theresa Clark	As Needed				Cross-cutting issues and/or needs
<b>TBD</b>	Ecology Discussions (if needed)	EMBC-see Room Selection worksheet	Robin Durham Roy Kropp	Nancy Kuntzleman	As Needed				Cross-cutting issues and/or needs
<b>TBD</b>	Decommissioning, Uranium Fuel Cycle (if needed)	EMBC-see Room Selection worksheet	Tim Lynch, Eva Hickey (M)	Stacey Imboden/ Tomeka Terry	As Needed				Cross-cutting issues and/or needs
<b>TBD</b>	Hydrology / Water Quality	EMBC-see Room	Dick Codell	Chris Cook	Jan Phillips				Cross-cutting issues and/or

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	Discussions (if needed)	Selection worksheet							needs
<b>TBD</b>	Alternatives/ Need for Power (if needed)	EMBC- see Room Selection worksheet	Tom Anderson	Paul Michalak	Fred Eisenhuth				Cross-cutting issues and/or needs
<b>12:00 - 1:00 PM</b>	Lunch	EMBC- Lunch Room	All	All					
<b>2:00 - 3:00 PM</b>	Wayne Brookhart, Superintendent, Berwick Area School District	Field	Patrick Balducci	Leah Spradley	NA	NA	NA		Socio Appointments
<b>4:30- 5:30 PM</b>	Stephen Fraind, Salem Township Board of Supervisors	Field	Patrick Balducci	Leah Spradley	NA	NA	NA		Socio Appointments
<b>1:00 - 4:00 PM</b>	Remaining ology groups finish up	EMBC- see Room Selection worksheet	All	All					TBD
<b>4:00 - 4:45 PM</b>	Staff Data Needs	EMBC- see Room Selection worksheet	Bruce McDowell Kim Leigh	Stacey Imboden Tomeka Terry	BBNPP Staff				Each technical reviewer meets with Bruce and Stacey to coordinate data or document needs
<b>4:45 PM</b>	Audit Close Out: NRC-PNNL Team with PPL Team	EMBC- see Room Selection worksheet	All	All					Summarize audit results, identify action items and additional information needs, complete information listing

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<b>8:00 AM - 5:00 PM</b>	Hydrology Safety Review	EMBC- see Room Selection worksheet	Dick Codell, Ted Johnson	Chris Cook Mark McBride Jill Caverly Mike Canova	Jan Phillips Mike Detamore	Jim Freels			Discuss info. Needs

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**Bell Bend Information Needs – Post Site Audit Status**

ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
G-		<b>General</b>		
G-1		Please make available originals of all ER figures in .jpeg, .png or .tif format at a resolution of at least 300 dpi, and sized correctly. Please make available the electronic version of all ER figures in black and white.	<b>Resolved.</b> The applicant will provide tiff files to NRC staff.	No
G-2	USACE	Please make available all Geographic Information System (GIS) and/or CAD data/databases used to support the ER analysis and results including existing and proposed conditions as appropriate. The data should generally include, but are not limited to: <ul style="list-style-type: none"> <li>• All existing and proposed site infrastructure data (roads, buildings, intake/discharge pipelines, transmission lines, utility right-of-ways/transmission corridors, power blocks, switchyards, pipeline corridors, cooling and retention ponds, dams, canals, rail lines, monitoring/instrument stations, etc.)</li> <li>• Data related to preconstruction activities (associated with the construction of cooling ponds, haul roads, dredging, and other aspects of infrastructure necessary to support the construction of the Bell Bend</li> </ul>	<b>Open.</b> Tied to G-4. Would like to request native files.	Yes

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
	USACE	<p>plant) that will result in a discharge of dredged or fill material into Waters of the United States (i.e. requiring a Department of the Army Section 404/Section 10 permit).</p> <ul style="list-style-type: none"> <li>• Location data (official property boundary, official unit point location, exclusion area boundary, and other relevant boundaries on-site or regionally)</li> <li>• All surface and groundwater hydrologic data (watershed/subbasin boundaries, stream/river channels, springs, sinkholes, flood boundaries, reservoir boundary, site stormwater drainage, levees, hydrogeologic study boundaries, aquifers, potentiometric contours, well locations, surface water monitoring sites, etc.)</li> <li>• All terrestrial and aquatic ecological data (wetlands, ponds, terrestrial and aquatic sampling sites, wildlife/habitat areas, land use/land cover, and threatened and endangered species locations). Data on wetland type and acreage amount.</li> </ul>		

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
		<ul style="list-style-type: none"> <li>• Terrain and bathymetric data (LiDAR, contours, river cross sections, bathymetric point samples, etc.)</li> <li>• Socioeconomic data (sector data at various radii, census blocks with attribute data including low income and minority data, State/county park recreational area boundaries, trails, water trails, wildlife management units, traffic count data, commuter routes, etc.)</li> <li>• Geology and soils data (site and vicinity data, faults, folds, seismic activity, etc.)</li> </ul> <p>Alternative (candidate) site data (point locations, proposed site boundary, proposed infrastructure, etc.).</p>		
<b>G-3</b>		Please make available all ER references (electronic format if available).	<b>Open.</b> Received Areva public available docs. Still need non-Areva sections (2.3.1, 2.3.2, 2.3.3, 2.6)	Yes
<b>G-4</b>		Please make available background information and rationale for each of the three candidate alternative sites.	<b>Open.</b> PPL agreed to provide information on siting criteria.	Yes
<b>G-5</b>		Provide knowledgeable expert(s) in appropriate disciplines to discuss contents of Tables 10.1-1 and 10.1-2 and assure consistency between the contents of the summary tables and the results of	<b>Resolved.</b> For this general discussion. However the individual disciplines may still need to discuss.	No

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
		information needs discussions. It is anticipated that this will be addressed in specific breakout sessions for the individual disciplines.		
<b>G-6</b>	USACE	Please make available large wall map(s) at the site audit that show key features related to the proposed project, including: <ul style="list-style-type: none"> <li>• Proposed temporary and permanent facilities</li> <li>• Proposed construction laydown areas</li> <li>• Proposed intake pipeline</li> <li>• Proposed intake structure</li> <li>• Proposed discharge pipeline</li> <li>• Proposed transmission corridor(s)</li> <li>• Property boundaries</li> <li>• Points of interest (e.g., nearby residences, gas pipelines, nearby industries, including quarries/mines)</li> <li>• Proposed rail line spur</li> <li>• Proposed haul roads</li> <li>• Proposed wetlands to be impacted (permanent &amp; temporary) by acreage &amp; type</li> </ul>	<p><b>Resolved.</b> During the site audit, the applicant provided wall maps to the NRC staff.</p> <p>Does PPL plan to use the PPL ISFSI? Can this be used as a criteria for ranking sites? The answer to this is no- PPL does not plan to use Susquehanna ISFSI. There are plans/room for an ISFSI.</p>	No
<b>G-7</b>		Provide length of the rail spur (new) and any assessment of the need for crossing of bridge.	<p><b>Open.</b> Length of rail spur is 1.7 miles. However assessment of heavy haul rail line capability and the need for bridge upgrades is still needed. Provide a date when this would</p>	Yes

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
			be done.	
<b>G-8</b>		What is the disposal site for excess excavated material (soils)?	<b>Open.</b> This has not been identified yet, per PPL.	Yes
<b>LU-</b>		<b>Land Use/Transmission Lines</b>		
<b>LU-1</b>	2.2.1	Provide a knowledgeable expert to discuss the possibility of natural gas being found underneath the BBNPP site. [Gas issue not mentioned in COLA rev. 1.] Applicant provided expert to discuss natural gas issues. Records obtained from the PADEP, Bureau of Gas Management show that there has been no recent oil or gas activity in Columbia County and only 10 wells drilled in Luzerne County. Out of these 10 wells, only one is active (Applicant will provide figures on Marcellus and other Devonian shales as well as well location in Luzerne).	<b>Open.</b> Still awaiting figure showing location of existing wells in Luzerne County and figure showing Marcellus and other Devonian shales in relation to BBNPP site.	Yes
<b>LU-2</b>	2.2.1 2.8 10.5	Provide a knowledgeable expert to discuss other development plans for the area, such as the two other non-Federal projects mentioned in ER Section 2.8.6.	<b>Resolved.</b> Expert discussed new 42-inch natural gas pipeline in Luzerne County, PA and Susquehanna-Roseland electrical transmission line. The Transcontinental Gas Pipeline Corporation is planning to expand its transmission system capabilities and construct an approximately 5.7 mile, 42-inch natural gas pipeline loop in Luzerne County. Environmental studies and FERC filings have been completed and the project is anticipated	No

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			to be completed by the end of 2009. To minimize the potential for overloads and blackouts in eastern and northeastern Pennsylvania and throughout the region. PJM Interconnection, an independent company that operates the power grid over a 13-state region, is developing a new 500-kilovolt transmission line from the Berwick area in Pennsylvania to the Roseland area in New Jersey. PPL is responsible for constructing the Pennsylvania segment. The new transmission line is expected to be completed by 2012. Additional information on the project can be found at <a href="http://www.pplreliablepower.com/">http://www.pplreliablepower.com/</a>	
LU-3	2.2.1 2.2.2	Please make available a copy of the Salem Township Land Use plan and clarification if any other regional (county) or State land use plan includes the project site or vicinity.	<b>Resolved.</b> Salem Township does not have a land use plan, but does have an undated zoning map. The Luzerne County land use plan is not available. It is several years old and is currently being revised in coordination with Lackawanna County. The project site is not covered by a state-wide land use plan. Salem Township zoning map will be updated for the proposed site from A-1 Agriculture to I-2 Heavy Industrial.	No
LU-4	2.2.1	Provide a knowledgeable expert to clarify the dates and revisions for planned site boundaries given that parcel will be split.	<b>Resolved.</b> Applicant anticipates that by late 2009/early 2010 all land will be transferred to Bell Bend LLC.  The identified BBNPP OCA is totally encompassed by property that is currently owned by A) PPL Susquehanna LLC (90%)	No

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			and Allegheny Electric Cooperative (10%), who are the owners of the Susquehanna Electric Station and hold the property as tenants in common; B) PPL Nuclear Development, LLC or C) PPL Electric Utilities Corporation, which owns a small portion of the land underneath the existing 500 kv transmission corridor south of SSES plus a small 230 kVswitchyard on the west side of Confers Lane.	
LU-5	Table 2.2-6	Provide a knowledgeable expert on yields/production of products in order to confirm information in ER Table 2.2-6.	<b>Open.</b> Awaiting revised table that revalidates data in Table 2.2-6.	Yes
LU-6	2.2.2	Provide a knowledgeable expert to clarify if there are any restrictions in transmission line easements.	<b>Resolved.</b> No changes to transmission line offsite.	No
LU-7	2.2.2.2, 3.7.1.2	Provide a knowledgeable expert to verify that the proposed offsite transmission line rights-of-way would not have to be widened, either by additional land acquisition or by implementing land use changes within existing right-of-way property. [No changes to offsite transmission lines as part of this project.]	<b>Resolved.</b> No changes to offsite transmission lines as part of this project. Provided link to document that discusses other transmission line projects and impacts. <a href="http://www.pjm.com/pub/planning/project-queues/impact_studies/r01_imp.pdf">http://www.pjm.com/pub/planning/project-queues/impact_studies/r01_imp.pdf</a>	No
LU-8	2.2.2.3	Provide a knowledgeable expert who can provide more detail (i.e., area numbers) that transmission corridors are primarily agricultural or forest.	<b>Resolved.</b> Since no offsite impact to transmission corridors, the applicant did not study the corridors extensively. Estimate approximate land use percentages from 6 mile vicinity figure.	No
LU-9	3.7	Provide a knowledgeable expert who can	<b>Resolved.</b> Noise at boundaries below 65 dBA.	No

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		provide further information on predicted noise levels at project level boundaries and/or beyond the boundaries in enough detail to determine whether noise is a concern.	Have studies from operating SSES.	
LU-10	3.7	Provide a knowledgeable expert who can further outline transmission design details and/or a copy of the referenced PJM guidelines.	<p><b>Resolved.</b> Actual tower and line locations are preliminary and in the conceptual design phase. Provided website URLs of reference PJM guidelines.</p> <p><a href="http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/20020520-va-general-criteria.ashx">http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/20020520-va-general-criteria.ashx</a></p> <p><a href="http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/section-ii-design-criteria.ashx">http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/section-ii-design-criteria.ashx</a></p>	No
LU-11	3.7	Provide a knowledgeable expert who can provide information on proposed new tower locations and information on existing transmission corridors.	<b>Resolved.</b> Transmission tower and line locations are at conceptual stage so do not have exact location of new towers on site.	No
LU-12	3.7, 4.1.2, 5.1.2	Provide a knowledgeable expert who can provide clarification concerning the new transmission facilities and upgrades and discuss lists used in ER Sections 4.1.2 and 5.1.2.	<b>Open.</b> Awaiting information in a revised Table 2.2.1 that shows changes in land use from construction.	Yes
LU-13	4.1.1	Provide a knowledgeable expert who can confirm whether or not construction	<b>Resolved.</b> No construction materials will be barged to site.	No

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		materials will be barged to the site.		
LU-14	4.1.1	Provide a knowledgeable expert who can provide further information on borrow pits and volumes of borrow material anticipated to be needed.	<b>Open.</b> Received information concerning need for 600,000 cubic yards for fill below the power block. Awaiting information on where offsite borrow pits are located. Awaiting information on where spoil will be managed onsite/offsite.	Yes
LU-15	4.1.2	Provide a knowledgeable expert who can provide further information on transmission line construction techniques and the associated impact on land use, such as any anticipated short-term or long-term visual aesthetic impacts related to changes in transmission facilities and upgrades and any impact on land use.	<b>Resolved.</b> Some on site transmission lines and towers will be moved. Offsite changes would be within existing substation boundaries. PJM Guidance Manuals address design and construction. Applicant provided URL where guidance information can be found. <a href="http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/20020520-vageneral-criteria.ashx">http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/20020520-vageneral-criteria.ashx</a> <a href="http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/section-ii-design-criteria.ashx">http://www.pjm.com/planning/design-engineering/~media/planning/design-engineering/maac-standards/section-ii-design-criteria.ashx</a>	No
LU-16	4.1.1, 5.1.1	Provide a knowledgeable expert who can confirm whether or not the proposed construction and operation activities will conflict with local land use plans.	<b>Resolved.</b> No Salem Township local land use plan. No conflict with Luzerne County Comprehensive Plan which County is just starting to update.	No
LU-17	10.5.1	Provide a knowledgeable expert who can clarify whether or not long-term cumulative impacts to land use in relation to proposed future facility projects and other off-site projects are anticipated,	<b>Resolved.</b> Discussed two major projects in area. No other projects identified that would affect land use.	No

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		and provide information on preconstruction activities and potential cumulative impacts on land use.		
LU-18	4.1.1, 5.1.1	Provide a knowledgeable expert to discuss possible impacts on Riverlands Recreation Area facilities.	<b>Resolved.</b> Potential impacts during construction may result from storage and retrieval of materials that will be stored in a laydown area at the northern end of the Riverlands. Only temporary effects and no permanent impacts anticipated. Intake and associated buildings will have only small impact.	No
LU-19	4.1.1	Provide a knowledgeable expert to quantify area of impact to 100-year and 500-year floodplains. Overlay BBNPP footprint on floodplains.	<b>Open.</b> Awaiting data on impacts from construction on floodplains.	Yes
LU-20	5.1.1	Provide a knowledgeable expert to quantify area of prime and unique farmland impacts. . [Developed a new figure.] [NRCS Soil Datamart 2009]	<b>Open.</b> No unique farmlands on BBNPP site. Identified 360 acres of prime farmland based on soil types and information from NRCS website [NRCS Soil Datamart 2009]. Awaiting copy of figure and shapefile identifying prime farmlands.	Yes
LU-21 new	Table 2.2.-1 5.1.1	Resolve inconsistencies between Table 2.2-1 and text in 5.1.1 on page 5-2 (forested and agricultural percentages.	<b>Open.</b> Awaiting information that resolved inconsistencies between Table 2.2-1 and text in Section 5.1.1.	Yes
LU-22 new		Provide revised 100-year and 500-year floodplain figures showing the new construction facilities and new floodplain areas generated in the local region as a result of BBNPP project, include area values on the floodplain figures.	<b>Open.</b> Awaiting study of future floodplains after construction to see if changes to floodplains would have potential to impact land use downstream. Awaiting figure that will identify floodplains after construction.	Yes

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H-		<b>Hydrology</b>		
H-1	2.3.1	Provide a knowledgeable expert who can discuss estimated erosion characteristics and sediment transport (rates of erosion, bed and suspended load fractions and gradation analyses of sediment).	<p><b>Open.</b> NPDES permits are necessary for each outfall discharge from the stormwater ponds. East pond discharges to surface drainage slough in wetlands, which drains to Susquehanna River. West pond drains to wetlands and Walker Run. These ponds will control sediment discharge. A proposed EPA rule may require additional effluent discharge limits for construction. EPA may also have regulations considering volume control for stormwater releases, but NRC will not regulate stormwater discharges.</p> <p>Applications for these permits have not been submitted yet.</p> <p>The Environmental Protection Plan discusses the environmental protection measures that will be effect once the plant is operating.</p> <p>Staff requested the existing SSES withdrawal and NPDES discharge permits.</p> <p>Request from applicant the SSES NPDES permit from PA Department of Environmental Protection.</p>	Yes
H-2	2.3.1	Provide a knowledgeable expert who can estimate the 7-day, once-in-10-year low-flow from the steam flow data presented.	<b>Resolved.</b> Calculations of low flow are covered in FSAR 2.4.11. Also, see response for H-22.	No
H-3	2.3.1	Provide a knowledgeable expert who can discuss ER Tables 2.3-35 and 2.3-36.	<b>Resolved.</b> Staff were satisfied with the response, recognizing that information would	No

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			be difficult to obtain and would not be needed in its review.	
H-4	2.3.1	Provide a knowledgeable expert who can discuss average monthly withdrawal and return rates for each surface water diversion by use category.	<b>Open.</b> Staff requested daily reported withdrawals from SSES Units 1 and 2 for a 2 year period (and covering an outage/refueling period). Also request the application to SRBC for Extended Power Uprate for SSES, and response to this application from SRBC.	Yes
H-5	2.3.1	Please make available maps of known recreational or other non-consumptive uses of the Susquehanna River and other major surface water bodies in the vicinity of the site.	<b>Open.</b> Staff reviewed Figures 2.3-66 and -67. Staff requested additional detail regarding withdrawal quantity and frequency of use from the users shown in these figures.	Yes
H-6	2.3.2	Provide a knowledgeable expert who can provide information on the nature and quantity of pollutant discharges corresponding to the information given in ER Table 2.3-33.	<b>Open.</b> The reach of Susquehanna River adjacent to the BBNPP site is not on the 303(d) list. NRC will discuss with PADEP the need for a complete list of pollutant discharge information for use in BBNPP licensing, especially for cumulative effects.	Yes
H-7	2.3.2, 3.3.1	Provide a knowledgeable expert who can discuss data on plant water consumption during periods of minimum water availability and average use by month.	<b>Open.</b> Staff will obtain a copy of applicant's SRBC submittal for BBNPP. ER Figure 3.3-1 showing values for maximum flows being returned to the river will be changing. The maximum plant consumptive use values computed for the cooling towers will reflect conservatively high values for SRBC water use permit submittal.	Yes

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			Water balance report was made available during audit. Will request this document.	
<b>H-8</b>	3.4.1  USACE	Provide a knowledgeable expert who can discuss, for each proposed operational mode, the quantities of water withdrawn, consumed and discharged. Provide % for each (i.e. water consumed vs. water withdrawn). For average water demand for plant operation, provide the total amount of water withdrawn, consumed & discharged.	<b>Resolved.</b> These values are presented in Table ER 3.3-1 and Figure 3.3-1.	No
<b>H-9</b>	3.4.1	Provide a knowledgeable expert who can provide quantitative information on the operation of the intake structure, such as the quantity and type of chemicals to be used for de-fouling; the de-icing procedures; and debris clearing operations for the trash rack.	<b>Open.</b> ER section 3.4.1 references back to ER 3.3 and 3.6 which discuss chemical treatment. Sargent & Lundy report SL-009498 provides information on circ water design, SL-009459 provides information on raw water system and the applicant made the reports available. Staff will be requesting these reports.	Yes
<b>H-10</b>	3.6.1	Provide a knowledgeable expert who can supplement the intake source water quality data in ER Table 3.6-3 to include information on seasonal values of chemical analytes in intake and receiving waters.	<b>Open.</b> Applicant will provide seasonal data which was previously provided as average values for a two year period.	Yes
<b>H-11</b>	3.6.1	Provide a knowledgeable expert who can discuss concentration factors for the evaporative cooling system on a seasonal basis.	<b>Open.</b> Ecology III report “Environmental studies in the vicinity of the SSES 2006 Water Quality and Fishes,” PPL Generation Test Services Laboratory Reports for water samples collected 31507, 52107, 82307, and 11707	Yes

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			applicant made those available to NRC. Staff will be requesting these documents.	
<b>H-12</b>	3.6.3	Provide a knowledgeable expert who can discuss quantitative estimates of any off-site disposal of liquid waste associated with radioactive waste, chemical waste, or treated wastewater.	<b>Open.</b> Applicant will provide a chart for liquid waste including mixed waste. Hazardous waste already provided in ER Tables 3.6-10 and 11.	Yes
<b>H-13</b>	3.6.3	Provide a knowledgeable expert who can discuss procedures by which all effluents will be treated, controlled and discharged to meet State and EPA effluent limitation guidelines and new source performance standards (water related aspects only).	<b>Open.</b> Applicant states that the EPP- Environmental Protection Plan- will discuss Post FEIS items, of which one is discharges. Applicant also states that Section 3.6 of ER already contains much of this information. Applicant will provide a chart, "Table A5.5-: Anticipated water chemical concentrations in the Susquehanna River downstream of BBNPP discharge (Ref 5.1-11). This document should be Areva 32-9084971-001, "EIR Calc Sheet Water Parameters for BBNPP." Staff will be requesting this document.	Yes
<b>H-14</b>	4.2.1	Provide a knowledgeable expert who can identify the extent of the offsite zone of impact to groundwater caused by construction and dewatering activities, and who can relate groundwater impacts to possible impacts on wetlands and offsite wells.	<b>Open.</b> Applicant will provide construction reports for the cutoff wall that will surround the nuclear island and emergency water pond construction. The model was first calibrated to current conditions.  Drawdown resulting from dewatering required for construction was modeled using Visual Modflow. This model covered an area of 1.8 mi <sup>2</sup> and had 3 layers, representing (1) outwash and upper, high-conductivity bedrock; (2) upper shale bedrock; and (3) lower shale bedrock.	Yes

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			<p>Dewatering simulated without a cutoff wall led to drawdown exceeding 20 ft in most of the area within 0.5 mile of the power block. With the cutoff wall, modeled drawdown was 2 ft to 6 ft in the wetlands area southwest of the power block.</p> <p>Sargent &amp; Lundy report “Construction Dewatering Design Bell Bend Nuclear Power Plant Unistar Nuclear Energy,” Report No. SL-009655 Rev 1, Dated December 27, 2008. (see Attachment F).</p> <p>MODFLOW model was calibrated using current-site conditions and all available data. The cutoff wall was then inserted into the model to simulate the steady-state conditions during construction. Model is captured in the report by Weaver Boos Consultants.</p> <p>Weaver Boos Consultants report, “Construction Dewatering Evaluation Specification No B-4400, BBNPP,” Project 2524301-01, Dated September 8, 2008. MODFLOW models and calibration results are presented in Appendix B. Report sent to Sargent &amp; Lundy, Mr. David Nielson. Staff will be requesting these reports.</p>	
<b>H-15</b>	4.2.1	Provide a knowledgeable expert who can identify the extent of offsite impacts to local groundwater caused by re-routing of Walker Run.	<b>Resolved.</b> Rerouting is relatively short, and maintains same depth, just laterally translated. A portion of rerouting may be out of wetlands. This is also addressed under H-14 and the associated MODFLOW modeling.	No

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H-16	4.2.1	Provide a knowledgeable expert who can describe the nature of construction effluents (temperature, sediment load, etc.), their discharge rates, and their effect on surface water bodies.	<b>Open.</b> EPA may have guidance on stormwater volume control, but NRC does not regulate this. Stormwater management plan delegated by EPA to Pennsylvania Department of Environmental Protection. Staff was shown Sargent and Lundy reference. S&L Report SL-009446, Rev 2, "Conceptual Design of Storm Water management System, dated August 14, 2008, and will be requesting this report.	Yes
H-17	4.2.2	Provide a knowledgeable expert who can describe the nature of construction effluents, their discharge rates, and their effect on groundwater.	<b>Resolved.</b> This information need was covered under H-14.	No
H-18	4.2.2	Provide a knowledgeable expert who can provide additional detail on the means to assure compliance with water-quality and water-use regulations.	<b>Resolved.</b> ER Section 4.2.1 and 4.2.2 that list methods to minimize impacts to the environment. Also, information on monitoring in ER section 6.5.1.	No
H-19	4.2.2	Provide a knowledgeable expert who can describe in detail the impacts of construction to water users in Luzerne County.	<b>Resolved.</b> The information need was provided under H-16.	No
H-20	4.2.2	Provide a knowledgeable expert who can provide in detail the proposed means to assure construction activity compliance with water-quality and water-use standards and regulations.	<b>Resolved.</b> This information need was covered under H-18 and the group presentation on Permits required for the licensing action Wednesday, April 30, 2009.	No
H-21	4.2.2	Provide a knowledgeable expert who can describe in more detail the proposed means to assure compliance with water-	<b>Resolved.</b> Discussed plans for applying for the 401 Cert with Nancy Evans, PPL-Environmental. Other permitting actions were	No

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		<p>quality requirements for key elements of aquatic ecosystem and domestic users during construction. These requirements may include permits from the US Army Corps of Engineers regarding excavation, dredging, and disposal of spoils, the PA Department of Environmental Protection (PADEP) section 401 Water Quality Certification, the NPDES permit for stormwater associated with construction activity, and any other permits and regulations pertaining to discharges to surface water during construction.</p>	<p>discussed previously under H-18 and the group/public presentation on Permits Wednesday, April 30, 2009.</p>	
<b>H-22</b>	5.2.1	<p>Provide a knowledgeable expert who can provide and discuss data on the low flow of record in the Susquehanna River near the site and water-use on a monthly basis.</p>	<p><b>Open.</b> Statistical analyses of the historical low flow conditions were provided. These were also covered during the Safety Audit (FSAR 2.4.11). Staff will request additional information regarding regulated-flow releases during low-flow periods and drought management plans for the Susquehanna River basin. SRBC has guidance on low-flow on its web site. This comment also linked to comment H-2. There might be guidance on low-flow in ESRP.</p>	Yes
<b>H-23</b>	5.2.1	<p>Provide a knowledgeable expert who can provide any statutory or legal requirement on the plant's water use or consumption and the proposed means to comply with those requirements.</p>	<p><b>Resolved.</b> Water withdrawal (groundwater and surface water) and consumptive use are regulated by SRBC.  PPL is actively preparing its application to the SRBC. The application is scheduled to be submitted in May. This application will be composed of 3 parts: groundwater withdrawals,</p>	No

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			<p>surface water withdrawals, and consumptive use. Applicant will inform us when application to SRBC is made, and SRBC will be able to provide.</p> <p>Construction will result in withdraw of groundwater for dewatering, however groundwater will not be used during operation.</p>	
<b>H-24</b>	5.2.2  USACE	Provide a knowledgeable expert who can describe in detail information on users of the surface water that might be affected by the operation of BBNPP. Include water withdrawal information on Marcellus shale oil & gas projects north of the project site.	<p><b>Resolved.</b> Oil and gas production occurs north of the site.</p> <p>References:            PA Dept of Enviro Protection, Marcellus Shale fact sheet, 0100-FS-DEP4217, 11/2008            PA Geological Survey:  <a href="http://www.dcnr.state.pa.us/topogeo/oilandgas/marcellus_shale.aspx">www.dcnr.state.pa.us/topogeo/oilandgas/marcellus_shale.aspx</a></p> <p>SRBC: “Accommodating a New Straw in the Water: Extracting Natural Gas from the Marcellus Shale in the Susquehanna Basin”</p> <p>There may be an additional SRBC presentation from March 12, 2009, unless it’s the same as listed above.</p> <p>SRBC provided additional information that this water supply would be interruptible, and in some cases might be provided by public water suppliers. Since all documents can be obtained from other agencies.</p>	No
<b>H-25</b>	5.3.1.1	Provide a knowledgeable expert who can provide information on velocities in the vicinity of the intake structure during	<p><b>Resolved.</b> Section 5.3.1.2 discusses operation of the CWS intake structure and the 316(b) 0.5 ft/s velocity threshold requirements. ER section 10.3.1 provides information on dredging</p>	No

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		<p>periods of normal and low flow in the Susquehanna River, over a range of water withdrawal rates, including the effects of the intake structure itself, and any other natural and engineered structures in the vicinity of the intake.</p>	<p>in Susquehanna River.</p>	
<b>H-26</b>	5.3.2.1	<p>Please make available for reference and demonstration the input files and numerical results for the CORMIX and GEMSS models used in effluent calculations and provide a knowledgeable expert to discuss the files and results.</p>	<p><b>Open.</b> Held several discussions with Ed Buchak. Staff may request the following:</p> <ol style="list-style-type: none"> <li>1) Verify model results against field data collected by Ecology III.</li> <li>2) Sensitivity study is needed, especially for the low flow, winter case. Adjustments to delta-T (discharge vs ambient river) for both SSES and BBNPP, bathymetry differences, adjustment of discharges from SSES and BBNPP, low river discharge.</li> <li>3) Cormix and GEMSS input files.</li> <li>4) BBNPP plume was run in isolation as well as in combination with the SSES plume</li> <li>5) Request report: "Susquehanna River Thermal Plume and Dilution Modeling – Bell Bend Nuclear Power Plant" Prepared for AREVA from Surface Water Modeling Group, ERM, June 2008.</li> <li>6) Request Sargent and Lundy report 2008-06824, "Engineering and economic evaluation of integrated heat</li> </ol>	Yes

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			rejection cycle, Bell Bend Nuclear Power Plant,” Unistar Nuclear Energy, April 2008.	
H-27	5.5.2	Provide a knowledgeable expert who can detail information on any potential sites for the disposal of dredging spoils.	<b>Resolved.</b> Dredge spoils have previously been deposited on the site (Paul Harmon, Normandeau). Clean spoils can be used on site. If spoils are not clean, they will be disposed off site in a landfill.	No
H-28	5.5.2	Provide a knowledgeable expert to discuss the waste minimization plan developed for the Susquehanna Steam Electric Station (SSES) and how it would apply to the BBNPP.	<b>Resolved.</b> BBNPP will use the SSES waste minimization plan as a template. Need reference number for plan, but otherwise.	No
H-29	6.1	Provide a knowledgeable expert who can discuss the locations of equipment that will be used to measure temperature in the Susquehanna River, the frequency and duration of measurements, and procedures that will be used to analyze the thermal monitoring data.	<b>Open.</b> SSES does not monitor discharge temperature. A monitoring program is in place; quarterly values upstream, downstream, and discharge. Plan is to add the BBNPP discharge. (Peter Gluckler) Reference: see the Ecology III reports cited in ER. Staff will request these documents.	Yes
H-30	6.3	Provide a knowledgeable expert to discuss the monitoring equipment, data analysis procedures and documentation of data quality objectives for all stations monitoring groundwater and surface water properties.	<b>Open.</b> The SSES plant has a database of monitoring information. This includes the REMP data. Includes the number of wells, where they are located, and values. Data are reported annually. Text is unclear concerning number of monitoring wells and surface water stations; i.e., which are being used for what data and what schedule. Applicant states that	Yes

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			future groundwater program will be part of REMP. Staff may request clarification of data measurement schedule.	
<b>H-31</b>	6.6	Provide a knowledgeable expert to discuss information related to chemical monitoring in the holding basin, discharge canal, and the Susquehanna River.	<b>Resolved.</b> NPDES permit will have requirements for chemical monitoring in holding basin and Susquehanna River. Expected to be similar to requirements for SSES, but BBNPP has different needs; i.e., no sanitary sewage treatment, fewer outfalls. Chemical monitoring in CWS is also anticipated. SSES will continue to provide upstream monitoring in Susquehanna River.	No
<b>H-32</b>	9.3.2	Provide a knowledgeable expert who can provide a description of all surface water and groundwater users that could be affected by site construction and operation at all candidate alternative sites.	<b>Open.</b> Applicant provided additional details regarding the water users that could potentially be impacted at all alternate sites. Will request figures and any table provide by applicant in written response to this information need.	Yes
<b>H-33</b>	9.3.2.3	Provide a knowledgeable expert who can identify any temperature concerns in the Delaware River near the Martins Creek site.	<b>Resolved.</b> Once-through units have been shut down. Oil & gas plants only operate during peak energy periods. A new unit uses mechanical draft towers and also operated during peaking periods. All in-river temperature monitoring ceased with shutdown on the once-through units, and in-river temperature concerns would be minor.	No
<b>H-34</b>	9.3.2.4	Provide a knowledgeable expert to discuss the Juniata River flow rates and dilution characteristics for the Sandy Bend alternate site.	<b>Resolved.</b> Applicant provided information on the flow rates and dilution characteristics on the Sandy Bend alternate site. Public water supplies downstream don't use Juniata River. Low flow augmentation might be an issue.	No

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			Raystown Reservoir upstream, but may not be available for augmentation. Corps of Engineers required to keep flow at a minimum of 200 CFS, using Raystown reservoir. See response to H-32. Low-flow concerns exist at all alternative sites.	
H-35	9.4.1	Provide a knowledgeable expert to discuss quantitative information on predicted atmospheric effects of alternative wet cooling towers (e.g., icing, fog, drift).	<b>Open.</b> Refer to Meteorology Information Needs MET-15, MET-16, MET-21 and MET-23. Applicant responded that ER Section 9.4.1 discussed quantitative information on predicted atmospheric effects of alternative wet cooling towers. The ER concluded that environmental effects of four cooling tower alternative designs (natural draft, rectangular mechanical draft, round mechanical draft, and fan-assisted natural draft) were small, and choice of natural draft towers was based on economics. Staff makes no data requests at this time pending further review but may request calc package for icing, fog, and drift for alternative designs.	Yes
H-36	9.4.2.1	Provide a knowledgeable expert to discuss alternative intake systems considered for BBNPP, including intake design and impacts of each type of intake.	<b>Open.</b> The SSES intake cannot be expanded due to reliability concerns during construction for the operating plant. Building designs will meet the new Phase I requirements for 316(b). Impacts to the aquatic environment were found to be small by the applicant. Therefore Ranney wells or other collector systems were not preferred  Staff may request additional information from the applicant regarding alternative intake systems and why the proposed intake system	Yes

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			is the preferred alternative.	
H-37	9.4.2.1	Provide a knowledgeable expert to discuss alternative discharge systems, if any, considered for BBNPP, including design and operational characteristics of each alternative.	<b>Open.</b> Staff may request additional information from the applicant regarding alternate discharge systems and why the proposed discharge system is the preferred alternative. Note that diffuser figure FSAR 10.4-9 is correct however ER Figure 3.4-6 has a typo regarding the number of diffuser ports. New design may have a shield installed to prevent gravel from falling into diffuser holes during high river flows.	Yes
H-38	9.4.2.1	Provide a knowledgeable expert who can discuss alternatives for water treatment, including the circulating water system and service water system, and can discuss in detail the chemicals, additives and mechanical treatment, and operating cycles for these systems.	<b>Open.</b> Applicant chose existing technology without looking at alternatives. Staff may request additional information from the applicant regarding alternate water treatment systems and why the proposed treatment system is the preferred alternative.	Yes
TE-		<b>Terrestrial Ecology</b>		
TE-1	2.4.1	Provide a knowledgeable expert to discuss terrestrial and wetland resources, including waterfowl.	<b>Resolved.</b> Question asked re important waterfowl; while lots of waterfowl are common throughout the area, none are considered “important” to the structure and function or regarded as recreationally important at this site.  Notes: Cultural event for deer hunting 900,000 deer hunters 93% of all hunters in PA hunt deer. Geese are more of niche species for hunting purposes. This is a major corridor for waterfowl.	No

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			<p>Question: Upland deciduous forest covered a large portion of the OCA to the west of Route 11. A general upland community type was described for an Upland Deciduous forest but none were included for other forest types (namely for communities dominated by Virginia pine. This species does not appear on the species list) [NAEC 2008 field survey of plant communities at the site]. This does not agree with the SSES EIS which refers to the upland forest communities composed of Virginia pine.</p> <p>Response: the upland areas referred to in the LR that would support Virginia pine are not found within the OCA. Field observations during the site audit corroborate this.</p> <p>Response at Site Audit:  Experts: Gary Alt and Keith Maurice (Normandeau) AREVA contractor</p> <p>Info provided based on ER Section 2.4.1 and the following references: Public BBNPP COLA ER 2.4.1; BBNPP COLA ER Field Survey of Terrestrial... ML082890761; and Field Survey Report ML082890760.</p> <p>Internal  AREVA Document identifier 38-9092360-001, "Wetlands Delineation and Exceptional Value Wetlands Analysis Report for the Proposed Bell Bend Nuclear Power Plant Site, Luzerne County, Pennsylvania." Rev 1 Normandeau</p>	

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			Associates Inc., February 2009.	
TE-2		If available, provide copies of responses received from federal and state agencies regarding regulatory consultations for important species and habitats	<b>Resolved.</b> Question: is there a copy of the communication regarding the butterfly that is no longer tracked? An email was referenced in the terrestrial report. Comments by Normandeau staff said the web page simply had not been updated yet.	No
TE-3	2.4.1	Provide a knowledgeable expert to discuss and clarify the figures and tables presented in the ER and supporting reports for section 2.4.1	<p><b>Open.</b> Topic: Figure 2.4-2 provides a plant community map. No reference is given to important habitats in the vicinity (e.g., Riverlands) and the reader is left to understand which general plant communities have been given the status of important. Discussed with applicant consultant that</p> <ul style="list-style-type: none"> <li>• A clear figure is needed to describe important habitats in relation to the proposed actions, such as the transmission line corridor, the proposed construction footprint, and intake/discharge structure locations.</li> <li>• Would like to see a figure that more clearly shows which areas are important and the impacts to those areas.</li> <li>• Also, would like a table of acreage converted from one veg type to another.</li> </ul> <p>NOTE: We were informed that wetland boundaries are being refined and figures are already in the process of being updated. Revised to reflect new properties survey.</p>	Yes

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			Response at Site Audit Expert: Gary Alt, AREVA (Normandeau)	
<b>TE-4</b>	2.4.1	Provide a knowledgeable expert to discuss “important species and habitats,” including: <ul style="list-style-type: none"> <li>• A figure/map of the areal extents of important habitats and location of important species within the proposed transmission corridors. Map should include all bodies of water to be crossed.</li> <li>• The designation criteria used to determine commercially and recreationally important species.</li> <li>• A map that shows the areal extent of important butterflies and their host plants, or habitats that contain host plants.</li> <li>• The potential for host plants to receive a designation of “important.”</li> </ul>	<u><b>Resolved.</b></u> <ul style="list-style-type: none"> <li>• (1) A figure/map of the areal extents of important habitats and location of important species within the proposed transmission corridors. Map should include all bodies of water to be crossed.</li> <li>• (2) The designation criteria used to determine commercially and recreationally important species.               <ul style="list-style-type: none"> <li>○ Regional knowledge was used to determine what was important and state game commission wildlife notes for wild turkeys and black bears were used to support the species they did choose. The applicant analysis of hunter demographics were referenced: <a href="http://library.fws.gov/nat_survey_2001_deerhunting.pdf">http://library.fws.gov/nat_survey_2001_deerhunting.pdf</a></li> <li>○ See also response to TE-1 for waterfowl</li> </ul> </li> <li>• (3) A map that shows the areal extent of important butterflies and their host plants, or habitats that contain host</li> </ul>	No

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			<p>plants.</p> <ul style="list-style-type: none"> <li>• (4) The potential for host plants to receive a designation of “important.”            Question: If species that are essential to the maintenance and survival of valuable species are also considered “important” then we need to determine if host plants for listed species will be covered under this definition. The ER does not list host plants as important. What is the potential for host plants to receive a designation of “important.”           <ul style="list-style-type: none"> <li>○ Response: host plants are all common and widely distributed plants in PA. Thus, it is unlikely that any of them would be designated as “important.”</li> <li>○ Since butterflies can use a palette of species we decided not to pursue this. RESOLVED</li> </ul> </li> <li>• <b>(5) New Question:</b> A comparison of plants listed on Luzerne County NAI was compared to the ER and a State endangered plant was found as documented on the OCA but not listed as important in the ER:             Regarding <i>Solidago rigida</i>, stiff goldenrod; applicant felt this may have been documented by a junior staff conducting surveys on site. He is going to look into it. We need to add this as</li> </ul>	

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			an important species in our EIS.	
TE-5	2.4.1, 4.1 and 4.3	Provide a knowledgeable expert to discuss the Susquehanna Riverlands Environmental Preserve (SREP) and the evaluation of potential impacts to this area and to the ecological resources at/near the proposed intake structure.	<p><b>Open.</b> Site Audit Response:  Experts assigned: Keith Maurice and Robert Blye, AREVA (Normandeau)</p> <p><b>(1)</b> A figure was shown of the BBNPP intake structure in relation to the SREP, Wetlands Natural Area and the Susquehanna Riverlands Important Bird Area #50. Need to request this figure RAI</p> <p>In general, discrepancies of land area surround the fact that much of the SREP is east of the river. The important bird area is not protected by regulation and the boundaries were defined by volunteers with no input or support from PPL.</p> <ul style="list-style-type: none"> <li>○ We stated that the figure shown at the audit really helps tell the story and should be included in future revisions of the ER.</li> </ul> <p>Question <b>(2)</b>: Address the areal extents of temporary and permanent disturbances that appeared inconsistent within the ER: see Figures 4.3-1 and 4.3-2 and compare to Figure 4.1-1 near the proposed intake structure.</p> <p>NOTE: wetland boundaries are being refined</p>	Yes

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			and figures are already in the process of being updated. Revised to reflect new properties survey.	
<b>TE-6</b>	2.0; 4.3	Provide a knowledgeable expert to discuss wetland jurisdictions, locations, and functions, and the potential impacts related to temporary and permanent construction activities, including the transmission corridor, and any dewatering during excavation.	<p><b>Open.</b> Site Audit: expert Keith Maurice, AREVA (Normandean)</p> <p>Dewatering during excavation is addressed in ER4.2</p> <p>Jurisdictional Determination (JD) in the Fall 09, <b>the preliminary JD request and information required was submitted by the applicant today (4/30/09).</b></p> <p>Looks like there are isolated wetlands on site that will not be covered by the Corp. About 80/20 adjacent/isolated</p> <p>Functional assessment will be performed at a later date. (We need a relative description of the functions and values).</p> <p><b>1 RAI:</b> If Rapanos wetland jurisdiction forms or equiv. are requested by the Corp we will want a copy.</p> <p><b>2 RAI:</b> provide functional assessment when completed.</p> <p><b>3 RAI:</b> provide discussion of hydrologic impacts to wetlands that are not being filled. (Review existing and planned hydrological modeling.)</p>	Yes

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TE-7	Noise Impacts, 4.0 and 5.0	Provide a knowledgeable expert to discuss the acute and chronic noise impacts from construction and operation on wildlife.	<p><b>Resolved.</b> Site Audit Response: expert Gary Alt AREVA (Normandean)</p> <p>Generic response: Typical noise levels associated with construction equip are in table 4.4-1</p> <p>Baseline environmental noise surveys were conducted in April and June of 2008.</p>	No
TE-8	4.3.1	Provide a proposed schedule of construction activities, including season of year, and the duration of specific activities, and a discussion relative to terrestrial and wetland impact avoidance	<p><b>Open.</b> Site Audit Response:</p> <p>Expert assigned: Paul Harmon and Keith Maurice, AREVA (Normandean)</p> <ol style="list-style-type: none"> <li>1. Sequence of activities generally discussed in section 4.2.1.2</li> <li>2. A 68-month construction period estimated with construction end date of Dec. 2017.</li> <li>3. Tree removal has been tentatively proposed for April 2011               <ol style="list-style-type: none"> <li>a. Question: what about Bat impacts? Document concern in trip report. Communication needs to be clear with who sets construction schedule and compliance with protections provided to the Indiana Bat by the ESA and other species by the MBTA</li> </ol> </li> <li>4. Grubbing, grading and earthwork likely to begin in August 2011 as part of the preconstruction phase</li> </ol>	Yes

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			<p>A detail construction schedule has not been established at this time</p> <p>Will need detailed construction schedule when one becomes available.</p>	
<b>TE-9</b>	4.3.1.6, 5.0	Provide a knowledgeable expert to discuss any specific plans for minimizing impacts to terrestrial and wetland resources during construction and operation.	<p><b>Open.</b> Site Audit Response:  Expert assigned: Keith Maurice, AREVA (Normandeau)  Generic response: Specific plans beyond those discussed in the ER have not yet been finalized, but would be expected to reduce impacts further.  Major impacts would be from storm water from sedimentation; plans administered; BMPs will be used to minimize storm water and sedimentation.  404 (b)(1) analysis will cover some of this  RAI: provide 404 (b)(1) analysis. (Include table of estimated wetland impacts for all four sites. See TE-14)</p>	Yes
<b>TE-10</b>	4.3.1.6	Provide a knowledgeable expert to discuss the restoration plans for temporarily disturbed areas on site and along the transmission corridor.	<p><b>Resolved.</b> The applicant provided a tour describing conceptual approach to wetland restoration when we toured Walker Run on Weds.  Site Audit Response:  Expert assigned: Keith Maurice, AREVA (Normandeau)  Generic response:</p>	No

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			<ol style="list-style-type: none"> <li>1. proposed plans discussed in ER section 4.3.1.6</li> <li>2. Alternative plans for minimizing impacts to wetlands are being considered in anticipation of future permitting discussion with the Corp and PADEP.</li> <li>3. Restoration and mitigation requirements ultimately determined by Fed and State regulatory agencies and will be incorporated into permits granted by the various agencies.</li> </ol> <p><u>Public reference cited:</u>            Pennsylvania Department of Environmental Protection, 1992. Design Criteria for Wetland Replacement. Pennsylvania Department of Environmental Protection, Harrisburg, Pennsylvania.</p>	
TE-11	5.0	Provide a knowledgeable expert to discuss transmission corridor maintenance practices, including any specific BMPs or procedures that will be used to minimize impacts to wetlands or other sensitive habitats.	<p><b>Open.</b> Site Audit Response:            Assigned expert: Keith Maurice and Paul Harmon</p> <p>Public reference cited:            PPL Corporation, 2007. Specification for Initial Clearing and Control Maintenance of Vegetation on or Adjacent to Electric Line Right-of-Way Through Use of Herbicides, Mechanical, and Hand clearing Techniques. PPL Corporation, Allentown, Pennsylvania. This includes the BMPs used by SSES for</p>	Yes

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			<p>transmission line maintenance.</p> <p>RAI: provide the storm water management plan and soil erosion and sediment pollution control plan</p>	
TE-12	reference requests	Please provide references to support the decisions made to exclude seven of the ten State-listed threatened or endangered birds from being categorized as important at the Bell Bend site.	<p><b>Open.</b> Site Audit Response:  Assigned Expert: Gary Alt, AREVA (Normandeau)</p> <p>The generic response is worthy of requesting in an RAI. The 4-page response outlines the decisions made to exclude seven of the 10 state-listed species of concern and a listing of publically available documents that support these decisions.</p> <p>Summary: the excluded species have been infrequently observed during migration near the BBNPP site during a 28-year study conducted by Ecology III. None of them are known to nest or have bred successfully at the OCA. Due to low numbers of observations, lack of evidence for nest attempts or successful breeding, and their status as widely ranging migrants, a decision was made to exclude them from the list of important species at the BBNPP site.</p> <p>Furthermore, in addition to the seven bird species mentioned above, there are eight additional bird species listed then or added to the Pennsylvania threatened or endangered list more recently (PGC 2008b), some of which may occur at the OCA or have been observed:</p>	Yes

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			<p>dickcissel, king rail, yellow-crowned night heron, black-crowned night heron, common tern, loggerhead shrike, yellow-bellied flycatcher and blackpoll warbler (all Pennsylvania Endangered). These birds are also excluded from consideration as “important” for reasons that are well summarized in the response.</p> <p><u>Look for this publicly available ref:</u> Brauning, 1992. “Atlas of Breeding Birds in Pennsylvania. Univ. of Pittsburgh Press. 1992. D. Brauning.</p>	
<b>TE-13</b>	5.6 +	Provide a knowledgeable expert to discuss potential terrestrial or wetland monitoring commitments.	<p><b>Resolved.</b> Site Audit Response:  Assigned Expert: Paul Harmon and Keith Maurice, AREVA (Normandeu)  No specific monitoring requirements have currently been proposed. See also section 6.5.1, also table 1.3-1. additional monitoring including program elements, actions and reporting levels will be specified as required by the PA DEP; Penn. Stormwater BMP manual; BMPs for erosion and sediment control as provided in title 25 PA Code, Chapter 102 ; NPDES permit; and other applicable permits obtained for construction.</p>	No
<b>TE-14</b>	9.3  USACE	Provide a knowledgeable expert to discuss the characterization of both the terrestrial and wetland habitats for the alternative sites and the potential for impacts to these resources from	<p><b>Open.</b> Site Audit Response  Expert assigned: Keith Maurice, AREVA (Normandeu)  A tabular summary and mapping showing acreage and type of potential wetland impacts</p>	Yes

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		construction and operation of a nuclear facility on these sites. Provide acreage and type of wetland impacts to each of these alternative sites.	at each of these alternative sites will be available for review. RAI (see also TE-9): Table of estimated wetland impacts for all four sites. (Wetland loss vs wetland conversion should be added to the table shown at the audit and should be included in the 404(b)(1) analysis request identified in TE-9).	
<b>TE-15</b>	10.5	Provide a knowledgeable expert to discuss cumulative impacts to terrestrial and wetland resources.	<p><b><u>Resolved.</u></b> Site Audit Response:  Expert assigned: Keith Maurice and Gary Alt, AREVA (Normandeau)  Generic Response:</p> <ol style="list-style-type: none"> <li>1. The geographic region of interest for cumulative impacts discussed in ER section 10.5 has generally been represented by Columbia and Luzerne counties.</li> <li>2. In addition to the existing SSES, significant projects are covered in ER 10.5.2. see public references FERC 2006 and 2008 in this section.</li> </ol> <p>Public references:  FERC, 2006, US Federal Energy Regulatory Commission, Order Issuing Certificate. Docket No CP06-34-000. Transcontinental Gas Pipe Line Corp. May 18, 2006</p> <p>FERC 2008, Docket No EL08-23-000. Sus-</p>	No

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			Roseland Transmission Project. April 22, 2008.	
<b>TE-16</b>	5.3.3.2.1	Provide a knowledgeable expert to discuss salt deposition and potential impacts to important habitats and species.	<p><b>Resolved.</b> Site Audit Response:  Expert assigned: Gary Alt, AREVA (Normandeau)</p> <p>Generic response: Note that the potential for downwind effects of the cooling tower plume from BBNPP on vegetation is discussed in ER 5.3.3.1.3, 5.3.3.1.4, and 5.3.3.1.7 and 5.3.3.2. No impacts to vegetation at on site locations or off site locations is expected because the maximum predicted salt deposition rate is well below the rate (10kg/ha/mo) that NRC considers to be the threshold for possible vegetation damage (NUREG 1555-ESRP 5.3.3.2).</p> <p>In evaluating the effects of cooling tower drift on natural plant communities, the NRC summarized the monitoring results from a sample of nuclear plants, a literature review, and information provided by resource agencies and agricultural agencies. They found no instances where natural draft cooling tower operation had resulted in measureable degradation of the health of natural plant communities. In addition, studies of salt deposition impacts were conducted at the adjacent operating SSES site and no evidence of salt drift damage to vegetation was</p>	No

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			<p>observed.</p> <p>Public ref:            GEIS NREG-1437, section 5.3.4.3            PPL 1978 ER section 5.3.2.3, SSES Units 1 &amp; 2, ER Operating License Stage, May 1978, Vol. 2.</p> <p>Ecology III 1995 1994 annual report.</p> <p>Resolved based on deposition more than 2 orders of mag. lower than threshold identified in NUREG-5555.</p>	
<b>TE-17</b>	1.3.2	Please make available a map and detail of any planned offsite land-clearing activities, such as offsite borrow pits for fill material.	<p><b>Open.</b> Question: Reference was made to offsite borrow pits for fill material (as being covered under the NPDES Construction General Permit (CGP) from PADEP). Pg 1-17</p> <p>On Thursday April 31, 2009, we took a field trip and on our way back we stopped to look at the borrow pit described in the figure presented at the break-out session. <b>Main concern would be the ability of this quarry area to expand. It seemed to be already well used.</b></p>	Yes
<b>TE-18</b>	2.4.1.2.2	Provide a knowledgeable person to describe the core boundaries of the Important Bird Area (#50) and how it overlaps with the Susquehanna Riverlands Environmental Preserve and the construction footprint. Also describe the relationships and existing	<p><b>Open.</b> Site Audit Response:            Expert assigned: Robert Blye and Gary Alt, AREVA (Normandeau)            Request this response for the docket</p> <p>A figure that overlays the Important Bird Area #50 (IBA) boundary with the BBNPP OCA and</p>	Yes

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		<p>commitments (if any), including conservation plans, that have been developed between the land owner and the Audubon Society of America.</p>	<p>the boundary of PPL's SREP. (SEE TE-5) same figure.</p> <p>At least half of the site is on the eastern side of the river. The IBA boundary and Riverlands are for the most part contiguous east of Route 11 but the IBA boundary includes some areas which are now part of the OCA to the west of Route 11.</p> <p>The IBA program in PA confers no regulatory requirements or obligations on the part of the landowner. The boundaries are chosen without discussion with the landowner. A conservation plan exists and is intended to augment and expand the one-page site report contained in "A guide to critical bird habitat in Pennsylvania (Crossley 1999). The recommendations are presented from the perspective of bird and wildlife habitat conservation. It is acknowledged that not all the recommendations contained are feasible or affordable. However, the plan is presented as an initial position from which to plan for and implement bird conservation on the site.</p> <p>A knowledgeable representative of PPL will need to discuss any existing commitments with the Audubon Society. <b>Rob Blye, working for Audubon at the time the IBA was delineated, stated that no commitments were entered into by Audubon with the land</b></p>	

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			owner.	
<b>AE-</b>		<b>Aquatic Ecology</b>		
<b>AE-1</b>	2.1, 2.2.1	Provide a knowledgeable expert to discuss the project area, size and relationship to the Owner Controlled Area, and discuss ER Figures 2.1-4, 2.2-1, and 2.5-6.	<b>Open. Provide revised Figure 2.1-4;</b> 2.5-6 is for older cultural study  Areas provided in ER	Yes
<b>AE-2</b>	2.2.1	Provide a knowledgeable expert to discuss the nature and extent of impervious or nearly impervious surface that exists on the present SSES site and in the Walker Run watershed.	<b>Open. Provide written answer</b>	Yes
<b>AE-3</b>	2.2.1	Provide a knowledgeable expert to discuss the Wetlands Nature Area mentioned in conjunction with the North Branch Canal on ER page 2-7 and its potential to be affected by the construction and operation of BBNPP.	<b>Resolved.</b> Shown on Fig. 2.1-1; looks to be outside Owner Controlled Area confirmed by Keith Maurice (applicant representative)	No
<b>AE-4</b>	2.3.1 / 2.4.2 / 4.2.1	Provide a knowledgeable expert to discuss the streams and ponds on the site, specifically to provide descriptions of and clarify differences between the hydrology and aquatic ecology sections for <ul style="list-style-type: none"> <li>• Unnamed Tributaries 1, 2, and 3; their correct locations, flow frequency (perennial, intermittent) flow paths, and drainage areas</li> <li>• Salem Creek, its location, drainage</li> </ul>	<b>Open.</b> Unnamed tributaries may require RAI to resolve name differences with hydrology  Outside Owner Control Area. Resolved  Location resolved  <u>Applicant to provide calibration table for NRC</u>	Yes

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		<p>area, relationship to Walker Run or other resources on or near the site</p> <ul style="list-style-type: none"> <li>• East Fork of Walker Run; its location, drainage area, relationship to mainstem Walker Run or other resources on or near the site</li> <li>• all onsite ponds; the numbers, names, locations, and hydrological descriptions</li> </ul>	<p>use; include characteristics of ponds</p>	
<b>AE-5</b>	2.3.1/ 2.4.2/ 4.2.1.5	<p>Provide a knowledgeable expert to discuss the North Branch Canal, North Branch Pennsylvania Canal, North Canal, and other canals not mentioned by name, specifically their</p> <ul style="list-style-type: none"> <li>• correct identities, descriptions, and locations,</li> <li>• hydrological features and ecological conditions</li> <li>• potential impacts and locations where they would occur</li> </ul>	<p><b>Open.</b> Provide some ecological information in 3rd paragraph of answer that adds some to section 2.4.2.1.3</p> <p>Name situation resolved.</p> <p>See Cultural Resources report (GAI 2008) for more on Canal.</p> <p>Impacts in 4.3.2.1</p>	Yes
<b>AE-6</b>	2.3.1.1.1. 8	<p>Provide a knowledgeable expert to discuss the bathymetry of the Susquehanna River in terms of water depth at the intake and discharge areas.</p>	<p><b>Open.</b> Depth figure available in Ecology III report; (1995) referenced in ER p. 4-47.</p> <p><u>Applicant will check depth of intake and correct if necessary.</u></p>	Yes
<b>AE-7</b>	2.3.3.1.1	<p>Provide a knowledgeable expert to discuss the locations of the BBNPP</p>	<p><b>Resolved.</b></p>	No

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		water quality sampling station in the Susquehanna River relative to the proposed BBNPP discharge location.	300 ft between discharges  SR02 is off Walker Run to account for spills from plant ER 2.3.3	
<b>AE-8</b>	2.4.2	Please make available copies of correspondence from agencies regarding Federally or State-listed aquatic species at or near the BBNPP site.	<b>Resolved.</b> Correspondence from <u>USFWS</u> —identifies Indiana Bat; <u>PACNR</u> —letter expired March 28, 2009—four butterflies; <u>PA Game Commission</u> —Smallfooted Myotis ( <i>Myotis leibii</i> ), Northern Myotis ( <i>Myotis septentrionalis</i> ), Little Brown ( <i>Myotis lucifugus</i> ), Big Brown ( <i>Eptesicus fuscus</i> ), the Pipistrelle ( <i>Pipistrellus subflavus</i> ), activities coordinated with PGC—letter expired April 10, 2009; <u>PFBC</u> —eastern hognose snake, yellow lampmussel, green floater—rare and in area—avoid in stream work.  From Wetlands Delineation Report, Appendix-D	No
<b>AE-9</b>	2.4.2.1	Provide a knowledgeable expert to discuss any aquatic disease vectors or pests, exclusive of the nuisance species described, that may occur on the site or in the Susquehanna River near the site	<b>Open. Provide the written answer;</b> provide in ER Revision  Applicant to add note about quagga mussel to zebra mussel section.	Yes
<b>AE-10</b>	2.4.2.1.1	Provide a knowledgeable expert to discuss details about the Walker Run flood events including dates, frequency, and extent of flooding.	<b>Resolved.</b> The ER contains text that suggested that some fish in the onsite ponds may have been flushed into them by floods. This was general speculation in section; check	No

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			FEMA flood plain map.	
AE-11	2.4.2.1.1	Provide a knowledgeable expert to discuss ecologically important aquatic species onsite, specifically <ul style="list-style-type: none"> <li>• numerically abundant fish in ponds (bullhead, creek chub, bluegill), which may be prey for birds and other predators</li> <li>• numerically dominant fish species in Walker Run (white sucker, blacknose dace, creek chub, and tessellated darter), that may be potential prey</li> <li>• the occurrence and ecological importance of American beavers found on the site</li> </ul>	<u><b>Resolved.</b></u> PPL representatives said that the species mentioned in the bullets following the question were not included because they probably were stocked and were not fisheries species. Beaver is on site; details about general ecology provided in answer. See ER Table 2.4.-2. Common on riverlands; one active site on southwest corner of wetland that won't be impacted.	No
AE-12	2.4.2.1.2	Provide a knowledgeable expert to discuss the occurrence and species identities of the crayfish species on the site and collected in the sampling program, and to discuss data for <i>Orconectes obscurus</i> and <i>Cambarus bartonii</i> .	<u><b>Resolved.</b></u> Both have been collected on site; electrofishing stations in downstream Walker Run have <i>O. obscurus</i> —qualitative collections, not counted.	No
AE-13	2.4.2.1.8 / 2.4.2.2.10	Provide a knowledgeable expert to discuss existing natural and anthropogenic stresses on the onsite streams and ponds and the Susquehanna River.	<u><b>Open.</b></u> Outline good; applicant SME could fill in some details about major stresses (e.g., Marcellus Shale, fish disease, invasive species); maybe add information about major stresses to the aquatic resources to revised ER; might be RAI.	Yes

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AE-14	2.4.2.2.8	Please make available documentation regarding zebra mussel occurrence in the Susquehanna River.	<b>Resolved.</b> Search PADEP, PAFBC, USGS websites.	No
AE-15	Tables 2.4-16 to 2.4-19	Please make available a species list of the fish identified from the Susquehanna River samples included in ER Tables 2.4-16 to 2.4-19.	<b>Open.</b> Species list available; applicant will add scientific names column to data tables	Yes
AE-16	3.4.2.1	Provide a knowledgeable expert to discuss the debris grating for the intake system ER (p.3-28).	<b>Open.</b> To be added to revised ER. Figure 5.3-4 change wording to “rack.” Siemens suggesting bar rack--3/8” thick bars with 2-in spacing center to center.	Yes
AE-17	3.4.2.2 / 5.2.3.4	Provide a knowledgeable expert to discuss the design of the discharge pipe and resolve discrepancies within the ER (pp. 3-29, 5-15, 5-23, Figure 3.4-6) and with the FSAR (p. 2-1132) regarding, <ul style="list-style-type: none"> <li>• the length of the diffuser and of the total pipeline as it extends into the river</li> <li>• the number of ports</li> <li>• the width of the concrete pad that will support the discharge pipeline anchors</li> <li>• the height of the pad above the river bottom</li> <li>• Figure 3.4-6, which is referred to in the ER Rev 1, p. 3-28 as showing the concrete support pad does not</li> </ul>	<b>Open. Provide written answer.</b> Figure 10.4-9 in FSAR is correct; figure 3.4-6 in ER is not correct; <u>correct in revised version.</u> Answer defined pipe system; need to have this information.  Anchors are connecting pipe to pad.  Not buried in river; on land.	Yes

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		<p>show such a pad. It shows four anchors for the pipe that would be equally spaced 37.5 ft apart. {added 4-22-09}</p> <ul style="list-style-type: none"> <li>• Would any part of the discharge pipe be buried in the Susquehanna River?</li> </ul>		
<b>AE-18</b>	Figures 3.4-3 and 3.4-11	<p>Provide a knowledgeable expert to discuss the path of the proposed BBNPP blowdown line and the discharge pipeline into the Susquehanna River to</p> <ul style="list-style-type: none"> <li>• discuss how this is presented in ER Figures 3.4-3 and 3.4-11</li> <li>• discuss the BBNPP blowdown line pathway, indicating the entrance point into the river, the relationship of the line to the shoreline, the terminus of the line</li> <li>• provide the position of the SSES blowdown discharge line, the orientation to the shoreline, and the location of the terminus</li> <li>• the location of the terminus of the SSES blowdown line relative to that of the proposed BBNPP blowdown line (distance and location downstream)</li> </ul>	<p><b><u>Open. New figures should be in ER revision</u></b>            New figure 3.4-3a is correct orientation.</p> <p>New figure 3.4-11a that shows proper orientation of pipes and cofferdams;</p>	Yes
<b>AE-19</b>	3.4.2.2 / 4.3.2.2	Provide a knowledgeable expert to discuss the placement of riprap around	<b><u>Open. Provide written answer and included figures</u></b>	Yes

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		the discharge diffuser.		
AE-20	Figures 3.4-3 and 3.4-11	Provide a knowledgeable expert to discuss the existing sanitary sewer discharge upstream of the proposed location of the BBNPP intake system.	<b>Open. Provide written answer</b> (sewer pipe removal is not part of the BBNPP project)	Yes
AE-21	4.2.1.5 / 4.3.2	Provide a knowledgeable expert to discuss the dewatering of the power block area (ER page 4-25) and other areas (ER page 4-14).	<b>Open. Provide written answer</b>	Yes
AE-22	4.3.2	Provide a knowledgeable expert to discuss a proposed schedule of construction activities, including the timing and duration of specific activities; and to discuss specific BMPs that would be used to minimize the potential impacts from construction activities.	<b>Resolved.</b> Schedule not of concern. Best Management Practices in 4.2.1.7, 4.2.1.8, 4.2.1.9	No
AE-23	4.3.2.1	Provide a knowledgeable expert to discuss the potential for colonization of retention and stormwater basins by aquatic flora and fauna, particularly nuisance species.	<b>Open. Provide written answer: ER Revision</b>	Yes
AE-24	4.3.2.1	Provide a knowledgeable expert to discuss the relocation of a section of Walker Run, specifically <ul style="list-style-type: none"> <li>• mapping the locations of the section to be filled, the section to be built, any tributaries that might be affected, and the location of Market</li> </ul>	<b>Open. Provide written answers and figures</b> #1. New figure 4.3-3 shows section to be filled, relocation site, and meanders—include in revised written answer; #2. Lengths provided on Figure 3.4-3; #3. See FSAR 2.3 see written answer; #4. See Normandeu answer to AE25 for	Yes

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	USACE	<p>Street.</p> <ul style="list-style-type: none"> <li>• the length of the constructed section versus that of the section that would be filled</li> <li>• the consideration of recent runoff patterns (versus the historic patterns described in ER Section 2) in the redesign of Walker Run and any other waterbodies that would be modified by the proposed actions</li> <li>• the Natural Channel Design method</li> <li>• the potential effects of relocating Walker Run closer to Market Street versus its present location.</li> <li>• Walker Run location and characteristics of the reference channel mentioned on ER page 4-43</li> <li>• the time of year that the stream relocation would occur and its potential effects on recolonization of the new channel</li> <li>• the potential rescue of fish in the section of Walker Run to be relocated</li> <li>• mitigation for each affected stream in accordance with the</li> </ul>	<p>reference to NC State method; PA method google Keystone Stream Team;</p> <p>#5. See FSAR 2.3 for effect of changes to flood potential;</p> <p>#6. Reference channel does not refer to a specific channel; to a concept;</p> <p>#7. Time not yet planned; informally discussed to occur during summer;</p> <p>#8. Provide written answer to relocation strategy; no discussion of potential competition.</p> <p>Design details not completed.</p>	



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		<p>into the environment because of the excavation, and the area, in square feet, of impacts to Waters of the U.S. as a result of the cofferdam installation.</p> <ul style="list-style-type: none"> <li>• would any of the excavation be considered “dredging”? {added 4-24-09}</li> <li>• ER Rev 1; p. 4-29 states that 0.7 ac in the Susquehanna River would be disturbed. This seems to conflict with Table 4.1-1 that lists the total area impacted as 0.7 ac, including forest and wetlands; and the calculation in the AE section mentioned in the previous bullet. What is the area of the river that would be impacted versus the land area impacted? {added 4-22-09}</li> <li>• would the Susquehanna Riverlands Preserve be affected by construction of the intake. Text (ER Rev 1, p. 4-31) states “The 1,200 ac (486 ha) Susquehanna Riverlands Environmental Preserve was also identified as an important habitat as this area encompasses a wide variety of upland and wetlands habitats along both sides of the Susquehanna River, and includes a 400 ac (162 ha) public recreation</li> </ul>	<p>When cofferdam pulled some bracing material will be pulled out may be some dredging or done with backhoe.</p> <p>Acreage will be checked</p> <p>In Riverlands total area, but not in recreation area or wetlands nature area.</p>	

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		area. Site development within this area will consist of surface water intake and blowdown related facilities." {added 4-22-09}		
<b>AE-27</b>	4.3.2.2	<p>Provide a knowledgeable expert to discuss the use of cofferdams to aid in the installation of the intake system, the outfall pipeline, and the diffuser.</p> <ul style="list-style-type: none"> <li>• Describe how the cofferdam would be installed. How would it be anchored to the bedrock?</li> <li>• ER Rev 1, p. 3-27 (section 3.4.2.1) states cofferdam would be installed from shore, but sections farther out in river might be installed by <u>barge</u> or from top of cofferdam. if a barge would be used, what would be the potential impacts from its use? What <u>type of barge</u> would be used (vessel operated, jack-up)? {added 4-23-09}</li> <li>• Would pile driving be involved (pp. 4-12; 4-54)? If so, describe the process including details about the sheet pile type, any support piers, and the type of hammer that would be used.</li> <li>• Describe the potential noise impacts to aquatic organisms in the river.</li> </ul>	<p><b><u>Open. Provide written answer</u></b>            General approach as discussed above for intake</p> <p>Verbal answer: barge would be used ; hammer is contractor choice—drop hammer; hydraulic, vibratory            20-50 blows per minute</p> <p>Mussel removal probably warranted by PA Fish and Boat Commission</p> <p>Extra disturbance at removal of extra material used to brace cofferdam; no firm anchoring to substrate; piling is driven as far as goes.</p>	Yes

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		<ul style="list-style-type: none"> <li>• Will the areas where cofferdams would be installed be surveyed for the occurrence of important freshwater mussel species? What steps would be taken to reduce possible impacts to the green floater and yellow lampmussel?</li> <li>• When the cofferdam is removed, additional area would be disturbed so that total disturbed is 26,400 ft<sup>2</sup> (0.61 ac) (ER Rev 1; p. 4-45). What type of disturbance would this be? {added 4-22-09}</li> <li>• Provide details about how the excavation of the trench for the diffuser pipeline would be accomplished?</li> </ul>		
AE-28	5.3.1.2	<p>Provide a knowledgeable expert to discuss the frequency of the proposed maintenance dredging of the intake area, the method to be used, the potential use of cofferdams, and the disposal of the dredged material.</p> <ul style="list-style-type: none"> <li>• any plans to request dredging included in construction permit?</li> </ul>	<p><b><u>Open. Provide written answer</u></b></p> <p>Applicant provided a good answer that described general details of process to dredge/excavate the river at the intake area.</p> <p>Applicant would request in permit; 4-5 yrs is conservative; area to be dredged depends – channel see answer; sand gravel likely composition of material —beneficial reuse of dredged material possible</p>	Yes
AE-29	5.3.1.2	<p>Provide a knowledgeable expert to discuss the final impingement and</p>	<p><b><u>Open. RAI required</u></b></p> <p>Final report due July 2009</p>	Yes

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		<p>entrainment study report when it has been completed, including estimates of survival from cooling water systems (intake/discharge) impacts; and to discuss potential plans for, and impacts of, recirculating heated effluent.</p>	<p>NRC: request final report when available</p>	
<p><b>AE-30</b></p>	<p>5.3.2.1</p>	<p>Provide a knowledgeable expert to discuss the discharge plume modeling done for BBNPP and SSES.</p>	<p><b>Open. Applicant to provide plume data figures and table for near bottom scenarios</b></p>	<p>Yes</p>
<p><b>AE-31</b></p>	<p>5.6.2</p>	<p>Provide a knowledgeable expert to discuss the materials used to deice roads and other surfaces on the site and public roads near the site (e.g., Market Street).</p> <ul style="list-style-type: none"> <li>• Provide information about the materials used to deice roads and other surfaces on the site and public roads near the site (e.g., Market Street).</li> </ul> <p>What is the average frequency of application of such materials in a given winter?</p>	<p><b>Open. <u>Provide written answer</u></b></p>	<p>Yes</p>
<p><b>AE-32</b></p>	<p>6.5.2</p>	<p>Provide a knowledgeable expert to discuss potential construction, pre-operational, and operational monitoring commitments; and to discuss the current NPDES permit conditions for SSES, including the results of any toxicity testing and chemical measurements.</p>	<p><b>Open.</b> There were no details of construction monitoring provided; possible RAI  <b><u>Provide written answer</u></b> to include information from SSES NPDES in answer, needs to be obtained</p>	<p>Yes</p>

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AE-33	9.3.2  USACE	Provide a knowledgeable expert to discuss the characterization of the aquatic habitats for each candidate alternative site and the potential for impacts to each one from construction and operation of a nuclear plant on it, including acreage and type of wetland impact for each alternative site.	<b>Open. Potential RAIs</b> T&E data need to be updated or EDR database provided	Yes
AE-A		Provide a knowledgeable expert to discuss the discharge plume temperatures	<b>Open.</b> Provide written answer and include Ecology III reports	Yes
AE-B		Provide a knowledgeable expert to discuss dredging to bedrock	<b>Resolved.</b> Included within AE-26	No
AE-C	2.4.2	<u>Northern river otters</u> (State-listed S3; ) are reported at the Riverlands Natural Area. Are there verifiable records of this species in the area? Should it be included in the list of important species? Ask the PA NHP for clarification. {added 3-18-09}	<b>Resolved.</b> Applicant SMEs stated that the otter is a proposed state status candidate at risk; otters are found at riverlands; borderline to include as important species; very mobile.	No
AE-D	2.4.2	Provide information about <u>submerged vegetation</u> in the Susquehanna River at Bell Bend.	<b>Resolved.</b> Applicant SMEs stated that mussels here don't have association with vegetation; not much vegetation and it varies by season; sand gravel bottom.	No
AE-E	2.4.2	How important is recreational fishing in the BBNPP area (e.g., 6-mile area)? Are any of the recreational species in the	<b>Open.</b> Applicant subject matter experts stated that the area is not a special area for recreational fishing; not particularly distinctive;	Yes

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		Susquehanna River or North Branch Canal regulated by the State? {added 3-25-09}	<u>provide written statement (Normandeau)</u>	
AE-F	4.3.2.2	Are there any offsite streams that would be directly or indirectly affected by the construction (see header for Section 4.3.2.2)? No streams are mentioned in the section. {added 4-21-09}	<u>Resolved.</u> Applicant to remove “offsite streams” from header.	No
S/EJ/CB		<b>Socioeconomics/Environmental Justice/Cost-Benefit</b>		
S/EJ/CB-1	Section 2.5.1.1.3.2	With respect to the impacts of BBNPP on migrant-transient populations, please extend the transient population analysis out from 10 to 50 miles.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-2	Section 2.5.1.1.2.	Section 2.5.1.1.2 presents data for mean household income levels in Columbia and Luzerne Counties. In Chapter 4 of the ER, the mean income level presented for individuals is identified at levels that exceed the household values supplied in this section. This discrepancy should be addressed.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-3	Section 2.5.2.2.	More clarification is required in terms of how the various jurisdictions interact in the area (e.g., boroughs, townships, etc.). More information is required on how tax revenue, decision making responsibility, permitting, and other relevant elements are addressed through	<u>Open.</u> Applicant to provide written answer.	Yes

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<b>S/EJ/CB-4</b>	Section 2.5.2.1.3.	<p>these competing jurisdictions.</p> <p>More detail is needed in Table 2.5-12. The number of construction workers should be broken down by relevant sub-groups, including iron workers, pipe fitters, and other trades. Also needed is the number of unemployed construction workers in the ROI and within the 50-mile radius of the BBNPP.</p>	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-5</b>	Section 2.5.2.4.	<p>Information needs identified for this section includes:</p> <ul style="list-style-type: none"> <li>a. Average population densities on Pages 2.5-545 contradicts data presented in Table 2.5-4. This should be corrected.</li> <li>b. On Page 2-545, document indicates 308,277 existing units are located in the ROI while Table 2.5-17 identifies only 172,419. This discrepancy should be addressed.</li> <li>c. On Page 2-545, text identifies 68 apartment/townhouse complexes while Table 2.5-18 identifies 34 units.</li> <li>d. On Page 2-545, the ER identifies an additional 12 facilities in surrounding counties within the</li> </ul>	<b>Open.</b> Applicant to provide written answer.	Yes

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		<p>30 miles radius but Table 2.5-19 identifies only 5 facilities.</p> <p>e. On Page 2-545, the number of hotels/motels/B&amp;Bs noted in the text does not align with values presented in Table 2.5-18.</p> <p>f. On Page 2.545, the number of apartments noted in text does not equate to those presented in Table 2.5-18.</p>		
<b>S/EJ/CB-6</b>	Section 2.5.2.4	Provide additional information about potential / predicted future changes in housing stocks.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-7</b>	Section 2.5.2.5.	The capacity of the local school districts should be compared to student enrollment to determine capacity / utilization or percentage of use. Please compare current student to teacher ratios to statewide limits. The discussion of school districts is aggregated in the ROI. More analysis is required to address the local school districts capacity and utilization, particularly the Berwick Area School District.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-8</b>	Section 2.5.2.6.	Recreational use values for important local sites, as well as capacity and utilization rates, are not present but needed.	<b>Open.</b> Applicant to provide written answer.	Yes

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<b>S/EJ/CB-9</b>	Section 2.5.2.9.	<p>There are multiple issues with this section:</p> <ul style="list-style-type: none"> <li>a. Please provide the capacity of local facilities and utilization rates.</li> <li>b. In Section 2.5.2.9.2.1, the statement is made that “both surface and groundwater sources in the county provide adequate supply for the population.” This statement needs to be quantified.</li> <li>c. Capacity and percentage of use with respect to water and sewer/sewage disposal facilities, police and fire capabilities are absent but needed.</li> </ul>	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-10</b>	Section 2.5.4.	The Environmental Justice section should be carried out to the 50-mile radius.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-11</b>	Section 2.5.4.	A section should be added to document attempts to identify distinctive communities.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-12</b>	Section 2.5.4.	Please provide NGO data– e.g., catholic churches, food bank. NGOs need to be contacted to identify low-income and minority populations.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-</b>	Section	More detail is needed for subsistence,	<b>Open.</b> Applicant to provide written answer.	Yes

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13	2.5.4.	particularly agricultural uses. Data should be provided for distinct minority, low income, and distinctive population to the extent feasible.		
S/EJ/CB-14	Section 4.4.1.	What is the attainment status for air within the 50-mile area?	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-15	4.4.1.	The transportation routes are identified as sufficient to transport the construction materials. Later, the report presents the results of a study that notes that the transportation impacts are such that mitigation measures are required to accommodate the growth in traffic. Text identifying the local network as sufficient should be revised to reflect the results of the traffic study.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-16	4.4.1.	Table 4.4-2 suggests that traffic at several local interchanges will register very low levels of service (D, E, F) during BBNPP construction. The ER identifies mitigation measures that would improve the service levels but does not specify the degree to which the proposed mitigation measures would improve service levels at specific interchanges. Please add this information to the ER.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-17	4.4.2.	Please use a consistent in-migration value in percentage terms.	<u>Open.</u> Applicant to provide written answer.	Yes

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S/EJ/CB-18	4.4.2.2	Please provide month-by-month, quarter-by-quarter workforce data. Also, please provide an estimate of the number of operations workers who would be employed during the construction period.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-19	4.4.2.3.	Please identify the number of indirect workers as well as income and tax revenue tied to each indirect worker but assume that 100 percent of these indirect workers are already located within the ROI. That is, assume that none of the indirect workers would be in-migrants.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-20	4.4.2.3.	Average hourly earnings for indirect workers appears high. Please use hourly wage estimates for service-oriented industries as opposed to average salary estimates across all industries. Please use operations workforce multiplier for operations workforce employed during construction.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-21	4.4.2.3	Annual salaries are based on a 40-hour work week assumption. More likely, overtime would occur. This fact should be reflected in the average salary values. Section 2.5.1.1.2 presents data for mean household income levels in Columbia and Luzerne Counties. In Section 4.4.2.3, the mean income level	<u>Open.</u> Applicant to provide written answer.	Yes

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		presented for individuals is identified at levels that exceed the household values supplied in this section. This discrepancy should be addressed.		
<b>S/EJ/CB-22</b>	4.4.2.4.	Discuss the location, number and quality of mobile home parks in the ROI and capacity / percentage of use. Discuss how these would be impacted by construction workforce use of these homes.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-23</b>	4.4.2.5.	Please identify annual expenditures on materials, equipment, and outside services during construction.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-24</b>	4.4.2.6.	No information was provided with respect to property tax generation at the BBNPP. This information was identified as proprietary by the applicant but NRC requires this information.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-25</b>	4.4.2.6.	The ER notes that it could not make any assumptions regarding expenditures patterns (implications for sales tax calculations) and exemptions/investments/deductions (implications for income tax calculations). Thus, no estimates of sales or income tax generated by the BBNPP construction workforce were provided. NRC requests that the applicant make assumptions regarding these elements that would enable it to estimate these tax	<b>Open.</b> Applicant to provide written answer.	Yes

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		impacts. Please provide the estimate tax impacts.		
<b>S/EJ/CB-26</b>	4.4.2.8.	This section notes that there is sufficient capacity to meet the additional demands placed upon public services by the construction workforce. Please provide data to substantiate this claim, including comparisons of demands for public services generated by the construction work force against capacity and utilization rates for police and fire services and educational facilities.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-27</b>	4.4.2.8.	The total number of children per household is calculated by dividing the number of children in Pennsylvania by the number of households. Because the demographics of the construction workforce households would differ from statewide averages (there are retired households included in the statewide average), the number of children per household should be adjusted based on available Susquehanna work force data.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-28</b>	4.4.2.8.	The impact on the local education system is identified as moderate and mitigation measures are outlined but none are listed. Please provide a list of these potential mitigation measures.	<b>Open.</b> Applicant to provide written answer.	Yes
<b>S/EJ/CB-</b>	4.4.3.	Please provide more data regarding the	<b>Open.</b> Applicant to provide written answer.	Yes

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29		impact of BBNPP on subsistence activities. Review technical journals to identify relevant literature.		
S/EJ/CB-30	4.4.3.	Please provide more discussion of the possible pathways associated with subsistence fishing activities and the impact of emissions from vehicles on minority and low-income workers.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-31	5.8.2.2	Indirect workforce impacts on local housing should be removed as we recommend assuming that none of the indirect workers would in-migrate into the ROI.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-32	5.8.2.3	Average hourly earnings for indirect workers appears high. Please use hourly wage estimates for service-oriented industries as opposed to average salary estimates across all industries.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-33	5.8.2.3	Section 2.5.1.1.2 presents data for mean household income levels in Columbia and Luzerne Counties. In Section 5.8.2.3, the mean income level presented for individuals is identified at levels that exceed the household values supplied in this section. This discrepancy should be addressed.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-34	5.8.2.6	There is a mitigation measure identified for Route 11 and Orange Street that was not discussed in the construction section.	<u>Open.</u> Applicant to provide written answer.	Yes

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		Please indicate if the mitigation measure should be added to the construction section. If it is a measure specifically designed to address the operations workforce, please describe the nature of the issue addressed by this proposed mitigation measure.		
S/EJ/CB-35	10.4.1	Please identify annual expenditures on materials, equipment, and outside services during construction.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-36	10.4.1	No information was provided with respect to property tax generation at the BBNPP. This information was identified as proprietary by the applicant but NRC requires this information. NRC needs property tax, sales, and income taxes as well.	<u>Open.</u> Applicant to provide written answer.	Yes
S/EJ/CB-37	10.4.2	NRC requires a more detailed estimate of the construction costs and the cost of supplying the power (\$/MW). Further, the estimated cost must include more detailed cost categories (e.g., power block, turbine buildings, and any element used in electricity generation). These should be overnight costs, not including interest expense. Do not include transmission lines.	<u>Open.</u> Applicant to provide written answer.	Yes
CR-		<b>Cultural Resources</b>		

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<b>CR-1</b>	2.5.3	Provide a knowledgeable expert to discuss the February 2008 Phase 1a and September 2008 Phase 1b archaeology and historic architecture reports.	<b>Resolved.</b> A knowledgeable expert was provided. Applicant docketed copies of the following reports: Phase 1a June 2007, Phase 1a February 2008, Phase 1b September 2008, and Supplemental Phase 1b November 2008. Submitted under Part 11I.	No
<b>CR-2</b>	2.5.3	Please make available State Historic Preservation Office comments on all related archaeological and architectural surveys/reports.	<b>Open.</b> The 5 SHPO letters to date were made available at the audit. ACTION: The applicant will review for public domain and consult with SHPO for docketing.  April 8, 2008 – initial consultation June 5, 2008 – comments on phase 1a October 28, 2008 – phase 1b review of architectural resources March 2, 2009 – phase 1b review of archaeology March 23, 2009 – review of supplemental phase 1b	Yes
<b>CR-3</b>	2.5.3	Provide a knowledgeable expert to discuss any sites recommended for Phase II or Phase III investigations, if any Traditional Cultural Properties have been identified and the avoidance or mitigation plans (MOAs or MOUs) for those sites.	<b>Open.</b> A knowledgeable expert was provided. ACTION: The Applicant will identify what historic properties can be avoided and what the avoidance procedures will be. Applicant will provide schedule for Phase II investigations for those sites that cannot avoided or for which avoidance is uncertain. Mitigation measures would include data recovery investigations developed in consultation with NRC and the SHPO on those sites determined to be NRHP eligible.	Yes

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CR-4	2.5.3, USACE	Please make available all consultation letters with Native American Tribes and Interested Parties, including the Onondaga Nation Historic Preservation Office.	<p><b>Open.</b> The 8 consultation letters and 1 response letter were provided at the audit. ACTION: The applicant will review for public domain for docketing.</p> <p>June 10, 2008</p> <ul style="list-style-type: none"> <li>(1) Tuscarora Nationa Chiefs Council</li> <li>(2) St. Regis Mohawk Tribe</li> <li>(3) Shawnee Tribe</li> <li>(4) Oneida Nation of Wisconsin</li> <li>(5) Oneida Indian Nation</li> <li>(6) Cultural Resources Coordinator</li> <li>(7) Delaware Nation of Oklahoma</li> <li>(8) Absentee-Shawnee Tribe of Oklahoma</li> </ul> <p>June 19, 2008</p> <ul style="list-style-type: none"> <li>(1) Response letter to UniStar from Oneida Nation</li> </ul>	Yes
CR-5	2.5.3	Provide a knowledgeable expert to discuss the Tribal consultation process.	<p><b>Resolved.</b> A knowledgeable expert was provided to discuss the Tribal consultation process. GAI accessed the FHWA list of Tribes and consulted with the SHPO to identify Tribes. UniStar sent 8 Tribal consultation letters.</p>	No
CR-6	2.5.3 4.1.3	Provide a knowledgeable expert to discuss whether any ground disturbance will take place outside of areas addressed by Phase I cultural resource surveys.	<p><b>Open.</b> A knowledgeable expert was provided. In the event that project design changes will occur within or outside the current APE, the SHPO and NRC will be consulted to determine if further cultural resource investigations are warranted. ACTION: The applicant will</p>	Yes

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			develop a management plan that will incorporate this issue.	
CR-7	4.1.3	Provide a knowledgeable expert to discuss the plan for inadvertent discoveries (human remains and all other cultural sites).	<b>Open.</b> A knowledgeable expert was provided. ACTION: The applicant will develop a management plan in consultation with cultural resource experts, SHPO, NRC for inadvertent discoveries prior to NRC DEIS. The applicant will incorporate into the pre-job briefing for construction and operation.	Yes
CR-8	5.1.3	Provide a knowledgeable expert to discuss potential impacts on cultural and historic resources from the proposed construction activities and resulting facility, and impacts outside of the project's footprint.	<b>Resolved.</b> A knowledgeable expert was provided. ACTION: No action by Applicant. NRC/PNNL team will coordinate with the socioeconomics subject matter experts concerning the potential for indirect impacts.	No
CR-9	5.1.3	Provide a knowledgeable expert who can describe the procedures for identifying cultural resources discovered as a result of ground disturbances during plant operations over the license period, and procedures for avoiding or mitigating impacts.	<b>Open.</b> A knowledgeable expert was provided. ACTION: The applicant will develop a management plan in consultation with cultural resource experts, SHPO, NRC for inadvertent discoveries prior to NRC DEIS. The applicant will incorporate into the pre-job briefing for construction and operation.	Yes
CR-10	10.1.1	Provide a knowledgeable expert to discuss the potential impacts on cultural resources from pre-construction versus construction activities.	<b>Open.</b> A knowledgeable expert was provided. ACTION: The applicant will develop a management plan in consultation with cultural resource experts, SHPO, NRC prior to NRC DEIS.	Yes
CR-11	New identified	Develop a schedule and description for completion of Phase II cultural resource investigations (archaeology final phase	<b>Open.</b> ACTION: Applicant will provide a schedule and description for completion of Phase II cultural resource investigations	Yes

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	at audit	I/II technical report).	(archaeology final phase I/II technical report).	
<b>CR-12</b>	New identified at audit	Develop a schedule and description for completion of criteria of effects report for architectural resources.	<b>Open.</b> ACTION: Applicant will provide a schedule and description for completion of criteria of effects report for architectural resources.	Yes
<b>CR-13</b>	New identified at audit	Provide the process for cultural resource investigations at alternative sites as described in the ER.	<b>Open.</b> A knowledgeable expert was provided. The applicant provided the EDR 2008a reference.	Yes
<b>GEO-</b>		<b>Geology</b>		
<b>GEO-1</b>		<b>ER 2.6</b> Provide a knowledgeable expert to discuss the potential for natural gas in the Devonian period Marcellus shale that underlies the proposed BBNPP site	<b>Open.</b> Had remote conference call during Site Audit; April 29, with Mr. Shubert for PP&L. A Call Report Available.	Yes
<b>MET-</b>		<b>Meteorology</b>		
<b>MET-1</b>	2.7.4 General	Please make available the 2001- 2006 SSES meteorological data used to support the ER in NRC (Regulatory Guide 1.23 Rev 1) format.	<b>Open.</b> Meteorological data (2001-2007) has been prepared and will be submitted. It will include both hourly Regulatory Guide 1.23 Rev 1 formatted data as well as joint frequency data (JFD).	Yes
<b>MET-2</b>	2.7.4 Page 2-735	Provide a knowledgeable expert to discuss the use of onsite meteorological data from SSES Units 1 and 2 in analyses for BBNPP.	<b>Resolved.</b> Applicant noted that SSES tower mostly follows Regulatory Guide 1.23 Rev 1 guidance. Departures from Rev 1 include: <ul style="list-style-type: none"> <li>• Tower structure inspection (currently 3 years as opposed to yearly as described in Rev 1)</li> <li>• Formalized obstruction heights in Rev 1 (10x obstruction heights) has prompted applicant to trim trees in the vicinity of the tower to meet guidance. A survey</li> </ul>	No

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			<p>of tree stands around the tower was completed and trees will be trimmed at a later date (postponed due to ecological (bat) concerns). The applicant noted that the trees are currently not a major obstruction, as the data has been self-similar since the initial tower installation.</p> <ul style="list-style-type: none"> <li>• Cooling tower is within 10 obstruction heights. Applicant has prepared a study which shows the cooling towers are not a major obstruction to the met tower. This report will be cited in the ER and made available on the public docket.</li> </ul> <p>Table 6.4-1 of the ER provides a table that compares measurement capability to Regulatory Guide 1.23 Rev 1 guidance; instrument accuracy is within Regulatory Guide specification.</p>	
<b>MET-3</b>	2.7.1 Page 2-730	Provide a knowledgeable expert who can discuss the types of air masses and dominant synoptic/mesoscale weather features in the project area, including those that would be reflected in the seasonal/annual averages presented in ER Section 2.7.4.	<b>Resolved.</b> Applicant will consider updating Section 2.7.1 of ER to better explain the synoptic and mesoscale weather features that influence the site. Applicant stated that nearby stations, including Williamsport, Wilkes-Barre Scranton, and Allentown, were selected due to their proximity and similar hill-and-valley/river valley influence. Applicant acknowledged that temperature, dew point temperature, and precipitation are likely to be more consistent	No

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			with BBNPP than wind speed and direction. The latter parameters are more likely to be influenced by local terrain features, as is evidenced by the windrose plots in the ER.	
<b>MET-4</b>	2.7.2.1- 2.7.2.3 Page 2- 731	Provide a knowledgeable expert who can clarify air quality/permitting requirements for areas that are in attainment with the 1 hour ozone standard but were designated as maintenance areas relative to the 8-hour standard (e.g., Columbia County).	<b>Open.</b> Applicant will discuss conformity requirements with the State (PADEP). Of concern are VOC and NOx construction emissions, which include worker vehicular emissions to-and-from the site as well as emissions from various construction equipment onsite. Note that the applicant will be removing 3 million + cubic yards of ground for the construction of the cooling towers. These construction emissions are not addressed in the ER.	Yes
<b>MET-5</b>	2.7.4.1 Page 2- 736	Provide a knowledgeable expert who can discuss daily average and extreme temperature and dew point temperature tables (ER Table 2.17 and Table 2.18, respectively) for SSES and daily average and extreme temperature tables for Williamsport (ER Table 2.19).	<b>Open.</b> Applicant will consider removing hourly temperature and dew point tables in ER and replace them with seasonal and annual average values that more readily allow for the comparison to SSES. Applicant believes that, in general, Williamsport temperatures are more representative of SSES. This connection is important, particularly because the applicant used temperature and dew point temperature from Williamsport in the SACTI plume analysis.	Yes
<b>MET-6</b>	2.7.4.1 Page 2- 736	Provide a knowledgeable expert to discuss humidity data and the SACTI plume analysis in ER Section 5.3.	<b>Open.</b> Applicant acknowledged that dew-point data measurements at SSES tended to not be reliable (i.e., the instrument would drift shortly after calibration). However, the applicant has	Yes

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			not made instrumentation changes because of the modification requirements that would be necessary for an operating plant (SSES). Applicant will consider updating ER to better explain why Williamsport dew point temperatures were used instead.	
<b>MET-7</b>	2.7.4.3 Page 2-737	Provide a knowledgeable expert to discuss the Shickshinny, PA, and SSES precipitation data.	<b>Resolved.</b> Applicant acknowledged that precipitation may be underestimated at site, especially frozen (snow) precipitation. Applicant noted that this could be due, in part, because no wind shield surrounds the instrument. Applicant noted that SSES precipitation measurements do more closely agree with Williamsport and Wilkes-Barre/Scranton.	No
<b>MET-8</b>	2.7.4.3 Page 2-737	Provide a knowledgeable expert to discuss fog occurrence, specifically in ER Table 2.7-56.	<b>Resolved.</b> Applicant stated that fog observations at Williamsport are likely to be representative of the BBNPP site (as are temperature and dew point measurements).	No
<b>MET-9</b>	2.7.4.4 Page 2-738 and Page 2-1304	Provide a knowledgeable expert to discuss how the mixing heights in ER Tables 2.7-164/165 are computed.	<b>Open.</b> Applicant acknowledges that both Albany and Buffalo are discussed in separate sections of the ER as being upper-air stations that are representative of the site. Albany data are used in the cooling tower plume analysis (SACTI), whereas Buffalo data are discussed in the section for normal radiological releases. Ultimately, the applicant uses a conservative estimate of mixing height (900m) from a climatological study (Holzworth) for normal radiological releases.	Yes

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<b>MET-10</b>	2.7.4.5 Page 2-739 and  Pages 2-1394 through 2-1396	Provide a knowledgeable expert to discuss the period of record (POR) for the data used to construct the windrose plots in ER Figures 2.7-89, 2.7-90, and Figures 2.7-91.	<b>Open.</b> Various periods of data are used to construct the windrose plots in Figures 2.7-89 through Figures 2.7-91, as the data were downloaded from the EPA's SCRAM website. The applicant believes that the windroses are representative of the site and can be generally compared to SSES. The applicant acknowledges that the ER is not clear what period the windroses represent and will provide clarification in a subsequent ER revision. Applicant will also provide references to the data source. The applicant noted that the winds are different at the various stations because of the valley/terrain features that are unique to each measurement location.	Yes
<b>MET-11</b>	2.7.6.1 Page 2-742	Provide a knowledgeable expert to discuss the use of an additional year of meteorological data (2007) to the six years (2001-2006) described previously in the ER.	<b>Resolved.</b> Regulatory Guide 1.206 recommends that the applicant use the most recent year of meteorological data that is available, thus the reason for including year 2007 in the various codes (e.g., AEOLUS3).	No
<b>MET-12</b>	2.7.6.1.1 Page 2-743	Provide a knowledgeable expert to discuss recirculation correction factors (RCFs) and how they are implemented in the AEOLUS3 model and calculated in ER Table 2.7-128.	<b>Resolved.</b> Applicant developed RCFs that are site-specific; these values are only used in X/Q estimates for normal operations. The RCFs were developed because default RCFs were overly conservative, resulting in unrealistic site X/Qs, especially for the NNW sector. Methodology for developing site-specific RCFs are documented in an internal report "Meteorological Recirculation Factors at Bell Bend Site." Report will be reviewed and notes	No

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			<p>will be taken at the site audit. In short, RCFs are determined using a puff (MESODIFF II) and plume (XOQDOQ) model to calculate X/Qs and then taking a ratio of their values. Onsite meteorological data for 2006 and site-specific building dimensions and EPR vent stack information (height, diameter, flow rate) were used in the analysis. The RCF's are input for every receptor location; the RCFs are used as a multiplier in AEOLUS3 to increase values of X/Q and D/Q.</p> <p>The RCFs will need to be evaluated and examined during the confirmatory stage of the ER calculations.</p>	
<b>MET-13</b>	2.7.6.1 Page 2-1271	Provide a knowledgeable expert to discuss terrain heights for both grid and special receptors in ER Table 2.7-128 and the distances and directions for special receptors (e.g., nearest garden).	<b>Resolved.</b> Terrain heights are maximum values between the release and the receptor. Values are picked off of a USGS map.	No
<b>MET-14</b>	2.7.6.1 Page 2-1271	Provide a knowledgeable expert to discuss how the mixing layer depth of 900 meters (ER Table 2.7-128) is used in the AEOLUS3 code.	<b>Resolved.</b> Mixing layer depth is used as in plume reflection in the AEOLUS3 code. A lower mixing depth results in a higher X/Q and D/Q at all downwind sectors.	No
<b>MET -15</b>	5.3.3.1.1 Page 5-29	Provide a knowledgeable expert to discuss temperature, dewpoint, and cloud cover data that were merged with SSES wind data to create the meteorological dataset used in the	<b>Open.</b> Applicant needs to provide justification as to why Williamsport dew point and temperature data were used in the SACTI analysis and are representative of BBNPP. Applicant needs to justify departure from Reg Guide 1.23 Rev 1 for dew point measurements	Yes

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		SACTI cooling tower plume analysis.	(i.e., it's not at the highest measurement level on the onsite tower).	
<b>MET-16</b>	5.3.3.1.1 Page 5-29	Provide a knowledgeable expert to discuss temperature, dewpoint, and cloud cover data that were merged with SSES wind data to create the meteorological dataset used in the SACTI cooling tower plume analysis.	<b>Open.</b> Applicant does not provide a quantitative assessment of the ESWS impacts. Applicant will quantify ESWS impacts, particularly to onsite (safety) structures.	Yes
<b>MET-17</b>	6.4.1 Page 6-57	Provide a knowledgeable expert who can discuss the supplemental (down-river) tower, and any measurements from the backup and down-river tower in comparison with the primary SSES data.	<b>Resolved.</b> Applicant notes that measurements (especially wind) made at the down-river tower are different and not likely to be representative of the general site. Predominant wind direction at the down-river tower is from the west-southwest whereas it's from the east-northeast at SSES. The applicant notes that measured winds from the down river tower would only be used in a post-accident analysis/reconstruction. The applicant notes that the tower instrumentation is out of date, although the tower is maintained.  The applicant will consider rewording the ER to either remove mention of the down river tower or explain why its data are not used substantially in the ER, except for limited data substitution at SSES. The applicant intends to make the discussion parallel what is described in the FSAR.	No
<b>MET-18</b>	6.4.1.5	Provide a knowledgeable expert who can discuss how wind speed/direction	<b>Resolved.</b> Scalar wind speed averages are	No

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	Page 6-58	averages are computed at SSES (i.e., scalar or vector average, ER Section 6.4.1.5).	used at all levels and tower locations.	
<b>MET-19</b>	6.4.1.6 Page 6-65 and Page 6-67	Provide a knowledgeable expert who can indicate the obstruction and its approximate height relative to the towers listed in ER Tables 6.4.2 and 6.4.5.	<b>Resolved.</b> The applicant indicated that the tables reference tree stands that could be potential obstructions. However, these tree stands tend to be at a much lower base elevation than the met tower and so the actual height (from the perspective of the met tower) is considerably less than the tree height.	No
<b>MET-20</b>	6.4.1.6 Page 6-59	Provide a knowledgeable expert to discuss the study that concludes the cooling towers effects on wind speed measurements are minimal and the effects on wind direction measurements are nearly non-existent.	<b>Open.</b> Applicant acknowledges that cooling towers are well within the 10x obstruction heights. However, a study was completed by the applicant (Effect of Plant Structures on the Wind Speed and Direction at the Meteorological Tower at the Susquehanna Steam Electric Plant) which shows that the cooling towers do not appreciably affect wind speed measurements made at the tower. It is preferred that the applicant would reference this study in the ER and docket the report. Applicant also noted that cooling towers are not in the predominant wind direction for the site, further minimizing their influence.	Yes
<b>MET-21</b>		Provide a knowledgeable expert who can provide information on the downwind effects of the SSES cooling tower plume on agriculture.	<b>Resolved.</b> Applicant notes that salt deposition impacts are negligible, as noted in the ER. Applicant notes a study (Ecology III, 1995. Environmental Studies in the vicinity of the Susquehanna Steam Electric Station, 1994 Annual Report. Prepared for PPL	No

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			<p>Susquehanna, LLC. June 1995) that concludes no impact on surveyed areas which included locations on both sides of the Susquehanna River.</p> <p>Beyond the SACTI analysis provided in the ER and discussions in NUREG 1437, no additional information is available on plume shadowing impacts on agriculture.</p> <p>PNNL will likely perform additional analysis to better quantify impacts of the cooling tower plume.</p>	
<b>MET-22</b>	2.7.6.1 general	Please provide a copy of the AEOLUS3 code, user-manual, validation documents, and input/output files associated with the Bell Bend ER for staff confirmatory analysis.	<b>Open.</b> Applicant will make the AEOLUS3 documentation and input/output files for BBNPP available in their reading room.	Yes
<b>MET-23</b>	5.3.3.1 General	Please provide the SACTI input/output files for staff confirmatory analysis.	<b>Open.</b> Applicant will provide input/output files for SACTI cooling analysis for docketing.	Yes
<b>MET-24</b>	6.4.1 general	Please provide (for review) documentation related to instrument specifications, calibration, and maintenance logs. How are data substitutions performed to achieve the better than 90% data completeness criteria.	<p><b>Resolved.</b> Applicant will make instrument documentation available in the reading room and at the safety audit for meteorology. Table 6.4.1 lists instrument specifications and accuracy for the SSES meteorological tower.</p> <p>Data substitution at SSES during instrumentation downtime (e.g., during times of calibration) are done using both the backup tower (winds) and the down-river tower (temperature and dew point temperature). The</p>	No

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			applicant provided a table of data recovery and substitution for each variable for the 2001-2007 period. In general, all instrumentation (and combination of instrumentation (e.g., 10 meter wind speed, wind direction, and delta-T) exceed 95%. Only dew point temperature was poorly measured, with an average data recovery of 60.24% for the 7-year period. Recovery for dew point temperature ranged from 23.87% (2007) to 99.36% (2005).	
<b>MET-25</b>	5.3.3.2.1 Page 5-33 and Page 5-42	In Section 5.3.3.2.1, provides a maximum deposition of 0.0062 lb/ac per month. Yet Table 5.3-9 lists the maximum deposition rate at 0.0045 lb/ac per month. Resolve this inconsistency. At what downwind distance and direction does the maximum deposition value occur?	<b>Open.</b> Applicant will fix either the ER Section text or table, depending on which is in error. ER needs to address cumulative impact for all cooling towers.	Yes
<b>NRHH</b>		<b>Nonradiological Human Health</b>		
<b>NRHH-1</b>	5.3.4.1	Provide a knowledgeable expert to discuss and if available, provide access to any correspondence with the local or State health department regarding public health concerns related to etiological agents from cooling towers.	<b>Resolved.</b> Reference given; "Pathogens in Condenser Cooling Systems: A Health Concern by Jerome S. Fields, Senior Environmental Specialist, January 1982.	No
<b>NRHH-2</b>	5.3.4.1 p.5-38	Provide a knowledgeable expert to discuss whether the potential exists for a detrimental impact from the thermal discharge on the concentration of etiological agents in the Susquehanna	<b>Resolved.</b> Through discussions with the applicant: NPDES permit for SSES (permit number PA0047325, PaDEP water management program Kate Crowley)	No

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		River.		
NRHH-3	5.3.4.1	Provide information on consultation with the State’s public health department (or local department) to adequately characterize the State’s level of concern for etiological agents in the Susquehanna River.	<b>Resolved.</b> Reference from the SSES GEIS; Letter from PaDEP, Public source #1, SSES,2006. Docket No. 50-387	No
NRHH-4	2.2.1 Tables 2.2-1, 2.2-2, 5.4-3 Figures 2.1-3, 2.2-3	Provide a knowledgeable expert and any supporting documentation to discuss the proximity and types of recreational activities occurring in or near the thermal discharge into the receiving waters, as well as the likelihood of interaction by members of the public within the thermal influence.	<b>Resolved.</b> Discussions with applicant regarding recreational activity; people don’t swim in this area, maybe camping, boating and fishing. Reference the SSES Supplement to the GEIS (license renewal) section 4.1.2; ER Rev. 1 Section 2.2.1.	No
NRHH-5	5.3.4.1	Provide a knowledgeable expert and any supporting documentation to discuss the most recent Centers for Disease Control information regarding incidence of infection from etiological agents or diseases of concern in the region of influence.	<b>Resolved.</b> Applicant provided references from the CDC from 2006-2008.	No
NRHH-6	5.5.1	Provide a description of any treatment and/or restoration plans for retired disposal sites or state why they won’t be necessary.	<b>Resolved.</b> PaDEP requires a plan for closure and it has to be approved: it is publically available on the PaDEP website. Also, SSES has these permits in place and they are planned for BBNPP. Applicant provided a flow chart of PPL Susquehanna Environmental Programs and Procedures Attachment B NDAP-00-0067 Revision 0 page 50 of 51	No

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NRHH-7	5.5.2, 5.12.2	Provide an estimate of health effects resulting from exposure to the chemical constituents to be received by workers as a result of mixed-waste testing and storage.	<b>Resolved.</b> Review of the Rev. 1 update (section 5.12), and review of the response from the applicant	No
NRHH-8	5.6.3.1, 5.6.3.2, and 5.6.3.5	Provide a knowledgeable expert and any associated documentation regarding the potential for ozone impacts from the power-transmission system.	<b>Resolved.</b> Through discussions with applicant; Section 2.7.2.2 references table 2.7-1  Publicly available document review needed: from PaDEP  Designation Recommendations for the 2008 Eight-hour Ozone National Ambient Air Quality Standard, March 2009 depweb.state.pa.us	No
NRHH-10	5.3.4.1,	Provide a knowledgeable expert and supporting documentation to discuss occupational health associated with operational activities (for example NRC , OSHA (29 CFR Part 1910) and State safety standards, practices and procedures) with regards to protection against microorganisms associated with cooling towers and chemicals in mixed waste storage and handling activities.	<b>Resolved.</b> Discussions with applicant; are 29 CFR 1910.1000; PPL participates in VPP Star program (OSHA program) and it is likely they would apply the same program at the BBNPP. References listed in Section 5.8.1.8 (in Rev.0 but it is the same in Rev.1).	No
NRHH-11	10.5	Provide a knowledgeable expert to discuss cumulative nonradiological human health impacts of construction and operation including etiological agents (formerly thermophilic organisms), noise, electrostatic effects (electric shock), and electromagnetic	<b>Open.</b> The applicant may prepare a written response to the information need and provide the correspondence to the NRC.	Yes

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		field effects. Discuss other activities existing or planned in the area that should be considered in cumulative impacts and define the geographical region that was assessed (ER section 10.5).		
<b>RHH-</b>		<b>Radiological Human Health</b>		
<b>RHH-1</b>	4.5	Provide a knowledgeable expert to discuss the models, assumptions, input data, and the calculation packages used to arrive at the dose estimates, including collective dose to construction workers from direct radiation exposure, gaseous effluents, and liquid effluents.	<b>Open.</b> Complete pending satisfactory response to RAI. RAI for input files to ODA2 code to calculate dose to construction workers. Another RAI for an evaluation of environmental dose impacts associated with storage of fuel with shorter decay times than originally assumed	Yes
<b>RHH-2</b>	4.5	Please make available copies of the three most recent SSES Radioactive Effluent Release Reports, the three most recent SSES Annual Radiological Environmental Operating Reports, and a copy of the current version of the SSES REMP and draft BBNPP REMP, if available.	<b>Resolved.</b> Complete pending getting copies of latest SSES ODCM, 2007 REMP, and 2007 AREO report from public domain or CD.  Documents made available for review need to review copies on Areva CD.	No
<b>RHH-3</b>	5.4.2	Provide a knowledgeable expert to discuss the liquid and gaseous source terms, release points, atmospheric dispersion models, and aquatic dispersion models.	<b>Resolved.</b> Complete. Requested information obtained. During the site audit, discussions were held with the applicant's knowledgeable expert about the liquid and gaseous source term values, effluent release points to the environment, and the dispersion models that were used to calculate the offsite doses referenced in the BBNPP environmental report.	No

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			Requested information obtained	
RHH-4	5.4.1	Provide a knowledgeable expert to discuss the GASPAR II and LADTAP analyses used to assess the impacts of gaseous and liquid effluents on population dose, MEI doses, and biota dose.	<b>Resolved.</b> Complete. Requested information obtained. During the site audit, discussions were held with the applicant's knowledgeable expert about the inputs to the codes, assumptions used in the analyses, and the output data from the GASPAR II and LADTAP analyses used to estimate population doses, dose to the maximum exposed individual, and dose to biota.	No
RHH-5	5.4.2	Please make available electronic copies of the GASPAR II and LADTAP input and output files and calculation packages used to generate the results contained in the ER.	<b>Open.</b> Completed review of several calculation packages, still have a few more to review. Arrangements being made to access calculation packages via reading room. Need copies of the GASPAR and LADTAP input and output files.	Yes
RHH-6	5.4.2	Provide a knowledgeable expert to discuss the waste systems including the models, inputs, assumptions, and calculations used to determine the exposure rates due to onsite storage of solid waste and independent spent fuel storage.	<b>Resolved.</b> Complete. No RAI needed after review of calculation package. During the site audit, discussions were held with the applicant's knowledgeable expert to review the assumptions, calculations, and analyses used to estimate the exposure rates from onsite storage of radioactive solid waste and spent fuel that were included in the environmental report.	No
RHH-7	5.4.2	Provide a knowledgeable expert to discuss the models, input data, calculations, and assumptions used to generate the annual occupational exposure estimate, and provide access	<b>Resolved.</b> Complete based on review of calculation package and discussion with SME. During the site audit, discussions were held with the applicant's knowledgeable expert to review the input, calculations, and assumptions	No

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		to the calculation package(s).	used in the calculation package that contained the annual occupational exposure estimate of 50 person-rem/yr that was referenced in Section 5.4.2 of the environmental report.	
<b>RHH-8</b>	5.7	Provide a knowledgeable expert to discuss the uranium fuel cycle impacts.	<b>Resolved.</b> Not discussed.	No
<b>RHH-9</b>	6.2	Provide a knowledgeable expert to discuss the design, technical basis, and implementation of the BBNPP radiological environmental monitoring program including the identification of exposure pathways and calculated doses to the public and biota from normal plant operations.	<b>Resolved.</b> Complete after review of the proposed BBNPP REMP and the existing SSES REMP.	No
<b>RHH-10</b>	6.2	Please make available a copy of the most recent version of the Offsite Dose Calculation Manual to be used for BBNPP.	<b>Open.</b> Complete. RAI requesting most recent version of the SSES ODCM.	Yes
<b>RHH-11</b>		ESRP 4.7 Proposed Provide a knowledgeable expert to discuss activities of other agencies and other projects that have occurred or will occur in the region and that may contribute to a cumulative impact on radiological health.	<b>Resolved.</b> Complete. During the site audit, discussions were held with the applicant's knowledgeable expert about whether there were other agency activities or projects currently or in the future that could contribute to the cumulative impact on radiological health.	No
<b>RHH-12</b>		Provide a knowledgeable expert to discuss the Nuclear Energy Institute Ground Water Protection Initiative related to unmonitored liquid releases and the NEI 07-09 template, "Generic	<b>Resolved.</b> Complete. During the site audit, discussions were held with the applicant's knowledgeable expert about the NEI Ground Water Protection Initiative and the applicant's plan to implement the guidance for BBNPP.	No

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		FSAR Template Guidance for Offsite Dose Calculation Manual (ODCM) Program Description” in relation to BBNPP.		
RHH-13		Provide a knowledgeable expert to discuss plans to handle disposal of low level radioactive waste.	<b>Resolved.</b> Complete. During the site audit, discussions were held with the applicant’s knowledgeable expert about the plans to handle disposal of low level radioactive waste for BBNPP.	No
<b>STO-</b>		<b>Site and Technical Overview</b>		
STO-1	2.8	Provide a knowledgeable expert to discuss other nearby industrial facilities, other nuclear facilities in the region, or other Federal projects existing in the region that might be needed for the applicant to construct and operate the proposed facility.	<b>Resolved.</b> Action completed. There are no other Federal projects that would be needed for the applicant to construct and operated Bell Bend. The Roseland Susquehanna Interconnect is the largest Federally-approved project, but this project will be completed regardless of whether Bell Bend is constructed, and therefore is not a connected action. There are two other non-federal projects, a gas pipeline and ribbon/bow making industrial plant. These are not needed for Bell Bend.	No
STO-2	Figure 3.1-1, USACE	Provide a knowledgeable expert to discuss ER Figures showing the site boundary, owner controlled area and land to be cleared, and acreage impacted.	<b>Open.</b> PPL will provide a revised site map showing correct OCA boundary and site boundary (switch yard is incorrect). Also said that there was a figure that we didn’t see that showed wetland impacts. The Corp should review this.	Yes
STO-3	Figures 3.1-3 to	Provide a knowledgeable expert to discuss representative ground-level photographs of the site on which major	<b>Resolved.</b> Would like to see the longitude and latitude of where pictures in ER page 3-6, 3-7 are. Would need to see something from a	No

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
	3.1-6	station features are superimposed.	<p>cultural area- is Council Cup considered historic?</p> <p>Fig 3.1-4 41 degrees 3'19.95"N, 76 degrees 11'5.30"W</p> <p>Fig 3.1-5 41 degrees 5'6.11"N, 76 degrees 10'54.33"W</p> <p>Fig 3.1-3 41 degrees 5'52.46"N, 76 degrees 8'11.52"W</p> <p>Fig 3.1-6 41 degree 4'41.66"N, 76 degrees 7'6.42"W</p>	
<b>STO-4</b>	Section 4.5, 4.6, Table 4.6-1 and 4.6.2	Provide a knowledgeable expert to discuss data and information related to the applicant's commitments to measures and controls to limit potential impacts during construction, including monitoring programs for perched water/groundwater, construction effluent/storm water runoff, and health and safety (including noise and radiation protection as discussed in ER Section 4.5).	<b>Resolved.</b> Action completed. Applicant states there is no requirement from PA DEP or SRBC for groundwater monitoring as an ongoing obligation under the state permit. PPL stated that groundwater monitoring is required by the NRC REMP.	No
<b>STO-5</b>	10.5	Provide a knowledgeable expert to discuss the geographic area to be	<b>Resolved.</b> Deferred to staff discipline experts.	No



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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
STO-7	6.7	Provide a knowledgeable expert to discuss site preparation and construction monitoring commitments.	<p><b>Resolved.</b> Action closed. Storm Water Pollution Prevention Plan- construction related impacts are separate from NPDES. PPL has a SWPPP for core borings and monitor wells and river water will be monitored (detailed in SWPPP). Other permits discussed:</p> <ul style="list-style-type: none"> <li>-EP for construction.</li> <li>-FAA items- crane height issues- air space issues</li> <li>-haz waste management</li> <li>-intake structure DEP/NPDES</li> <li>-ESA consultation</li> <li>-transportation</li> <li>-Corp /joint permit- scheduled for 2010, but this date is likely to change.</li> <li>-SHPO activity- information needs to be submitted- the schedule presented is likely to change also</li> <li>-SRBC- application to be submitted in a few weeks and will include a discussion of dewatering and slurry wall. Permitting is a one to two year process.</li> <li>-DCNR- additional monitoring requirements</li> <li>-Bechtel will do the SWPPP and Roseland sedimentation plans, likely will be done this year.</li> <li>-design of the intake will be part of 404b permit</li> </ul>	No

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
			application. -generic project description form is required by DEP -air quality permits -PENDOT- traffic study -PENDOT power lines and pipes to river -EP Luzerne Co -PDC- power lines -Luzerne Co Conservation -Salem Township zoning – for joint permit-rezoning of land (ownership) -FEMA- floodplain analysis -PA ONE call- digging	
<b>STO-8</b>	10.5 and Table 5.4-22	Provide a knowledgeable expert to discuss information concerning any cumulative buildup of radionuclides in the environment, such as in sediments.	<b>Resolved.</b> Action completed. Deferred to staff discipline experts.	No
<b>STO-9</b>	6	Provide a knowledgeable expert to discuss procedures for reporting and keeping records of environmental data.	<b>Resolved.</b> Action completed. The assumption is that Susquehanna procedures would be adopted for Bell Bend. Susquehanna has an EPP. Water quality and fishery studies specific to Bell Bend conducted by the applicant, include an impingement study looking for their presence of introduced American Shad to the Susquehanna, and ongoing biofouling monitoring for clams and zebra mussels. Occasional bird or fish studies have been completed for SSES – e.g., potential	No

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
			endangered bird in the turbine building. Susquehanna publishes an annual environmental report that is sent to NRC.	
<b>STO-10</b>		Provide a knowledgeable expert to discuss pre-construction and construction impacts (10 CFR 51.45(c)).	<b>Resolved.</b> Action completed.	No
<b>STO-11</b>	New	Is the ISFSI at Susquehanna going to be used by BB?	<b>Resolved.</b> Action completed. No, the Susquehanna ISFSI will not be used by Bell Bend.	No
<b>STO-12</b>	New	Procedure for finding and evaluation newly found cultural resource properties.	<b>Resolved.</b> Action completed. Ref. CR-7 and need for a Cultural Resource Management Plan.	No
<b>STO-13</b>	New	Is there a separate EIS by the State?	<b>Resolved.</b> Action completed.	No
<b>ACC</b>		<b>Accidents</b>		
<b>ACC-1</b>	7.2.2.2	Provide a knowledgeable expert to discuss a quantitative estimate of the risk associated with the un-interdicted aquatic food pathway, including the relative magnitudes of the source terms, the large release core damage frequencies, and any changes in aquatic food harvest.	<b>Open.</b> An RAI will follow if the applicant does not include in subsequent ER revisions a qualitative discussion on the Bell Bend un-interdicted aquatic food pathway and on how the Susquehanna NPS dose bounds the Bell Bend dose for this pathway.	Yes
<b>ACC-2</b>	7.2.2.2 and 7.2.2.3	Provide a knowledgeable expert to discuss water and groundwater pathway doses by release category, and to discuss water and groundwater pathways out of the containment (i.e., atmospheric versus basemat melthrough).	<b>Resolved.</b> (RAI under ACC-3 instead)	No

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
ACC-3	7.2.2.3	Provide a knowledgeable expert to discuss how the Liquid Pathway Generic Study (LPGS) applies to the BBNPP site and to discuss why groundwater doses are 'orders of magnitude less than atmospheric doses'.	<b>Open.</b> An RAI will follow if the applicant does not include in subsequent ER revisions a qualitative discussion on the Bell Bend groundwater pathway for a basemat core meltdown accident and on how the NRC's Liquid Pathway Generic Study applies to the Bell Bend site for this pathway.	Yes
ACC-4	7.2.3	Provide a knowledgeable expert to discuss the person-rem/yr values used in this section.	<b>Resolved.</b> The issue actually refers to the reason of having a value of 0.31 person-rem/yr in the first paragraph of ER Section 7.2.3 and another value of 0.61 person-rem/yr in the fourth paragraph of the same section. The first value refers to a population dose estimated for a 2050 projected population whereas the second value refers to a 2080 projected population. Those values will be updated in subsequent ER revisions.	No
ACC-5	7.2.3	Provide a knowledgeable expert to discuss population exposures to doses greater than 200 rem (2 Sv) and 25 rem (0.25 Sv).	<b>Open.</b> A RAI will follow if the confirmatory calculations do not verify that the doses for the early phase of the accident referred to in ER section 7.2 include an inhalation dose component.	Yes
ACC-6	7.3.2	Provide a knowledgeable expert to discuss fire risk versus seismic risk.	<b>Open.</b> A RAI will follow if the applicant does not include in subsequent ER revisions a qualitative discussion on why the fire risk bounds an earthquake risk.	Yes
ACC-7 and Issue 48 (in AM tracker)	Table 7.3.1	Provide a knowledgeable expert to discuss if the numbers for Averted Public Exposure, Averted Offsite Property Damage Costs, Severe Accident Cost Impact and Maximum Benefit in ER	<b>Resolved.</b> The expert confirmed that different population data contributed to different values for parameters listed here. In addition, specific Bell Bend site dose calculation will also yield values that are different from the generic	No

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
		Table 7.3-1 differ from those in Table 4-1, ANP-10290, US EPR Design certification, due only to different population data (2000 vs. 2050).	analysis.	
<b>ACC-8</b>	7.1	Provide a knowledgeable expert to discuss DBA doses.	<b>Resolved.</b> The expert described that the doses were calculated by running RADTRAD and ELISA codes for the generic plant in the DCD. The Bell Bend DBA doses were obtained by adjusting the X/Q factors that are Bell Bend site specific. The X/Q factors were obtained from the AELOUS3 code, which was reviewed by the NRC. Breathing rates were adjusted per the NRC methodology.	No
<b>ACC-9</b>	7.1	Provide a knowledgeable expert to discuss the EAB doses calculated for the 2-hour period.	<b>Resolved.</b> Table 7.1-5 in ER gives 50 percentile values for the two hour period that result in the highest dose. For LOCA accidents, this occurs between 1.5 to 3.5 hours and for the rest of the DBAs this corresponds to 0 to 2 hours. This was not clearly explained in the ER.	No
<b>ACC-10</b>	7.1	Provide a knowledgeable expert to discuss the design basis accident source term assumptions of the ER and the assumptions made in the design control document for corresponding accidents (specifically, steam system piping failures, locked rotor accidents, and rod ejection accidents).	<b>Open.</b> A RAI will follow if the applicant does not change in subsequent ER revisions the source term for three DBAs (steam system piping failures, locked rotor and rod ejection)	Yes
<b>ACC-11</b>	7.2	Provide a knowledgeable expert to discuss land-use data used in the evaluation.	<b>Open.</b> Input files were not available in the reading room or at site audit for review. The level 3 PRA analysis was reviewed instead,	Yes

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			which confirmed that the land-use data were Bell Bend site specific. The NRC staff need to review the accidents input files to close this issue (see ACC-12).	
<b>ACC-12</b>	7.1, 7.2 and 7.3	Please make available electronic input and output files for all DBA and SA calculations.	<b>Open.</b> A RAI will follow if the applicant does not docket all I/O files for the SA and SAMA analysis. Also, a RAI will follow if the confirmatory calculations for DBA, SA and SAMA do not reach similar conclusions.	Yes
<b>ACC-13</b>	7.1	Provide a knowledgeable expert to discuss the DBA analysis (and ER Table 7.1-1) as compared with the DBAs that are listed in NUREG-1555.	<b>Resolved.</b> The expert mentioned that all potential DBAs for the US EPR design were considered in addition to the ones listed in NUREG 1555, which does not include this design. The expert stated that this issue was considered during the preparation of the design documentation and the main steam line break DBA was added and discussed in the DCD. There were also other DBAs in NUREG 1555 that are bounding or not applicable to the US EPR, as shown in Table 7.1-1.	No
<b>ACC-14</b>	7.1	Provide a knowledgeable expert to discuss Notes a) and b) in ER Table 7.1-4.	<b>Open.</b> Notes a) and b) in Table 7.1-4 were the same. A RAI will follow to make sure this issue is corrected in subsequent ER revisions.	Yes
<b>ACC-15</b>	7.1	Provide a knowledgeable expert to discuss inventory estimates in ER Tables 7.1-2 through 7.1-4.	<b>Resolved.</b> The expert stated that these inventories were detailed in section 15.0.3.3 in DCD.	No
<b>ACC-16</b>	2.7.6.2 and 7.1	Provide a knowledgeable expert to discuss if the X/Q values given by	<b>Resolved.</b> The expert stated that AEOLUS3 code was reviewed by the NRC (ADAMS	No

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		AREVA NP computer code AEOLUS3 are consistent with approved NRC methodology.	accession ML043650064 on 12/06/04, Proposed amendment to the technical specs, AREVA doc 32-5052821-01, "Determination of Atmospheric Dispersion Factors for Accident Analyses using Reg Guide 1.145 & 1.194" as well as in ADAMS accession ML032190646, "Vermont Yankee TS Proposed Change No 262, Alternative Source Term", Table 2-1).	
<b>ACC-17</b>	7.1	Provide a knowledgeable expert to discuss why the first $\chi/Q$ value in ER Table 7.1-5 differs for LOCA and other accidents.	<b>Resolved.</b> See also ACC-9 above and ACC-18 below	No
<b>ACC-18</b>	7.1	Provide a knowledgeable expert to discuss the selection of X/Q values for each of the time intervals in ER Table 7.1-5 and text.	<b>Resolved.</b> The X/Q values listed in Table 7.1-5 listed X/Q values for 0 to 2 hrs, and 1.5 to 3.5 hrs, depending on the DBA type, as explained in the ACC-9 above, and 2 to 8 hrs, whereas the EIS template requires values for worst two hours and 0-8 hrs. All other time intervals are in accordance with the EIS template. It was collectively agreed that the time intervals values listed in the Bell Bend ER would be included in the EIS.	No
<b>ACC-19</b>	7.1	Provide a knowledgeable expert to discuss the code used to calculate the TEDE for DBA and if the code is consistent with NRC guidance.	<b>Resolved.</b> See ACC-8 above.	No
<b>ACC-20</b>	7.1	Provide a knowledgeable expert to discuss the 2 EAB distances and release points for all DBAs and SAs.	<b>Resolved.</b> The expert stated that the EAB distance of 0.43 mi is measured from the centerline of the containment building. The other 0.379 mi distance is used to adjust to	No

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			various other release locations that are not occurring from the containment building.	
<b>ACC-21</b>	7.1	Provide a knowledgeable expert to discuss inconsistencies in ER Table 7.1-13.	<b>Resolved.</b> See ACC-10 above.	No
<b>ACC-22</b>	7.1	Provide a knowledgeable expert to discuss the 0.48% calorimetric uncertainty in reactor power mentioned in the ER.	<b>Resolved.</b> The NRC recommends a 2 % value for the calorimetric uncertainty. The expert stated that the 0.48 % value comes from ultrasonic flow meter measurements. This difference is similar to the measurement uncertainty to recapture power uprates performed for operating plants, in which lower uncertainty values were postulated to justify the uprate.	No
<b>ACC-23</b>	7.3	Provide a knowledgeable expert to discuss why the large release frequencies (LRF) cutsets were not evaluated in addition to the CDF cutsets.	<b>Open.</b> The applicant provided several arguments to justify the evaluation of only top 50% contributing cutsets of LRF and CDF. Possible RAI following discussions with NRC reviewer of design certification ER (Ed Fuller).	Yes
<b>NEW Issue ACC-24 in AM info needs table, version 6.</b>		Justify evaluation of only cutsets contributing top 50% of CDF (similar to Calvert Cliffs RAI 178).	<b>Open.</b> see above	Yes
<b>NEW ACC-25</b>		Clarify commitment to perform SAMA analysis for areas not possible now (e.g., procedures and training) per ESRP. This commitment should be uniform for all COLAs and is being considered by the	<b>Open.</b>	Yes

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
		staff. Should follow whatever is being done for AP1000 COLAs.		
<b>NEW Issue 36 in AM tracker.</b>		Provide average early and latent cancer fatalities (similar to Calvert Cliffs RAI 169).	<u>Open.</u>	Yes
<b>New Issue 39 in AM tracker.</b>		Provide location in the ER for the 5.7 person-rem/yr value for normal operation, referenced in Section 7.2.	<u>Open.</u> This value was not found in the ER section 5.4. The applicant agreed to look for it.	Yes
<b>T-</b>		<b>Transportation</b>		
<b>T-1</b>	5.11.3.3	Provide detailed input and output data for all TRAGIS and RADTRAN analysis.	<u>Resolved.</u> Reviewed data that will be docketed.	No
<b>T-2</b>	4.7	Provide a knowledgeable expert who can discuss the following topics: <ul style="list-style-type: none"> <li>• The major types and quantities of construction materials required to construct the proposed 1600 MWe reactor and the impacts related to transporting these construction materials.</li> <li>• The estimated current average distance traveled to work by Bell Bend employees or an estimate, with a supporting line of reasoning, of the average distance to work that might be traveled by Bell Bend construction and/or operations</li> </ul>	<u>Open.</u> Reviewed KLD Transportation Study that will be docketed. Verified data sources. Follow up calculation and assumption for construction worker distance and conversion of material units to be provided.	Yes

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
		personnel and the impacts related to transporting these personnel to the site.		
<b>T-3</b>	5.11	Please provide a knowledgeable expert that can make available and discuss the following information: <ul style="list-style-type: none"> <li>• Compliance of irradiated fuel and other waste shipments with 10 CFR 51.52 Table S-4 with respect to shipment weight limits (73,000 lbs per truck).</li> </ul>	<b>Resolved.</b> References provided. Will follow up with formal response.	No
<b>T-4</b>	7.4.2	Provide a knowledgeable expert to discuss how the non-radiological transportation impacts compare with Table S-4 in 10 CFR 51.52 (\$475 in property damage per year).	<b>Open.</b> Dollar value has not been updated in any new document.	Yes
<b>ALT/NFP</b>		<b>Alternatives/Need for Power</b>		
<b>ALT/NFP-1</b>	9.2.1	Provide a knowledgeable expert to discuss the facilities in the relevant service area scheduled for retirement during the period extending from the date of application through the sixth year of commercial operation of the proposed project.	<b>Resolved.</b> PJM data to 2012 provided at <a href="http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx">http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx</a>	No
<b>ALT/NFP-2</b>	9.2.1	Provide a knowledgeable expert to discuss the potential for energy	<b>Resolved.</b> ER 9.2.1.1.1 adequate	No

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<b>ID#</b>	<b>ER Section</b>	<b>ER Section and Issue</b>	<b>Post-Audit Status</b>	<b>RAI to be Requested</b>
		conservation efforts in the relevant service area.		
<b>ALT/NFP-3</b>	9.2.2	Provide a knowledgeable expert to discuss rate of consumption estimates for non-renewable fuels.	<b><u>Resolved.</u></b> ER 9.2.2 adequate	No
<b>ALT/NFP-4</b>	9.2.2	Provide a knowledgeable expert to discuss the impact of the Regional Greenhouse Gas Initiative on the alternatives.	<b><u>Resolved.</u></b> ER 9.1 adequate	No
<b>ALT/NFP-5</b>	9.2.2, USACE	Provide a knowledgeable expert to discuss the estimates of land needed for solar power, wind power, and coal power to generate 1600 MWe of electricity.	<b><u>Resolved.</u></b> ER 9.2.2.1, 9.2.4, and 9.2.2.10 adequate	No
<b>ALT/NFP-6</b>	9.3	Provide a knowledgeable expert to discuss details of the transmission network and interconnections with other utilities for the three candidate sites.	<b><u>Resolved.</u></b> ER 9.2.1, 9.3.1.1 adequate	No
<b>ALT/NFP-7</b>	8.1	Please make available maps that delineate the differences between the relevant service area and PJM territories, overlaid with the BBNPP site and alternative sites, to clarify the areas referenced in the section.	<b><u>Resolved.</u></b> ER 8.0 and fig 8.0-1 adequate	No
<b>ALT/NFP-8</b>	8.1	Please make available data on the number of customers by type within the relevant service area.	<b><u>Resolved.</u></b> ER 8.1 adequate	No
<b>ALT/NFP-9</b>	8.2.1	Provide a knowledgeable expert to discuss base-load forecasts for the	<b><u>Resolved.</u></b> ER 8.3 adequate, provided copy of PJM reserve margin forecast subregion data	No

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<b>ID#</b>	<b>ER Section</b>	<b>ER Section and Issue</b>	<b>Post-Audit Status</b>	<b>RAI to be Requested</b>
		relevant service area.	on <a href="http://www.pjm.com/planning/resource-adequacy-planning/reserve-requirement-dev-process.aspx">http://www.pjm.com/planning/resource-adequacy-planning/reserve-requirement-dev-process.aspx</a>	
<b>ALT/NRP-10</b>	8.2.1	Please make available any other forecasts of electricity consumption and peak load demand.	<b><u>Resolved.</u></b> ER tables 8.2-2 and -3 adequate	No
<b>ALT/NFP-11</b>	8.2.1	Provide a knowledgeable expert to discuss historical and projected yearly electricity consumption and load factors for the relevant service area.	<b><u>Resolved.</u></b> ER 8.2-2 adequate	No
<b>ALT/NFP-12</b>	8.2.1	Please make available firm sales agreements and forecasts.	<b><u>Resolved.</u></b> None exist.	No
<b>ALT/NFP-13</b>	8.2.2	Please make available forecasts of electricity prices for the region.	<b><u>Resolved.</u></b> ER 8.2.2 adequate	No
<b>ALT/NFP-14</b>	8.2.2	Provide a knowledgeable expert to discuss the methodology used to develop the forecasts in the PJM study.	<b><u>Resolved.</u></b> ER 8.2.1 adequate	No
<b>ALT/NFP-15</b>	8.3	Provide a knowledgeable expert to discuss the projected contribution of the proposed plant to total electrical consumption or peak load, and whether the data are for the relevant service area or the total PJM service area.	<b><u>Resolved.</u></b> ER 8.4.3 adequate	No
<b>ALT/NFP-16</b>	8.3	Provide a knowledgeable expert to discuss the methodology used to forecast the supply mix.	<b><u>Resolved.</u></b> ER 8.3 adequate	No
<b>ALT/NFP-</b>	8.3	Provide a knowledgeable expert to	<b><u>Resolved.</u></b> PJM Data on	No

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17		discuss existing power facilities that serve the relevant service area whose retirement has been announced or is anticipated beyond 2007.	<a href="http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx">http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx</a>	
ALT/NFP-18	8.3	Provide a knowledgeable expert to discuss the anticipated dates for electricity generation for any firmly committed new facilities and proposed new facilities.	<b>Resolved.</b> ER 8.3-5 adequate	No
ALT/NFP-19	8.3	Provide a knowledgeable expert to discuss contract length of planned power purchases and sales.	<b>Resolved.</b> None for Bell Bend as not a merchant plant until 2017	No
ALT/NFP-20	8.3	Provide a knowledgeable expert to discuss policies and trends in distributed generation in the region of interest.	<b>Resolved.</b> ER 8.2.2 adequate	No
ALT/NFP-21	8.3	Please make available estimates of forecasted electricity supply in the relevant service area, along with the source of the supply.	<b>Resolved.</b> ER table 8.3-6 adequate	No
ALT/NFP-22	8.4	Provide a knowledgeable expert to discuss the methodology and assumptions behind the projected base-load demand.	<b>Resolved.</b> ER 8.4.1 adequate	No
ALT/NFP-23	9.3	Provide a knowledgeable expert to discuss the availability of services at the alternative sites.	<b>Open.</b> The applicant will provide an additional response in writing to NRC staff. References cited needed.	Yes
ALT/NFP-A	From Alt site visit	Obtain and review the site screening methodology, in particular revisit the	<b>Open.</b> The applicant will provide screening report to NRC staff for review. Probable RAI.	Yes

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ID#	ER Section	ER Section and Issue	Post-Audit Status	RAI to be Requested
		scoring of the Martins Creek site for wetlands, floodplains, and size beyond the minimums		
<b>Alt/NFP - B</b>	From Alt site visit	Revisit Bell Bend site water availability and low flow augmentation alternatives with Susquehanna River Basin Commission (SRBC) and applicant. Potential for connected action at location of low flow augmentation storage (e.g. new reservoirs, mine waste water, purchase)	<u>Open.</u> Applicant indicated intent to file permit application to SRBC. Probable RAI.	Yes
<b>ALT/NFP - C</b>	From Alt site visit	Review status of Walker Branch with respect to State Trout Stream status with applicant, State, ACOE	<u>Open.</u> State to perform surveys and make trout stream determination in June 2009. Probable RAI.	Yes

## Enclosure 4 Information Need Public Documents

### Data Gathering

PPL provided written documentation on the information needs for staff to review during the Site Audit. PPL also provided a CD with electronic copies of ER references. A list of these documents is presented below.

ID#	Document	Public or Need to be Docketed?
<b>General</b>		
<b>G-1</b>	CDs of figures (color and black and white versions) in the Environmental Report	Public
<b>G-3</b>	CD of publically available references listed in the Environmental Report	Public
<b>Land Use</b>		
<b>L- 15</b>	PJM Manual <a href="http://www.pjm.com/planning/design-engineering/~//media/planning/design-engineering/maac-standards/20020520-va-general-criteria.ashx">http://www.pjm.com/planning/design-engineering/~//media/planning/design-engineering/maac-standards/20020520-va-general-criteria.ashx</a>	Public
<b>Hydrology</b>		
<b>H-11</b>	Ecology III report: "Environmental Studies in the Vicinity of the SSES, 2006 Water Quality and Fishes"	Public
<b>H-24</b>	PA Dept of Enviro Protection, Marcellus Shale fact sheet: <a href="http://www.dep.state.pa.us/dep/deputate/minres/oilgas/new_forms/marcellus/0100-FS-DEP4217%20Marcellus%20Shale1.doc">http://www.dep.state.pa.us/dep/deputate/minres/oilgas/new_forms/marcellus/0100-FS-DEP4217%20Marcellus%20Shale1.doc</a>  PA Geological Survey: <a href="http://www.dcnr.state.pa.us/topogeo/oilandgas/marcellus_shale.aspx">www.dcnr.state.pa.us/topogeo/oilandgas/marcellus_shale.aspx</a>  SRBC: "Accommodating a New Straw in the Water: Extracting Natural Gas from the Marcellus Shale in the Susquehanna River Basin" <a href="http://www.pbi.org/Goodies/Extras/ELF/Marcellus_Shale.pdf">www.pbi.org/Goodies/Extras/ELF/Marcellus_Shale.pdf</a>	Public
<b>Terrestrial</b>		
<b>TE-1</b>	BBNPP COLA ER Field Survey of Terrestrial (ML082890761) Field Survey Report (ML082890760)	Public
<b>TE-10</b>	Pennsylvania Department of Environmental Protection, 1992. Design Criteria for Wetland Replacement. Pennsylvania Department of Environmental Protection, Harrisburg, Pennsylvania.	Public
<b>TE-11</b>	PPL Corporation, 2007. Specification for Initial Clearing and Control Maintenance of Vegetation on or Adjacent to Electric Line Right-of-Way Through Use of Herbicides, Mechanical, and Hand clearing Techniques. PPL Corporation, Allentown, Pennsylvania.	Public
<b>TE-15</b>	FERC, 2006, US Federal Energy Regulatory Commission, Order Issuing Certificate. Docket No CP06-34-000. Transcontinental Gas Pipe Line Corp. May 18, 2006  FERC 2008, Docket No EL08-23-000. Sus-Roseland Transmission Project. April 22, 2008.	Public
<b>TE-16</b>	PPL 1978, SSES Units 1 & 2, ER Operating License Stage, May 1978, Vol.	Public

**Enclosure 4  
Information Need Public Documents**

	2. Ecology III 1995: 1994 annual report	
<b>Aquatic Ecology</b>		
<b>AE-5</b>	Cultural Resources report (GAI 2008) GAI, 2008. Technical Report, Phase 1A Cultural Resources Reconnaissance - Berwick, PA, NPP-1, Areas 6,7,8 and Confers Lane parcel, Luzerne County, PA, 2008	Public
<b>AE-6</b>	Ecology III report; (1995) Environmental Studies in the Vicinity of the SSES, 1994 Annual Report, Ecology III, Inc, June 1995	Public
<b>AE-8</b>	USFWS, 2008e. Letter from D. Densmore to R. Krich (UniStar Nuclear), Re: USFWS Project #2008-518, Federally Listed Endangered and Threatened Species for the Bell Bend Nuclear Power Plant Site PGC, 2008b. Letter from J.R. Leigey (Pennsylvania Game Commission) to R. Krich (Unistar), Re: PNDI Database Search, Berwick, PA NPP-1 Project, Salem Township, Luzerne County, PA, April 10, 2008 PDCNR, 2008a. Letter from R.H. Bowden (Pennsylvania Department of Conservation and Natural Resources) to G. Wrobel (UniStar), Re: Environmental Review of BBNPP Site, Berwick, Luzerne County, PA, March 24, 2008 PFBC, 2008b. Pennsylvania Fish and Boat Commission, Letter from C.A. Urban to R. Krich (UniStar Nuclear), Re: threatened and endangered reptiles and amphibians concerning the Bell Bend Nuclear Power Site. Letter dated April 14, 2008.	Public
<b>Cultural Resources</b>		
<b>CR-1</b>	Phase 1a June 2007, Phase 1a February 2008, Phase 1b September 2008, and Supplemental Phase 1b November 2008. Submitted under Part 111 of COLA.	Public
<b>Nonradiological Human Health</b>		
<b>NRHH-8</b>	PaDEP Designation Recommendations for the 2008 Eight-hour Ozone National Ambient Air Quality Standard, March 2009 <a href="http://www.depweb.state.pa.us">http://www.depweb.state.pa.us</a>	Public
<b>Radiological Human Health</b>		
<b>RHH-2</b>	SSES Offsite Dose Calculation Manual 2007 Radiological Environmental Monitoring Program 2007 Annual Radiological Environmental Operating Report	Public
<b>Transportation</b>		
<b>T-2</b>	KLD Transportation Study (ML082890771)	Public
<b>Alternatives and Need for Power</b>		
<b>ALT/NFP-1</b>	PJM data to 2012 <a href="http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx">http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx</a>	Public
<b>ALT/NFP-9</b>	PJM reserve margin forecast sub-region data <a href="http://www.pjm.com/planning/resource-adequacy-planning/reserve-requirement-dev-process.aspx">http://www.pjm.com/planning/resource-adequacy-planning/reserve-requirement-dev-process.aspx</a>	Public
<b>ALT/NFP-17</b>	PJM Data <a href="http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx">http://www.pjm.com/planning/generation-retirements/gr-summaries.aspx</a>	Public