

**ATTACHMENT B AGENCY CORRESPONDENCE**

<u>Item</u>	<u>Description</u>	<u>Page</u>
<u>Federal Threatened or Endangered Species</u>		
B.1	Letter, L. William Pearce (FENOC) to David Densmore (FWS). September 8, 2003.	B-5
B.2	Response Letter, David Densmore (FWS) to L. William Pearce (FENOC). October 2, 2003.	B-25
<u>State Threatened or Endangered Species</u>		
B.3	Letter, L. William Pearce (FENOC) to Frederick G. Carlson (PDCNR). September 8, 2003.	B-29
B.4.	Response Letter, Justin P. Newell (PNDI/PDCNR) to L. William Pearce (FENOC). October 3, 2003.	B-45
B.5.	Letter, L. William Pearce (FENOC) to James R. Leigey (PGC). September 8, 2003.	B-47
B.6	Response Letter, James R. Leigey (PGC) to Mark S. Ackerman (FENOC). October 9, 2003.	B-62
B.7	Letter, L. William Pearce (FENOC) to John A. Arway (PFBC). September 8, 2003.	B-63
B.8	Response Letter, Christopher A. Urban (PFBC) to Mark Ackerman (FENOC). October 29, 2003.	B-92
B.9	Response Letter, L. William Pearce (FENOC) to Christopher A. Urban (PFBC). February 3, 2004.	B-93
<u>Public Health</u>		
B.10	Letter, L. William Pearce (FENOC) to Charles Duritsa (PDEP). September 8, 2003.	B-97
B.11	Response Letter, Charles A. Duritsa (PDEP) to L. William Pearce (FENOC). October 16, 2003.	B-104
<u>Historic and Archaeological Resources</u>		
B.12	Letter, L. William Pearce (FENOC) to Jean Cutler (PBHP). September 8, 2003.	B-105
B.13	Response Letter, Kurt W. Carr (PBHP) to L. William Pearce (FENOC). November 19, 2003.	B-113
B.14	Response Letter, L. William Pearce (FENOC) to Kurt W. Carr (PBHP). February 3, 2004.	B-116
B.15	Response Letter, Kurt W. Carr (PBHP) to L. William Pearce (FENOC). March 12, 2004	B-129

---

FENOC = FirstEnergy Nuclear Operating Company  
FWS = U.S. Fish and Wildlife Service  
PDCNR = Pennsylvania Department of Conservation and Natural Resources  
PDEP = Pennsylvania Department of Environmental Protection  
PFBC = Pennsylvania Fish and Boat Commission  
PGC = Pennsylvania Game Commission  
PBHP = Pennsylvania Bureau for Historic Preservation  
PNDI = Pennsylvania Natural Diversity Inventory

In December 2006, FENOC sent a letter to local, state and federal regulatory agencies and planning commissions asking for input into the license renewal environmental report review process, and specifically to identify to FENOC any concerns of the agency regarding license renewal or any information that could potentially be new and significant. FENOC contacted the following agencies. Correspondence between FENOC and responding agencies is included in Attachment B.

Federal

- U. S. Army Corps of Engineers
- U. S. Environmental Protection Agency, Region 3
- U. S. Fish and Wildlife Service

Pennsylvania

- Bureau of Epidemiology
- Bureau of Radiation Protection
- Department of Conservation and Natural Resources
- Department of Environmental Protection

B.16	Letter, James H. Lash (FENOC) to Kathleen McGinty (PDEP). December 4, 2006.	B-130
B.17	Response Letter, Kathleen McGinty (PDEP) to James H. Lash (FENOC). December 15, 2006.	B-135
B.18	Letter, James H. Lash (FENOC) to Ronald Schwartz (PDEP). December 4, 2006.	B-137
B.19	Response Letter, Ronald Schwartz (PDEP) to Clifford I. Custer (FENOC). December 29, 2006	B-142
B.20	Response Letter, Clifford I. Custer (FENOC) to Ronald Schwartz (PDEP). January 24, 2007	B-147
	<ul style="list-style-type: none"><li>• Department of Transportation</li><li>• Division of Nuclear Safety</li><li>• Emergency Management Agency</li><li>• Fish and Boat Commission</li></ul>	
B.21	Letter, James H. Lash (FENOC) to Douglas J. Austen (PF&BC). December 4, 2006.	B-148
B.22	Response Letter, Christopher A. Urban (PF&BC) to Julie Firestone (FENOC). March 2, 2007.	B-153
	<ul style="list-style-type: none"><li>• Game Commission</li></ul>	
B.23	Letter, James H. Lash (FENOC) to James R. Leigey (PGC). December 4, 2006.	B-154
B.24	Response Letter, James R. Leigey (PGC) to Clifford I. Custer (FENOC). January 8, 2007.	B-159

- Beaver County Emergency Management Agency
- Beaver County Chamber of Commerce
- Beaver County Conservation District
- Beaver County Corporation for Economic Development
- Pittsburgh City Planning

West Virginia

- Department of Environmental Protection
- Division of Culture and History

B.25	Letter, James H. Lash (FENOC) to Caroline Kender (WVDCH). December 4, 2006.	B-160
B.26	Response Letter, Susan M. Pierce (WVDCH) to Clifford I. Custer (FENOC). January 9, 200[6].	B-165
B.27	Response Letter, Clifford I. Custer (FENOC) to Susan M. Pierce (WVDCH). February 20, 2007.	B-167
B.28	Response Letter, Susan M. Pierce (WVDCH) to Clifford I. Custer (FENOC). March 14, 200[6].	B-169

- Division of Natural Resources
- Division of Water Resources
- Office of Homeland Security and Emergency Services
- Radiological Health Program
- State Historic Preservation Office

- Brook County
- Hancock County Office of Emergency Management

Ohio

- Bureau of Radiation Protection
- Department of Health, Radiological Emergency Response
- Department of Natural Resources

B.29	Letter, James H. Lash (FENOC) to Samuel W. Speek (ODNR). December 4, 2006.	B-170
B.30	Response Letter, Mindy Bankey (ODNR) Clifford I. Custer (FENOC). December 29, 2006.	B-175

- Emergency Management Agency
- Historic Preservation Office

- Brook-Hancock-Jefferson Metropolitan Planning Commission
- Lazarus Government Center

- Ohio Environmental Protection Agency
- River Valley Sanitation Commission
- Columbiana County Emergency Management Agency
- East Liverpool Area Chamber of Commerce
- Salem Area Chamber of Commerce

Kentucky

- Ohio River Basin Commission



**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

*L. William Pearce*  
Site Vice President

724-682-5234  
Fax: 724-643-8069

September 8, 2003  
L-03-087

Mr. David Densmore  
Supervisor  
U.S. Fish and Wildlife Service  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, PA 16801-4850

Subject: Beaver Valley Power Station License Renewal Project  
Request for Information and Concurrence - Threatened & Endangered Species

Reference: Letter CNS-02-050, Julea B. Hovey, Constellation Nuclear Services, to  
Dr. Mamie Parker, U.S. Fish and Wildlife Service, June 28, 2002

Dear Mr. Densmore:

FirstEnergy Nuclear Operating Company (FENOC) is preparing an environmental report as part of our operating license renewal application (LRA) to the U.S. Nuclear Regulatory Commission (NRC) for the Beaver Valley Power Station (BVPS) Units 1 and 2. BVPS Units 1 and 2 have been in operation since 1976 and 1987, respectively. Successful renewal would provide the opportunity to operate the units for up to 20 years beyond the expiration of their current licenses in 2016 and 2027, respectively.

In correspondence to the U.S. Fish and Wildlife Service (FWS) referenced above, FENOC's LRA consultant indicated that the LRA environmental review would include an assessment of potential impacts of BVPS license renewal on threatened, endangered, and candidate species. Since that time, FENOC has completed a preliminary draft of an assessment of potential impacts on species within FWS jurisdiction, which will be finalized and included in the LRA environmental report. Accordingly, FENOC is now requesting FWS assistance in finalizing our assessment to provide additional assurance that it is accurate and complete. By contacting you at this time, FENOC believes that the effectiveness of forthcoming NRC interactions with your office, described in the following paragraph, will be enhanced.

The NRC, at 10 CFR 51.53(c)(3)(ii)(E), requires that license renewal applicants "... assess the impact of the proposed action {license renewal} on threatened and endangered species in accordance with the Endangered Species Act." The NRC staff routinely interacts with other affected agencies in conducting their environmental review, which leads to preparation of a supplemental environmental impact statement (SEIS) for this licensing action. It is expected that the FWS will be contacted regarding potential impact on species within its jurisdiction as part of this activity. The following paragraphs describe relevant aspects of the BVPS environmental setting considered in the LRA and a synopsis of FENOC's assessment of potential impacts of BVPS license renewal on species of interest.

**Beaver Valley Power Station Units 1 & 2**  
**License Renewal Application**  
**Appendix E - Environmental Report**

---

L-03-086  
Page 2

The BVPS site consists of approximately 450 acres on the south side of the Ohio River (New Cumberland Pool) at Shippingport, Beaver County, Pennsylvania (see Attachment 1, Figure 1). The intensively developed or maintained portion of the site, approximately 220 acres, is located on a gravel terrace adjacent to the river; the remainder of the site consists mostly of forested slopes. BVPS employs a closed-cycle cooling system (cooling towers), and withdraws cooling water, primarily makeup water for this system, from the Ohio River at the Intake Structure. Cooling water, primarily cooling tower blowdown, is discharged to the Ohio River at the Discharge Structure and Emergency Overflow Structure and Impact Basin, along with small volumes of treated wastewater, in accordance with provisions of NPDES Permit PA0025615.


Short segments of three transmission lines on and adjacent to the BVPS site and one transmission line extending 15.8 miles southeast from BVPS (Duquesne Light Company's Beaver Valley-Crescent Line 318) are also being addressed in the BVPS LRA environmental report (see Attachment 1, Figures 2 and 3). The latter transmission line corridor traverses primarily through forest and farmland. Based on review of National Wetland Inventory maps, wetlands on or adjacent to this corridor are limited to a small (2-acre) palustrine forested area at the span of Service Creek and possibly one or more very small strips of riparian emergent vegetation at the span of Raccoon Creek (Attachment 1, Figure 3). The transmission line segments being considered in the LRA environmental report have been in service since the mid-1980s.

Based on our preliminary draft assessment, summarized in Attachment 2, FENOC believes that extended operation and maintenance of BVPS and the transmission corridors considered in the LRA would have no significant impact on federally threatened, endangered, or candidate species. FENOC has not identified any land disturbing activities that would be undertaken for license renewal, and both FENOC and Duquesne Light would continue to be subject to applicable regulatory controls for the period of extended operation. Neither FENOC nor Duquesne Light is aware of any adverse impact to any federally threatened, endangered, or candidate species from past or current operation of BVPS or these transmission lines.

FENOC respectfully requests that the FWS (1) formally notify us of any concerns or additional relevant information regarding threatened, endangered, and candidate species pertinent to our preliminary draft assessment and (2), as appropriate, concur with the assessment. FENOC will evaluate any information you provide for inclusion in the assessment, and will include your response to this request in the final LRA environmental report submitted to the NRC. FENOC would appreciate receiving your response within 60 days of receipt to provide ample time to evaluate and incorporate your response into our LRA environmental report for submittal to the NRC.

Thank you for your assistance as we complete this important environmental assessment. Please address any comments or questions you may have to Mr. Mark Ackerman, License Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,

  
L. William Pearce  
Site Vice President

Attachments: Project Maps (Attachment 1)  
Preliminary Assessment (Attachment 2)

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

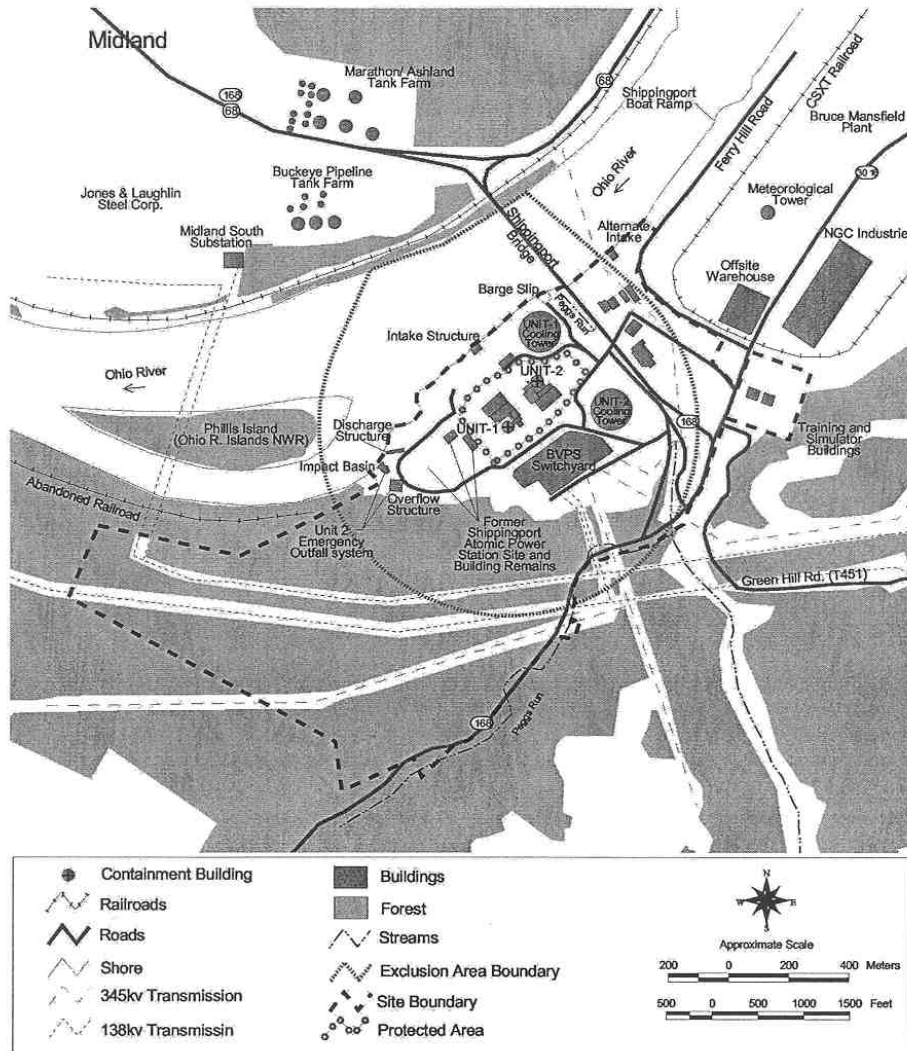
---

L-03-087  
Page 3

bc: G. DeCamp (CNS)  
T. Greci (CNS)  
M. S. Ackerman (3 copies)  
Central File

**ATTACHMENT 1  
PROJECT MAPS**

FIGURE 1  
 BEAVER VALLEY POWER STATION SITE MAP





**FIGURE 2**  
**345 kV RECONFIGURATIONS**  
**FOR BEAVER VALLEY POWER STATION UNIT 2**

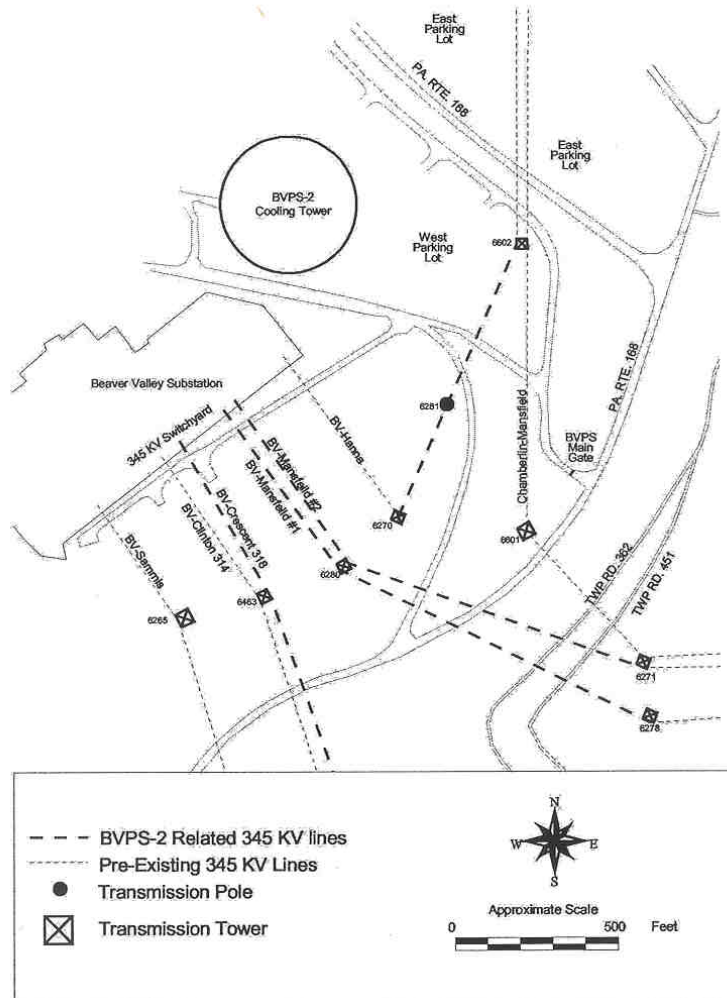
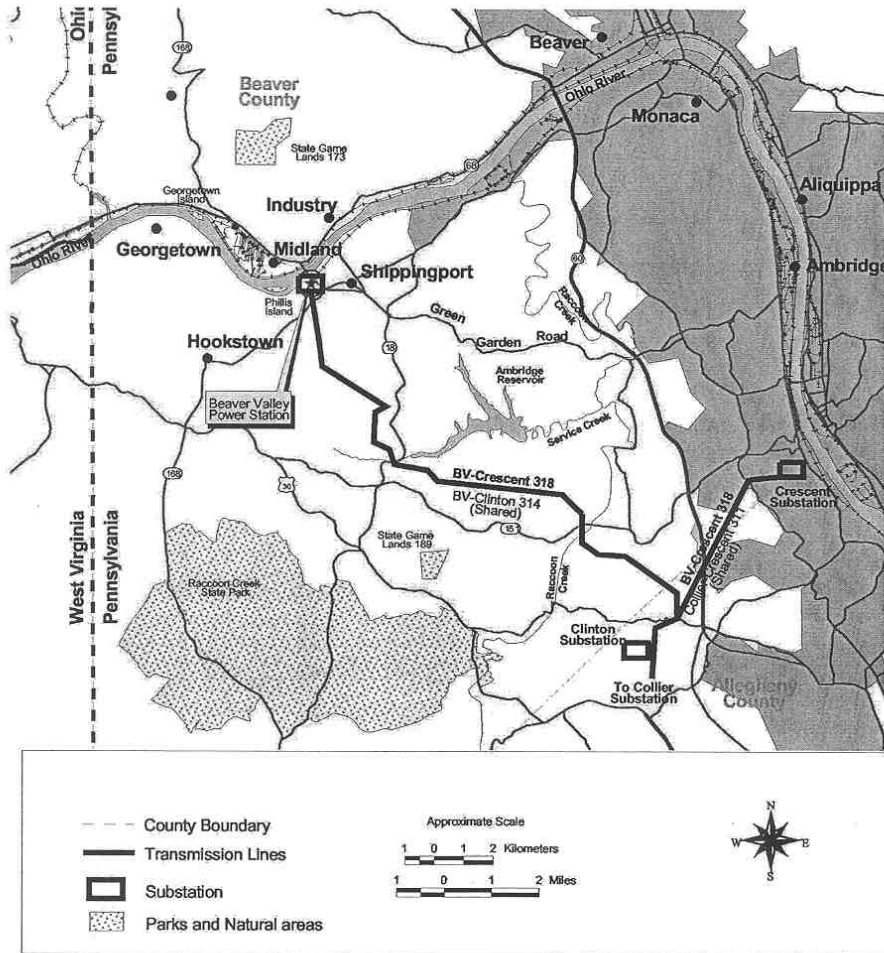


FIGURE 3  
 BEAVER VALLEY-CRESCENT LINE 318 CORRIDOR



**ATTACHMENT 2**

**PRELIMINARY ASSESSMENT**

**FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL**



**TABLE 1**  
**FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>**

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence
			Aquatic Invertebrates
Northern riffleshell <i>Epioblasma torulosa rangiana</i>	E	E	Large and small streams, preferring runs with bottoms of firmly packed sand and fine to coarse gravel; recent occurrence in PA limited to upper Allegheny River watershed (Ref. 1; Ref. 2). No recent documented occurrences in Ohio River downstream as far as Meldahl Pool (Ref. 3). No PNDI record of observation in lower Allegheny River/Upper Ohio River in PA since 1919 or earlier (Ref. 4, Appendix J). Not reported by PNDI or PFBC as occurring in the Ohio River or other water bodies in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 (Ref. 5, Ref. 6, Ref. 7, Ref. 8).
Clubshell <i>Pleuroberma clava</i>	E	E	Small rivers and streams in clean-sweep sand and gravel; has been found buried 2-4 inches in clean, loose sand. Recent occurrence in Ohio River drainage in PA limited to upper Allegheny River watershed. (Ref. 9). No recent documented occurrences in Ohio River downstream as far as Meldahl Pool (Ref. 3). No PNDI record of observation in lower Allegheny River/Upper Ohio River in PA since 1919 or earlier (Ref. 4, Appendix J). Not reported by PNDI or PFBC as occurring in the Ohio River or other water bodies in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 (Ref. 5, Ref. 6, Ref. 7, Ref. 8).
<b>Plants</b>			
Small whorled pogonia <i>Isotria medeoloides</i>	T	E	Nearly all populations occur in second growth or relatively mature forests. PA populations most abundant on dry east- or southeast-facing hillsides in mixed oak forest on rocky, somewhat acidic soils. Only 2 occurrences in PA verified since 1980. Known historical occurrence in southwestern PA only in Greene Co. (Ref. 10). Specifically reported as not observed during ecological surveys of the BVPS site in 1974-1975 (Ref. 11). Not identified by PNDI as potentially occurring in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 5, Ref. 7; Ref. 12).

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species

Att. 2-1

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence
<b>Reptiles</b>			
Eastern massasauga <i>Sistrurus catenatus</i>	C	E	Relatively open old field and wet meadow habitat with low-lying areas of saturated soil and higher, drier ground nearby, which is found in PA only in relic prairie terrain in western counties. No historical occurrences in Beaver County; historical occurrence in northeastern Allegheny Co., but not since 1980 (Ref. 13). However, both Counties are south of its range as indicated by Conant (Ref. 14). This species was not collected or observed in ecological surveys of the BVPS site in 1974-75 (Ref. 11, Table 2.2-16) or site reconnaissance conducted in 2002 (Ref. 15), and little or no wetland habitat suitable for this species exists in the BVPS site vicinity or along the Beaver Valley-Crescent Line 318 corridor. This species was not identified by PNDI or PFBC as potentially occurring in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 5; Ref. 6, Ref. 7, Ref. 8).
<b>Birds</b>			
Bald Eagle <i>Haliaeetus leucocephalus</i>	T	E	Thrives around bodies of water where adequate food exists and human intrusions and disturbance is limited. PA populations are recovering from effects of the pesticide DDT, the primary reason for the population decline. From 1997 to 1999, the PA nesting population more than doubled to 43 pairs; however, no nesting has been reported in Beaver or Allegheny Counties as of 1999 (Ref. 16). Individuals are occasionally observed along the Ohio River at BVPS. Not identified by PNDI as a potential conflict for the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 5; Ref. 7). PA Game Commission (Ref. 17) review indicates that, except for occasional transient individuals, the BVPS site is not located in an area that is habitat for an endangered or threatened species of bird recognized by the PA Game Commission.
<b>Mammals</b>			
Indiana bat <i>Myotis sodalis</i>	E	E	Hibernates in winter in communal caves, usually with standing or flowing water, of which nine are known in PA (none in Beaver and Allegheny Counties). Known summer habitat includes maternal colonies behind flaking bark on dead or dying trees along stream or river corridors, and upland forests. Primary threat is disturbance to hibernating populations and hibernation sites (Ref. 18). Not identified by PNDI as a potential conflict for the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 5; Ref. 7). PA Game Commission (Ref. 17) review indicates that, except for occasional transient individuals, the BVPS site is not located in an area that is habitat for an endangered or threatened species of mammal recognized by the PA Game Commission.

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species  
Att. 2-2

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence
<p>a. Tabulated species include federally designated threatened, endangered, and candidate species reported by the U.S. Fish and Wildlife Service (FWS) for Pennsylvania (Ref. 19, Ref. 20) with known historical ranges that include the upper Ohio River or southwestern Pennsylvania, except those considered to be extirpated in PA, e.g., by the Pennsylvania Biological Survey (Ref. 21).</p> <p>FWS = U.S. Fish and Wildlife Service            BVPS = Beaver Valley Power Station            PA = Pennsylvania            PFBC = Pennsylvania Fish and Boat Commission            PNDI = Pennsylvania Natural Diversity Inventory</p>			

Commission (Ref. 17) review indicates that, except for occasional transient individuals, the BVPS site is not located in an area that is habitat for an endangered or threatened species of mammal recognized by the PA Game Commission.

Att. 2-3

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species

TABLE 2  
SUMMARY IMPACT ASSESSMENT FOR  
FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Northern riffleshell <i>Epioblasma torulosa</i> <i>rangiana</i> FE, PE Clubsheel <i>Pleurobema clava</i> FE, PE	None to Low. Last documented occurrence in the upper Ohio River or lower Allegheny River in early 1900s. However, recent surveys have documented the presence in the New Cumberland Pool, including the Phillis Island backchannel, of other unionid mussel species not recorded there since the early 1900s, and indicate that some federally listed mussels may recolonize upper Ohio River pools in the future (Ref. 3).	(Applicable to all)  Maintenance dredging (e.g., barge slip).  Cooling water and wastewater discharges.	(Applicable to all) <ul style="list-style-type: none"> <li>• Maintenance dredging is regulated by USACE and PADEP permits.</li> <li>• Cooling water and wastewater discharges are regulated by NPDES permit, which includes discharge limits and monitoring requirements.</li> <li>• Controls are established for prevention, preparedness, and response to unplanned spills and releases (e.g., <i>BVPS Preparedness, Prevention, and Contingency Plan</i>)</li> <li>• Closed-cycle cooling and tendency of plume to remain at surface, and low probability of simultaneous shutdown of both BVPS units reduces potential for adverse thermal impacts.</li> <li>• Unionid mussel population increase or recolonization at Phillis Island, downstream from BVPS outfall, apparently has occurred since BVPS initiated operation.</li> <li>• Benthic macroinvertebrate monitoring at BVPS, conducted annually from 1973 through present, indicates that BVPS is not adversely affecting the benthic macroinvertebrate community. The NRC concurred and deleted the requirement for benthic macroinvertebrate monitoring in 1980 with Amendment 25 to the BVPS-1 Technical Specifications.</li> <li>• FENOC has not identified any significant land disturbing activities that would be undertaken for license renewal either on or in the vicinity of the BVPS site or along the Beaver Valley-Crescent Line 318 corridor,</li> </ul>
The following species listed by FWS for PA are considered to be extirpated by the PA Biological Survey:  Pink mucket <i>Lampsilis abrupta</i> FE Rough pigtoe <i>Pleurobema plenum</i> FE Orangefoot pimpleback <i>Plethobasus cooperianus</i> FE		Unplanned petroleum or hazardous materials spills/releases.	

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species

Att. 2-4

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
			conducted at FENOC's request have not identified these or other federally listed or candidate invertebrate species as potential conflicts with BVPS or transmission line operation.
Impact Conclusion: SMALL			
<b>Plants</b>			
Small whorled pogonia <i>Isotria medeoloides</i> FT, PE	None to Low on BVPS site. Low on or near Beaver Valley – Crescent Line 318 corridor. Specifically reported as not observed during ecological surveys of the BVPS site in 1974-1975 (Ref. 11).  Not reported in PNDI searches for either BVPS site (Ref. 5) or transmission corridor (Ref. 7, Ref. 12)  None currently known from southwestern Pennsylvania.	Vegetation maintenance on BVPS site and transmission line corridor.	<ul style="list-style-type: none"> <li>• FENOC and Duquesne Light maintenance practices on transmission corridors are limited to selective pruning or removal of trees that could interfere with the line and selective pruning or herbicide use to control incompatible vegetation. EPA-approved herbicides are selectively applied in accordance with manufacturer's label requirements by state-licensed applicators.</li> <li>• Similar vegetation practices to those employed on transmission line corridors are used on BVPS site to maintain cleared areas as needed for site security.</li> <li>• FENOC has not identified any land disturbing activities that would be undertaken for license renewal.</li> <li>• Both FENOC and Duquesne Light would continue to be subject to applicable regulatory controls for the period of extended operation.</li> <li>• Neither FENOC nor Duquesne Light is aware of any adverse impact to any threatened, endangered, or candidate plant species from past or current operation of BVPS or transmission lines being considered in the license renewal environmental review.</li> <li>• Forested areas within the Beaver Valley Crescent Line 318 corridor exist only at the bottom of some spanned ravines and valleys and along the corridor edge in some segments, reducing potential for disturbance of potentially compatible habitat.</li> <li>• Results of PNDI searches (Ref. 5, Ref. 7, Ref. 12)</li> </ul>

Att. 2-5

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species



Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
			conducted at FENOC's request have not identified these or other federally listed or candidate plant species as potential conflicts with BVPS or transmission line operation.
			Impact Conclusion: SMALL

**Reptiles**

Eastern massasauga <i>Sistrurus catenatus</i> FC, PE	None to Low. No recent confirmed occurrence in Beaver or Allegheny Counties.	No significant initiators.	<ul style="list-style-type: none"> <li>• Results of PNDI searches (Ref. 5, Ref. 6, Ref. 7, Ref. 8) conducted at FENOC's request have not identified this or other federally listed or candidate species as potential conflicts with BVPS or transmission line operation.</li> </ul>
	Little or no suitable wetland habitat on or near BVPS site or Beaver Valley-Crescent Line 318 transmission corridor.		Impact Conclusion: SMALL
	Not collected or observed in 1974-75 ecological surveys of BVPS site (Ref. 11, Table 2.2-16) or 2002 site reconnaissance (Ref. 15)		

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species  
Att. 2-6

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Bald Eagle <i>Haliaeetus leucocephalus</i> FT, PE	High for transient or foraging individuals. Occasional individuals are observed along the Ohio River at the BVPS site. None to Low for future nesting on or near BVPS site considering industrial development and human activity. Low to Moderate for future nesting along Beaver Valley-Crescent Line 318 transmission corridor considering undeveloped areas near Ambridge Reservoir.	Collision with cooling towers or transmission lines.	<ul style="list-style-type: none"> <li>• Surveys of bird collisions at the BVPS-1 cooling tower in spring and fall from 1974 through 1978 found a total of only 27 dead birds (26 passerines and one rail) (Ref. 11, Page 5.1-21).</li> <li>• FirstEnergy and Duquesne Light are not aware of any reports of impact or electrocutions of this species associated with Beaver Valley-Crescent Line 318 or transmission line relocations addressed in the BVPS license renewal environmental review.</li> <li>• Results of PNDI searches (Ref. 5, Ref. 7) conducted at FENOC's request have not identified this or other federally listed or candidate bird species as potential conflicts with BVPS or transmission line operation.</li> <li>• PA Game Commission (Ref. 17) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened bird under their jurisdiction, nor are any long-term adverse impacts to associated critical or unique habitats anticipated from BVPS operation.</li> </ul> <p style="text-align: right;">Impact Conclusion: SMALL</p>

**Birds**

Att. 2-7

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Indiana bat <i>Myotis sodalis</i> FE, PE	<p>None for hibernating colonies.</p> <p>Low for maternal colonies on BVPS site. Not collected or observed in 1974-75 ecological surveys of BVPS site (Ref. 11, Table 2.2-16).</p> <p>Low for maternal colonies in trees bordering Beaver Valley-Crescent Line 318 transmission corridor.</p>	<p>Removal of maternal colony trees bordering transmission corridor.</p>	<p>• Corridor maintenance practices limit removal of mature trees to those that could interfere with transmission lines.</p> <p>• Streams along corridor are frequently in relatively deep narrow valleys that are spanned, reducing the necessity to clear riparian trees.</p> <p>• Results of PNDI searches (Ref. 5, Ref. 7) conducted at FENOC's request have not identified this or other federally listed or candidate mammal species as potential conflicts with BVPS or transmission line operation.</p> <p>• PA Game Commission (Ref. 17) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened mammal under their jurisdiction, nor are any long-term adverse impacts to critical or unique habitats anticipated from BVPS operation.</p> <p>Impact Conclusion: SMALL</p>

Mammals

BVPS LRA Preliminary Assessment  
Federal Threatened & Endangered Species

Att. 2-8



**TABLE 2**  
**SUMMARY IMPACT ASSESSMENT FOR**  
**THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**SUBJECT TO PENNSYLVANIA FISH AND BOAT COMMISSION JURISDICTION**  
**OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>**

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Northern riffleshell <i>Epiplatysma torulosa</i> <i>rangiana</i> FE, PE	(Applicable to all) None to Low. Last documented occurrence in the upper Ohio River or lower Allegheny River in early 1900s. However, recent surveys have documented the presence in the New Cumberland Pool, including the Phillis Island backchannel, of other unionid mussel species not recorded there since the early 1900s, and indicate that some mussels listed by PA or FWS may recolonize upper Ohio River pools in the future (Ref. 3).	(Applicable to all) Maintenance dredging (e.g., barge slip) Cooling water and wastewater discharges. Unplanned petroleum or hazardous materials spills/releases.	(Applicable to all) • Maintenance dredging is regulated by USACE and PADEP permits. • Cooling water and wastewater discharges are regulated by NPDES permit, which includes discharge limits and monitoring requirements. • Controls are established for prevention, preparedness, and response to unplanned spills and releases (e.g., <i>BVPS Preparedness, Prevention, and Contingency Plan</i> ) • Closed-cycle cooling, tendency of plume to remain at surface, and low probability of simultaneous shutdown of both BVPS units reduces potential for adverse thermal impacts. • Unionid mussel population increase or recolonization at Phillis Island, downstream from BVPS outfall, apparently has occurred since BVPS initiated operation.
Clubshell <i>Pleurobema clava</i> FE, PE	(Applicable to all) None to Low. Last documented occurrence in the upper Ohio River or lower Allegheny River in early 1900s. However, recent surveys have documented the presence in the New Cumberland Pool, including the Phillis Island backchannel, of other unionid mussel species not recorded there since the early 1900s, and indicate that some mussels listed by PA or FWS may recolonize upper Ohio River pools in the future (Ref. 3).	(Applicable to all) Maintenance dredging (e.g., barge slip) Cooling water and wastewater discharges. Unplanned petroleum or hazardous materials spills/releases.	(Applicable to all) • Maintenance dredging is regulated by USACE and PADEP permits. • Cooling water and wastewater discharges are regulated by NPDES permit, which includes discharge limits and monitoring requirements. • Controls are established for prevention, preparedness, and response to unplanned spills and releases (e.g., <i>BVPS Preparedness, Prevention, and Contingency Plan</i> ) • Closed-cycle cooling, tendency of plume to remain at surface, and low probability of simultaneous shutdown of both BVPS units reduces potential for adverse thermal impacts. • Unionid mussel population increase or recolonization at Phillis Island, downstream from BVPS outfall, apparently has occurred since BVPS initiated operation. • Benthic macroinvertebrate monitoring at BVPS, conducted annually from 1973 through present, indicates that BVPS is not adversely affecting the benthic macroinvertebrate community. The NRC concurred and deleted the requirement for benthic macroinvertebrate monitoring in 1980 with Amendment 25 to the BVPS-1 Technical Specifications. • FENOC has not identified any significant land disturbing activities that would be undertaken for license renewal either
Invertebrates			

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-9

**REFERENCES**

1. Pennsylvania Department of Conservation and Natural Resources. *Epioblasma torulosa rangiana*. <http://www.dcnr.state.pa.us/wrcf/rif.htm>. Accessed October 12, 2002.
2. U.S. Fish and Wildlife Service, Division of Endangered Species. *Species Accounts: Northern Riffleshell (*Epioblasma torulosa rangiana*)*. <http://endangered.fws.gov/i/f/saf1a.html>. Accessed October 13, 2002.
3. Ecological Specialists, Inc. *Final Report: Freshwater Mussels (*Bivalvia: Unionidae*) of the Upper Ohio River*. ESI Project #98-004. Prepared for: Mussel Mitigation Trust Fund Committee, Cincinnati, Ohio, and U.S. Fish and Wildlife Service, Cookeville, Tennessee. April 2000.
4. U.S. Army Corps of Engineers. *Draft Environmental Impact Statement on Commercial Sand and Gravel Dredging Operations in the Allegheny and Ohio Rivers, Pennsylvania*. Pittsburgh District. Pittsburgh, Pennsylvania, June 2002. <http://www.lrp.usace.army.mil/>. Accessed September 26, 2002.
5. Pennsylvania Natural Diversity Inventory. Results for PNDI Search N100081. May 31, 2002.
6. Pennsylvania Fish and Boat Commission. Letter SIR #9555 from John A. Arway, Pennsylvania Fish and Boat Commission, to Michael D. Banko III, FENOC. "Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species, PNDI Potential Conflict Number N100081, FirstEnergy Nuclear Operating Company, Beaver Valley Power Station Operating License, Shippingport Township, Beaver County, Pennsylvania". September 16, 2002.
7. Pennsylvania Natural Diversity Inventory. Results for PNDI Searches N105492, N105493, and N105494, conducted September 4, 2002; "Potential Conflict" Response Forms, September 24, 2002.
8. Pennsylvania Fish and Boat Commission. Letter SIR #11240 from John A. Arway, Pennsylvania Fish and Boat Commission, to Michael D. Banko III, FENOC, "Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species, FirstEnergy Nuclear Operating Company for Beaver Valley Power Station, Beaver County, Pennsylvania". February 26, 2003.

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

9. U.S. Fish and Wildlife Service, Division of Endangered Species. *Species Accounts: Clubshell (*Pleurobema clava*)*. <http://endangered.fws.gov/i/f/saf1b.html>. Accessed October 13, 2002.
10. Pennsylvania Department of Conservation and Natural Resources. *Small Whorled Pogonia *Isotria medeoloides* Raf.* <http://www.dcnr.state.pa.us/wrcf/spog.htm>. Accessed October 12, 2002.
11. Duquesne Light Company. *Beaver Valley Power Station Unit 2 Environmental Report – Operating License Stage*. Amendment 6. May 1984.
12. Pennsylvania Natural Diversity Inventory. Letter from Autumn E. Sabo, Pennsylvania Natural Diversity Inventory, to Greg DeCamp, Constellation Nuclear Services. "Bureau of Forestry, Pennsylvania Natural Diversity Inventory Search FirstEnergy Nuclear Operating Company Transmission Lines, Shippingport Borough, Beaver County, PA – PNDI #013501". March 18, 2003.
13. Pennsylvania Department of Conservation and Natural Resources. *Eastern Massasauga *Sistrurus catenatus catenatus**. <http://www.dcnr.state.pa.us/wrcf/emass.htm>. Accessed October 12, 2002.
14. Conant, Roger. *A Field Guide to Reptiles and Amphibians*. Houghton Mifflin. Boston, Massachusetts, 1958.
15. Beak Consultants Inc. *Plant Community Characterization Study for the Beaver Valley Power Station Site, Shippingport, Pennsylvania*. Lancaster, New York. October 2002.
16. Pennsylvania Game Commission. *Bald Eagle (*Haliaeetus leucocephalus*)*. [http://sites.state.pa.us/PA\\_Exec/PGC/eagle/profile.htm](http://sites.state.pa.us/PA_Exec/PGC/eagle/profile.htm). Accessed October 12, 2002.
17. Pennsylvania Game Commission. Letter from James R. Leigey, Pennsylvania Game Commission, to Mark S. Ackerman, FENOC. "Beaver Valley Power Station License Renewal Project, Shippingport, Beaver County, PA". July 25, 2002.
18. Pennsylvania Game Commission. *Indiana Bat (*Myotis sodalis*)*. [http://sites.state.pa.us/PA\\_Exec/PGC/bat/indiana/profile.htm](http://sites.state.pa.us/PA_Exec/PGC/bat/indiana/profile.htm). Accessed October 12, 2002.

19. U.S. Fish and Wildlife Service. *Threatened and Endangered Species System (TESS) Listings by State and Territory as of 10/12/2002 - Pennsylvania.*  
<http://ecos.fws.gov/servlet/TESSWebpageUsaLists?state=PA>.  
Accessed October 13, 2002.
20. U.S. Fish and Wildlife Service. *Threatened and Endangered Species System (TESS) Candidate Species as of 10/12/2002.*  
<http://ecos.fws.gov/servlet/TESSWebpageNonlisted?listings=0&type=C>.  
Accessed October 13, 2002.
21. Pennsylvania Biological Survey. *Inventory and Monitoring of Biological Resources in Pennsylvania; Proceedings of the First Conference of the Pennsylvania Biological Survey.* 1998.  
[http://www.dickinson.edu/prorg/pabs/pabs\\_main.htm](http://www.dickinson.edu/prorg/pabs/pabs_main.htm). Accessed October 13, 2002.



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850



October 2, 2003

L. William Pearce  
FirstEnergy Nuclear Operating Company  
Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

Dear Mr. Pearce:

This responds to your letter of September 8, 2003, requesting information about federally listed and proposed endangered and threatened species within the vicinity of the Beaver Valley Power Station located in Beaver County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to occur within the project impact area. Therefore, no biological assessment nor further consultation under the Endangered Species Act are required with the Fish and Wildlife Service. This determination is valid for two years from the date of this letter. If the proposed project has not been fully implemented prior to this, an additional review by this office will be necessary. Also, should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

This response relates only to endangered or threatened species under our jurisdiction based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

Requests for information regarding State-listed endangered or threatened species should be directed to the Pennsylvania Game Commission (birds and mammals), the Pennsylvania Fish and Boat Commission (fish, reptiles, amphibians and aquatic invertebrates), and the Pennsylvania Department of Conservation and Natural Resources (plants).



**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

Please contact Michael Schmaus of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,



David Densmore  
Supervisor

Enclosure

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

**FEDERALLY LISTED, PROPOSED AND CANDIDATE SPECIES  
(in Pennsylvania)**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u> <sup>1</sup>	<u>Distribution</u> (by County and/or Watershed)
<b><u>FISHES</u></b>			
Shortnose sturgeon <sup>2</sup>	<i>Acipenser brevirostrum</i>	E	Delaware River & other Atlantic coastal waters
<b><u>REPTILES</u></b>			
Bog turtle	<i>Clemmys muhlenbergii</i>	T	Current - Adams, Berks, Bucks, Chester, Cumberland, Delaware, Franklin, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill, York. Historic - Crawford, Mercer, Philadelphia Co.
Eastern massasauga rattlesnake	<i>Sistrurus catenatus catenatus</i>	C	Current - Butler, Crawford, Mercer and Venango Co. Historic - Allegheny and Lawrence Co.
<b><u>BIRDS</u></b>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	Suitable habitats across the state. Recent nesting in Butler, Cameron, Centre, Chester, Crawford, Dauphin, Erie, Forest, Huntingdon, Lancaster, Lebanon, Mercer, Northumberland, Pike, Tioga, Venango, Warren, Wayne and York Co. Wintering concentrations occur near ice-free sections of rivers, lakes and reservoirs, including the Delaware River.
Piping plover	<i>Charadrius melodus</i>	E	Migratory. No nesting in Pennsylvania since 1950s. Designated critical habitat on Presque Isle, Erie Co.
<b><u>MAMMALS</u></b>			
Indiana bat	<i>Myotis sodalis</i>	E	Winter hibernacula: Armstrong, Blair, Lawrence, Luzerne, Mifflin and Somerset Co.
<b><u>MOLLUSKS</u></b>			
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	E	Current - Delaware River (Wayne Co.). Historic - Delaware River watershed (Bucks, Carbon, Chester and Philadelphia Co.); Susquehanna River watershed (Lancaster Co.)
Clubshell mussel	<i>Pleurobema clava</i>	E	French Creek and Allegheny River watersheds (Clarion, Crawford, Erie, Forest, Mercer, Venango and Warren Co.); Shenango River (Ohio River watershed; Mercer and Crawford Co.)
Northern riffleshell	<i>Epioblasma torulosa rangiana</i>	E	French Creek and Allegheny River watersheds (Clarion, Crawford, Erie, Forest, Mercer, Venango and Warren Co.)
<b><u>PLANTS</u></b>			
Northeastern bulrush	<i>Scirpus ancistrochaetus</i>	E	Current - Adams, Bedford, Blair, Carbon, Centre, Clinton, Cumberland, Dauphin, Franklin, Huntingdon, Lackawanna, Lehigh, Lycoming, Mifflin, Monroe, Perry, Snyder and Union Co. Historic - Northampton Co.
Small-whorled pogonia	<i>Isotria medeoloides</i>	T	Current - Centre, Chester and Venango Co. Historic - Berks, Greene, Monroe, Montgomery and Philadelphia Co.

<sup>1</sup> E = Endangered, T = Threatened, PE = Proposed Endangered, PT = Proposed Threatened, C = Candidate Revised 2/27/03

<sup>2</sup> Shortnose sturgeon is under the jurisdiction of the National Marine Fisheries Service

U.S. FISH AND WILDLIFE SERVICE  
315 SOUTH ALLEN ST., SUITE 322, STATE COLLEGE, PA 16801

**FEDERALLY LISTED AND PROPOSED SPECIES  
THAT NO LONGER OCCUR IN PENNSYLVANIA**

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS**</u>	<u>FORMER DISTRIBUTION</u>
<b><u>MAMMALS</u></b>			
Canada lynx	<i>Lynx canadensis</i>	PT	north-central PA (Tioga Co.)
Delmarva Peninsula fox squirrel	<i>Sciurus niger cinereus</i>	E	mature forests of southeastern PA (Delaware and Chester Co.)
Eastern cougar	<i>Felis concolor cougar</i>	E	state-wide
Grey wolf	<i>Canis lupus</i>	E	state-wide
<b><u>MOLLUSKS</u></b>			
Fanshell*	<i>Cyprogenia stegaria</i>	E	Ohio River drainage
Orange pimpleback*	<i>Plethobasus striatus</i>	E	Ohio River drainage
Pink mucket pearly mussel*	<i>Lampsilis abrupta</i>	E	Ohio River drainage
Ring pink mussel*	<i>Obovaria retusa</i>	E	Ohio River drainage
Rough pigtoe*	<i>Pleurobema plenum</i>	E	Ohio River drainage
<b><u>INSECTS</u></b>			
American burying beetle	<i>Nicrophorus americanus</i>	E	state-wide
Karner blue butterfly	<i>Lycaeides melissa samuelis</i>	E	pine barrens, oak savannas (wild lupine habitat) (Wayne Co.)
Northeastern beach tiger beetle	<i>Cicindela dorsalis dorsalis</i>	T	along large rivers in southeastern PA
<b><u>PLANTS</u></b>			
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>	T	wet prairies, bogs (Crawford Co.)
Sensitive joint-vetch	<i>Aeschynomene virginica</i>	T	freshwater tidal marshes of Delaware river (Delaware and Philadelphia Co.)
Virginia spiraea*	<i>Spiraea virginiana</i>	T	along Youghiogheny River (Fayette Co.)
Smooth coneflower	<i>Echinacea laevigata</i>	E	serpentine barrens (Lancaster Co.)

Revised 10/19/00

\* It is possible that remnant populations of some of these species (indicated with an \*) may still occur in Pennsylvania, however, there have been no confirmed sightings of these species for over 70 years.

\*\* E = Endangered, T = Threatened, PT = Proposed Threatened

The following is a partial list of additional species that no longer occur in Pennsylvania: moose, bison, wolverine, passenger pigeon, Bachman's sparrow, greater prairie-chicken, olive-sided flycatcher, Bewick's wren, eastern tiger salamander, blue pike, butterfly mussel, Diana fritillary butterfly, precious underwing moth, deertoed mussel, marbled underwing moth, cobblestone tiger beetle, mountain clubmoss, crested yellow orchid, red milkweed, American barberry, small white lady's-slipper, etc.

U.S. FISH AND WILDLIFE SERVICE  
315 SOUTH ALLEN ST., SUITE 322, STATE COLLEGE, PA 16801



**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

**L. William Pearce**  
Site Vice President

724-682-5234  
Fax: 724-643-8069

September 8, 2003  
L-03-084

Mr. Frederick G. Carlson  
Director of Policy  
Pennsylvania Department of Conservation and Natural Resources  
P.O. Box 8767  
Harrisburg, PA 17105-8767

Subject: Beaver Valley Power Station License Renewal Project  
Request for Information and Concurrence  
Threatened & Endangered Plant Species Assessment

Reference: Letter CNS-02-050, Julea B. Hovey, Constellation Nuclear Services, to Richard G. Sprenkle,  
Pennsylvania Department of Conservation and Natural Resources, June 28, 2002

Dear Mr. Carlson:

FirstEnergy Nuclear Operating Company (FENOC) is preparing an environmental report as part of our operating license renewal application (LRA) to the U.S. Nuclear Regulatory Commission (NRC) for the Beaver Valley Power Station (BVPS) Units 1 and 2. BVPS Units 1 and 2 have been in operation since 1976 and 1987, respectively. Successful renewal would provide the opportunity to operate the units for up to 20 years beyond the expiration of their current licenses in 2016 and 2027, respectively.

In correspondence to the Pennsylvania Department of Conservation and Natural Resources (DCNR) referenced above, FENOC's LRA consultant indicated that the LRA environmental review would include an assessment of potential impacts of BVPS license renewal on threatened, endangered, and candidate species. Since that time, FENOC has completed a preliminary draft of an assessment of potential impacts on plant species within DCNR's jurisdiction, which will be finalized and included in the LRA environmental report. Accordingly, FENOC is now requesting DCNR assistance in finalizing our assessment to provide additional assurance that it is accurate and complete. By contacting you at this time, FENOC believes that the effectiveness of forthcoming NRC interactions with your office, described in the following paragraph, will be enhanced.

The NRC, at 10 CFR 51.53(c)(3)(ii)(E), requires that license renewal applicants ". . . assess the impact of the proposed action {license renewal} on threatened and endangered species in accordance with the Endangered Species Act." Consistent with our corporate commitment to natural resource conservation, we have addressed in our assessment both federal species and species similarly designated by the Commonwealth of Pennsylvania. The NRC staff routinely interacts with other affected agencies in conducting their environmental review, which leads to preparation of a supplemental environmental impact statement (SEIS) for this licensing action. It is expected that the DCNR will be contacted regarding potential impact on species within its jurisdiction as part of this activity. The following paragraphs describe relevant aspects of the BVPS environmental setting considered in the LRA and a synopsis of FENOC's assessment of potential impacts of BVPS license renewal on plant species of interest.

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

L-03-084  
Page 2

The BVPS site consists of approximately 450 acres on the south side of the Ohio River (New Cumberland Pool) at Shippingport, Beaver County, Pennsylvania (see Attachment 1, Figure 1). The intensively developed or maintained portion of the site, approximately 220 acres, is located on a gravel terrace adjacent to the river; the remainder of the site consists mostly of forested slopes.

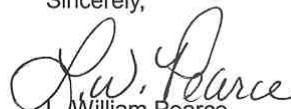
Short segments of three transmission lines on and adjacent to the BVPS site and one transmission line extending 15.8 miles southeast from BVPS (Duquesne Light Company's Beaver Valley-Crescent Line 318) are also being addressed in the BVPS LRA environmental report (see Attachment 1, Figures 2 and 3). The latter transmission line corridor traverses primarily through forest and farmland. Based on review of National Wetland Inventory maps, wetlands on or adjacent to this corridor are limited to a small (2-acre) palustrine forested area at the span of Service Creek and possibly one or more very small strips of riparian emergent vegetation at the span of Raccoon Creek (Attachment 1, Figure 3). The transmission line segments being considered in the LRA environmental report have been in service since the mid-1980s.

Based on our preliminary draft assessment, summarized in Attachment 2, FENOC believes that extended operation and maintenance of BVPS and the transmission corridors considered in the LRA would have no significant impact on threatened or endangered plant species. Results of Pennsylvania Natural Diversity Inventory (PNDI) searches conducted at FENOC's request, which involved reviews by DCNR staff, indicate that license renewal would pose no conflicts with plant species of concern if it does not involve land-disturbing activity. FENOC has not identified any land disturbing activities that would be undertaken for license renewal, and both FENOC and Duquesne Light would continue to be subject to applicable regulatory controls for the period of extended operation. Neither FENOC nor Duquesne Light is aware of any adverse impact to any threatened, endangered, or candidate plant species from past or current operation of BVPS or these transmission lines.

FENOC respectfully requests that the DCNR (1) formally notify us of any additional concerns or relevant information regarding threatened, endangered, and candidate species pertinent to our preliminary draft assessment and (2), as appropriate, concur with the assessment. FENOC will evaluate any information you provide for inclusion in the assessment, and will include your response to this request in the final LRA environmental report submitted to the NRC. FENOC would appreciate receiving your response within 60 days of receipt to provide ample time to evaluate and incorporate your response into our LRA environmental report for submittal to the NRC.

Thank you for your assistance as we complete this important environmental assessment. Please address any comments or questions you may have to Mr. Mark Ackerman, License Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,

  
L. William Pearce  
Site Vice President

Attachments: Project Maps (Attachment 1)  
Preliminary Assessment (Attachment 2)

L-03-084  
Page 3

bc: G. DeCamp (CNS)  
T. Grenci (CNS)  
M. S. Ackerman (3 copies)  
Central File

**ATTACHMENT 1  
PROJECT MAPS**

BVPS LRA Environmental Review  
Project Maps

Att. 1-1



FIGURE 1  
 BEAVER VALLEY POWER STATION SITE MAP

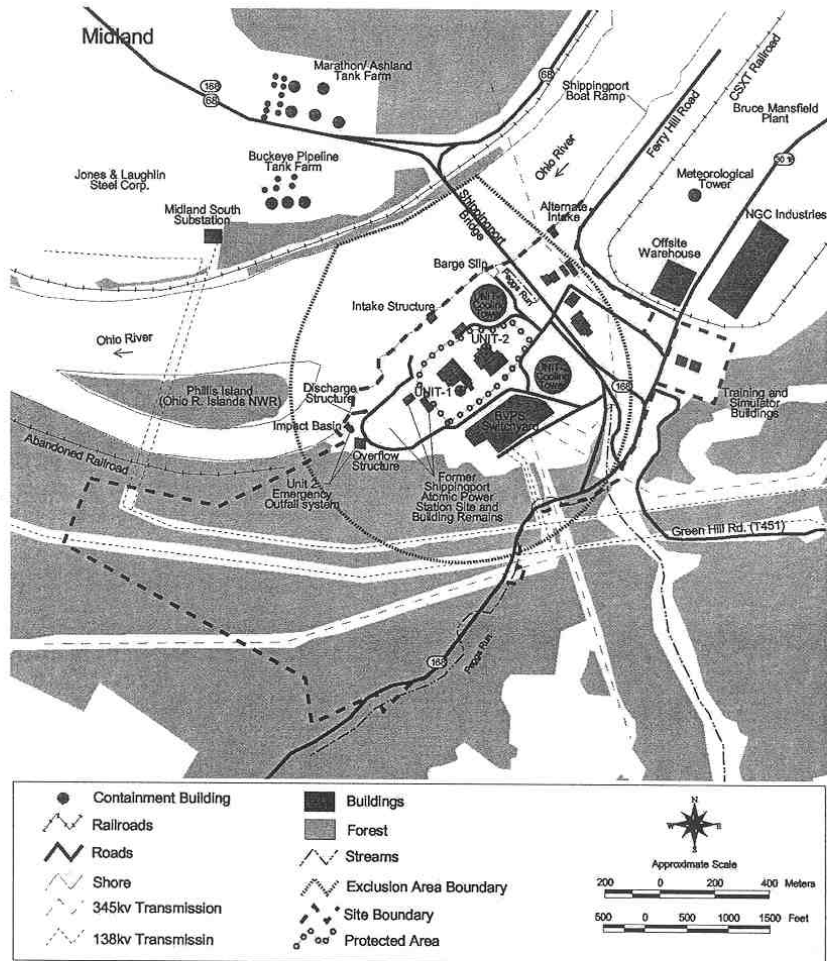


FIGURE 2  
 345 kV RECONFIGURATIONS  
 FOR BEAVER VALLEY POWER STATION UNIT 2

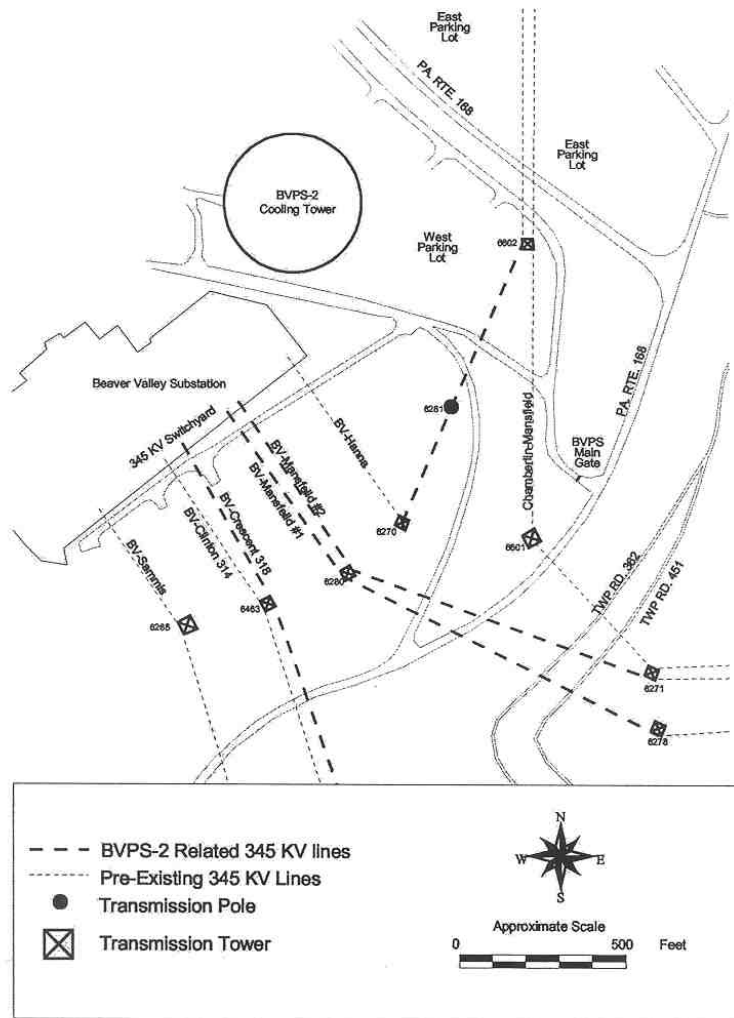
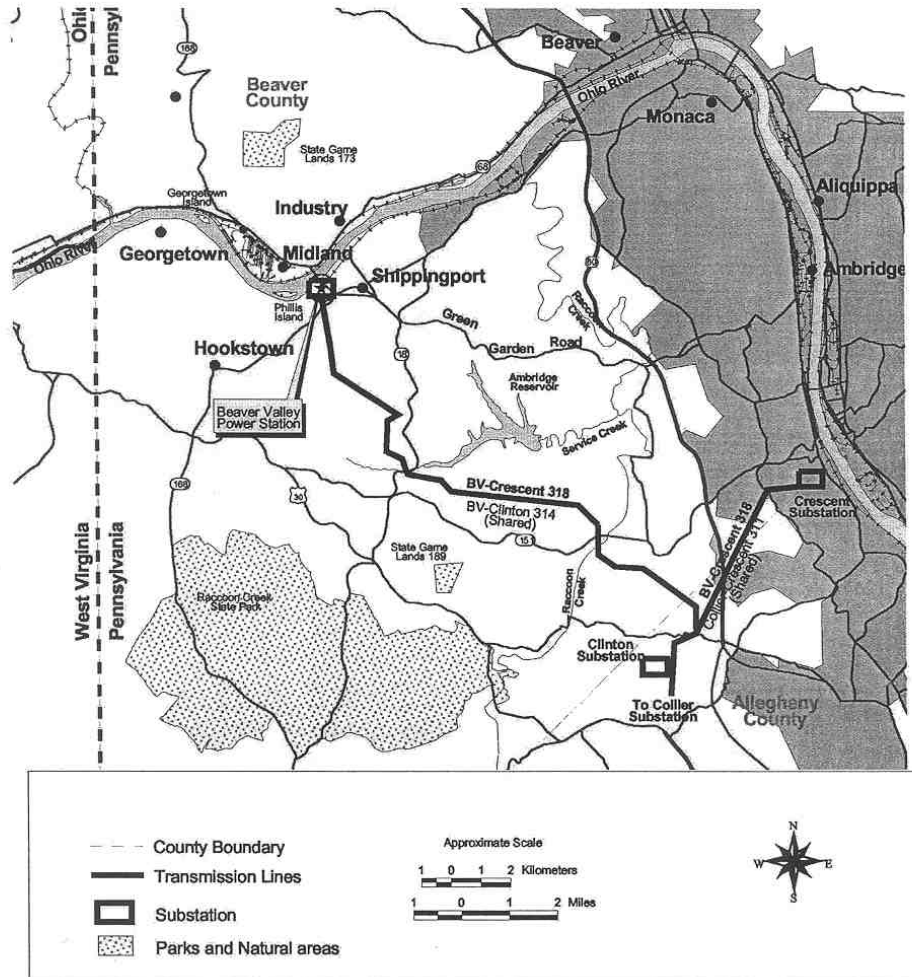


FIGURE 3  
 BEAVER VALLEY-CRESCENT LINE 318 CORRIDOR



**ATTACHMENT 2**

**PRELIMINARY ASSESSMENT**

**PENNSYLVANIA THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
SUBJECT TO PENNSYLVANIA DEPARTMENT OF CONSERVATION  
AND NATURAL RESOURCES JURISDICTION  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL**



TABLE 1  
THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
SUBJECT TO PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES JURISDICTION  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>

Common Name Scientific Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence
<b>Plants</b>			
Small whorled pogonia <i>Isotria medeoloides</i>	T	E	Nearly all populations occur in second growth or relatively mature forests; PA populations most abundant on dry east- or southeast-facing hillsides in mixed oak forest on rocky, somewhat acidic soils; only 2 occurrences in PA verified since 1980; known historical occurrence in southwestern PA only in Greene Co. (Ref. 1). Specifically reported as not observed during ecological surveys of the BVPS site in 1974-1975 (Ref. 2). Not identified by PNDI as potentially occurring in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 3, Ref. 4, Ref. 5).
Eastern blue-eyed grass <i>Sisyrinchium atlanticum</i>	-	E	Found in moist to dry, sandy, open ground of fields and thin woods (Ref. 6, page 359; Ref. 7, page 843). Identified by PNDI as potentially occurring in the vicinity of Beaver Valley-Crescent Line 318 corridor (Ref. 4).
Tall larkspur <i>Delphinium exaltatum</i>	-	E	Found in dry, open southwestern-facing slopes with limestone soils, in rich shaded woods, and on rocky limestone bluffs (Ref. 6; Ref. 7, page 575). Historical occurrence in southeastern Beaver Co. and Allegheny Co., but no verified occurrences there since 1980 (Ref. 8). Identified by PNDI as potentially occurring in the general vicinity of Beaver Valley-Crescent Line 318 corridor (Ref. 4).
Purple rocket <i>Isodanthus pinnatifidus</i>	-	E	Found in moist alluvial woods and wooded slopes (Ref. 7, page 291). Identified by PNDI (Ref. 5) as potentially occurring in the vicinity of Beaver Valley-Crescent Line 318 corridor (2001 occurrence record) in a general area recognized for high biodiversity in Beaver County (Ref. 9).
Harbinger-of-spring <i>Erigeron bulbosa</i>	-	T	Found near seeps and spring heads on wooded slopes (Ref. 7, page 141). Identified by PNDI (Ref. 5) as potentially occurring in the vicinity of Beaver Valley-Crescent Line 318 corridor (1997 occurrence record) in a general area recognized for high biodiversity in Beaver County (Ref. 9).

Att. 2-1

BVPS LRA Preliminary Assessment  
PA DCNR Threatened & Endangered Species

Common Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence
Tall tick trefoil <i>Desmodium glabellum</i>	-	U	Found in dry, sandy woods (Ref. 7, page 404). Identified by PNDI as potentially occurring in the vicinity of the BVPS site and nearby portion of the Beaver Valley-Crescent Line 318 corridor (1974 occurrence record; Ref. 3, Ref. 5). Specifically reported as not observed in site reconnaissance survey in 2002 (Ref. 10).
<p>a. Except as otherwise noted, tabulated species include (A) Federally designated threatened, endangered, and candidate plant species reported by the FWS for Pennsylvania (Ref. 11, Ref. 12) with known historical ranges that include the upper Ohio River or southwestern Pennsylvania, except those considered to be extirpated in PA, e.g., by the Pennsylvania Biological Survey (Ref. 13); and (B) the following species officially listed as endangered, threatened, or candidates for listing by the Commonwealth of Pennsylvania (Pennsylvania Code, Title 17, Chapter 45): plant species noted by the PNDI as potentially occurring in the vicinity of BVPS, including the Ohio River and Phillis Island, or the vicinity of the Beaver Valley-Crescent – 318 Transmission Line corridor (Ref. 3, Ref. 4, Ref. 5)</p> <p>b. Status Codes: E = Endangered, T = Threatened, C = Candidate for Listing, U = Tentatively Undetermined</p> <p>FWS = U.S. Fish and Wildlife Service BVPS = Beaver Valley Power Station PA = Pennsylvania PNDI = Pennsylvania Natural Diversity Inventory</p>			

Att. 2-2

BVPS LRA Preliminary Assessment  
PA DCNR Threatened & Endangered Species

TABLE 2  
 SUMMARY IMPACT ASSESSMENT FOR  
 THREATENED, ENDANGERED, AND CANDIDATE PLANT SPECIES  
 SUBJECT TO PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES JURISDICTION  
 OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Small whorled pogonia <i>Isotria medeoloides</i> FT, PE	None to Low on BVPS site. Low on or near Beaver Valley – Crescent Line 318 corridor. Specifically reported as not observed during ecological surveys of the BVPS site in 1974-1975 (Ref. 2). Not reported in PNDI searches for either BVPS site (Ref. 3) or transmission corridor (Ref. 4, Ref. 5) None currently known from southwestern Pennsylvania.	Vegetation maintenance on BVPS site and transmission line corridor.	<ul style="list-style-type: none"> <li>FENOC and Duquesne Light maintenance practices on transmission corridors are limited to selective pruning or removal of trees that could interfere with the line and selective pruning or herbicide use to control incompatible vegetation. EPA-approved herbicides are selectively applied in accordance with manufacturer's label requirements by state-licensed applicators.</li> <li>Similar vegetation practices to those employed on transmission line corridors are used on BVPS site to maintain cleared areas as needed for site security.</li> <li>FENOC has not identified any land disturbing activities that would be undertaken for license renewal.</li> <li>Both FENOC and Duquesne Light would continue to be subject to applicable regulatory controls for the period of extended operation.</li> <li>Neither FENOC nor Duquesne Light is aware of any adverse impact to any threatened, endangered, or candidate plant species from past or current operation of BVPS or transmission lines being considered in the license renewal environmental review.</li> <li>Forested areas within the Beaver Valley Crescent Line 318 corridor exist only at the bottom of some spanned ravines and valleys and along the corridor edge in some segments, reducing potential for disturbance of potentially compatible habitat.</li> </ul>

Impact Conclusion: SMALL

Att. 2-3

BVPS LRA Preliminary Assessment  
 PA DCNR Threatened & Endangered Species

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Eastern blue-eyed grass <i>Sisyrinchium atlanticum</i> PE	Low on BVPS site. Moderate to high on or near Beaver Valley-Crescent Line-318 corridor.	Same as above for all	<ul style="list-style-type: none"> <li>Same considerations as listed above for small whorled pogonia for all, plus the following additional considerations.</li> </ul>
Tall larkspur <i>Delphinium exaltatum</i> PE	PNDI searches indicate occurrence records for these species only in the vicinity of the transmission corridor (Ref. 3, Ref. 4, Ref 5); records for purple rocket and harbinger-of-spring are recent (Ref. 5).		<ul style="list-style-type: none"> <li>PNDI review for the Allegheny County portion of the Beaver Valley-Crescent Line 318 corridor, which identified occurrence records for Eastern blue-eyed grass and tall larkspur, concluded that that continued operation of the Beaver Valley-Crescent Line 318 corridor would pose no conflicts with these plant species (Ref. 4).</li> </ul>
Purple rocket <i>Iodanthus pinnatifidus</i> PE			<ul style="list-style-type: none"> <li>PNDI review for the Beaver County portion of the Beaver Valley-Crescent Line 318 corridor, which identified occurrence records for purple rocket and harbinger of spring, indicates that license renewal would pose no conflict with this plant species if it does not involve land-disturbing activity (Ref. 5).</li> </ul>
Harbinger-of-spring <i>Erigenia bulbosa</i> PT			

Impact Conclusion: SMALL

Att. 2-4

BVPS LRA Preliminary Assessment  
PA DCNR Threatened & Endangered Species



Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Tall tick trefoil <i>Desmodium glabellum</i> PU	Low on main portion of BVPS site. Specifically reported as not observed in site reconnaissance survey in 2002 (Ref. 10).  Moderate on or near Beaver Valley-Crescent Line 318 corridor, including segment on BVPS site.  PNDI searches for BVPS site (Ref. 3) and Beaver County portion of Beaver Valley-Crescent Line 318 corridor (Ref. 5) indicate potential presence (1974 occurrence record).	Same as above	<ul style="list-style-type: none"> <li>• Same considerations as listed above for small whorled pogonia.</li> <li>• PNDI review for the Beaver County portion of the Beaver Valley-Crescent Line 318 corridor, which identified an occurrence record for tall tick-trefoil, indicates that license renewal would pose no conflict with this plant species if it does not involve land-disturbing activity (Ref. 5).</li> </ul> <p style="text-align: right;">Impact Conclusion: SMALL</p>

Att. 2-5

BVPS LRA Preliminary Assessment  
PA DCNR Threatened & Endangered Species

- a. Tabulated species, status, and occurrence potential based on information presented in Table 1.
- b. Status Codes: FE = Federal Endangered, FT = Federal Threatened, FC = Federal Candidate for Listing, PE = PA Endangered, PT = PA Threatened, PC = PA Candidate for Listing, PU = PA Tentatively Undetermined.
- c. Additional considerations include controls established for impact initiators, industry and plant experience related to potential impacts, information received from regulatory agencies, and other relevant factors.

FENOC = FirstEnergy Nuclear Operating Company  
BVPS = Beaver Valley Power Station  
PA = Pennsylvania  
PNDI = Pennsylvania Natural Diversity Inventory

Att. 2-6

BVPS LRA Preliminary Assessment  
PA DCNR Threatened & Endangered Species



**REFERENCES**

1. Pennsylvania Department of Conservation and Natural Resources. *Small Whorled Pogonia Isotria medeoloides Raf.*  
<http://www.dcnr.state.pa.us/wrcf/spog.htm>. Accessed October 12, 2002.
2. Duquesne Light Company. *Beaver Valley Power Station Unit 2 Environmental Report – Operating License Stage*. Amendment 6. May 1984.
3. Pennsylvania Natural Diversity Inventory. Results for PNDI Search N100081. May 31, 2002.
4. Pennsylvania Natural Diversity Inventory. Results for PNDI Searches N105492, N105493, and N105494, conducted September 4, 2002; “Potential Conflict” Response Forms, September 24, 2002.
5. Pennsylvania Natural Diversity Inventory. Letter from Autumn E. Sabo, Pennsylvania Natural Diversity Inventory, to Greg DeCamp, Constellation Nuclear Services. “Bureau of Forestry, Pennsylvania Natural Diversity Inventory Search FirstEnergy Nuclear Operating Company Transmission Lines, Shippingport Borough, Beaver County, PA – PNDI #013501”. March 18, 2003.
6. Haywood, M.J. and P.T. Monk. *Wildflowers of Pennsylvania*. Botanical Society of Western Pennsylvania. Venture Graphics. 2001.
7. Rhoads, A.F. and T.A. Block. *The Plants of Pennsylvania: An Illustrated Manual*. Univ. of Pennsylvania Press. Philadelphia. 2000.
8. Pennsylvania Department of Conservation and Natural Resources. *Tall Larkspur Delphinium exaltatum Ait.*  
<http://www.dcnr.state.pa.us/wrcf/tlark.htm>. Accessed October 12, 2002.
9. Beaver County Planning Commission. *Horizons – Planning for the 21<sup>st</sup> Century: A Comprehensive Plan for Beaver County*. December 1999.
10. Beak Consultants Inc. *Plant Community Characterization Study for the Beaver Valley Power Station Site, Shippingport, Pennsylvania*. Lancaster, New York. October 2002.

BVPS LRA Preliminary Assessment  
PA DCNR Threatened &  
Endangered Species

Att. 2-7

11. U.S. Fish and Wildlife Service. *Threatened and Endangered Species System (TESS) Listings by State and Territory as of 10/12/2002 - Pennsylvania.*  
<http://ecos.fws.gov/servlet/TESSWebpageUsaLists?state=PA>.  
Accessed October 13, 2002.
12. U.S. Fish and Wildlife Service. *Threatened and Endangered Species System (TESS) Candidate Species as of 10/12/2002.*  
<http://ecos.fws.gov/servlet/TESSWebpageNonlisted?listings=0&type=C>. Accessed October 13, 2002.
13. Pennsylvania Biological Survey. *Inventory and Monitoring of Biological Resources in Pennsylvania; Proceedings of the First Conference of the Pennsylvania Biological Survey.* 1998.  
[http://www.dickinson.edu/prorg/pabs/pabs\\_main.htm](http://www.dickinson.edu/prorg/pabs/pabs_main.htm). Accessed October 13, 2002.



**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

L. William Pearce

2

October 3, 2003

Feel free to phone our office if you have questions concerning this response or the PNDI system, and please refer to the P.E.R. Reference Number at the top of the letter in future correspondence concerning this project.

Sincerely,



Justin P. Newell  
Environmental Review Specialist

Cc: file  
Frederick Carlson



**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

**L. William Pearce**  
Site Vice President

724-682-5234  
Fax: 724-643-8069

September 8, 2003  
L-03-083

Mr. James R. Leigey  
Wildlife Impact Review Coordinator  
Pennsylvania Game Commission  
2001 Elmerton Avenue  
Harrisburg, PA 17110-9797

Subject: Beaver Valley Power Station License Renewal Project  
Request for Information and Concurrence - Threatened & Endangered Species

References: (a) Letter CNS-02-050, Julea B. Hovey, Constellation Nuclear Services, to  
Vernon R. Ross, Pennsylvania Game Commission, June 28, 2002  
(b) Letter, James R. Leigey, Pennsylvania Game Commission, to  
Mark S. Ackerman, Beaver Valley Power Station, July 25, 2002.

Dear Mr. Leigey:

FirstEnergy Nuclear Operating Company (FENOC) is preparing an environmental report as part of our operating license renewal application (LRA) to the U.S. Nuclear Regulatory Commission (NRC) for the Beaver Valley Power Station (BVPS) Units 1 and 2. BVPS Units 1 and 2 have been in operation since 1976 and 1987, respectively. Successful renewal would provide the opportunity to operate the units for up to 20 years beyond the expiration of their current licenses in 2016 and 2027, respectively.

In correspondence to the Pennsylvania Game Commission referenced above, FENOC's LRA consultant indicated that the LRA environmental review would include an assessment of potential impacts of BVPS license renewal on threatened, endangered, and candidate species. Since that time, FENOC has completed a preliminary draft of an assessment of potential impacts on species within Pennsylvania Game Commission jurisdiction, which will be finalized and included in the LRA environmental report. Accordingly, FENOC is now requesting your assistance in finalizing our assessment to provide additional assurance that it is accurate and complete. By contacting you at this time, FENOC believes that the effectiveness of forthcoming NRC interactions with your office, described in the following paragraph, will be enhanced.

The NRC, at 10 CFR 51.53(c)(3)(ii)(E), requires that license renewal applicants "... assess the impact of the proposed action {license renewal} on threatened and endangered species in accordance with the Endangered Species Act." Consistent with our corporate commitment to natural resource conservation, we have addressed in our assessment both federal species and species similarly designated by the Commonwealth of Pennsylvania. The NRC staff routinely interacts with other affected agencies in conducting their environmental review, which leads to preparation of a supplemental environmental impact statement (SEIS) for this licensing action. It is expected that the Pennsylvania Game Commission will be contacted regarding potential impact on species within its jurisdiction as part of this activity. The following paragraphs

L-03-083  
Page 2

describe relevant aspects of the BVPS environmental setting considered in the LRA and a synopsis of FENOC's assessment of potential impacts of BVPS license renewal on species of interest.

The BVPS site consists of approximately 450 acres on the south side of the Ohio River (New Cumberland Pool) at Shippingport, Beaver County, Pennsylvania (see Attachment 1, Figure 1). The intensively developed or maintained portion of the site, approximately 220 acres, is located on a gravel terrace adjacent to the river; the remainder of the site consists mostly of forested slopes. BVPS employs a closed-cycle cooling system (cooling towers), and withdraws cooling water, primarily makeup water for this system, from the Ohio River at the Intake Structure. Cooling water, primarily cooling tower blowdown, is discharged to the Ohio River at the Discharge Structure and Emergency Overflow Structure and Impact Basin, along with small volumes of treated wastewater, in accordance with provisions of NPDES Permit PA0025615.

Short segments of three transmission lines on and adjacent to the BVPS site and one transmission line extending 15.8 miles southeast from BVPS (Duquesne Light Company's Beaver Valley-Crescent Line 318) are also being addressed in the BVPS LRA environmental report (see Attachment 1, Figures 2 and 3). The latter transmission line corridor traverses primarily through forest and farmland. Based on review of National Wetland Inventory maps, wetlands on or adjacent to this corridor are limited to a small (2-acre) palustrine forested area at the span of Service Creek and possibly one or more very small strips of riparian emergent vegetation at the span of Raccoon Creek (Attachment 1, Figure 3). The transmission line segments being considered in the LRA environmental report have been in service since the mid-1980s.

Our preliminary draft assessment, summarized in Attachment 2, specifically considers the information you provided in your July 25, 2002 letter [Reference (b), above], which addressed bird and mammal species in the BVPS site vicinity. Based on our assessment, FENOC believes that extended operation and maintenance of both BVPS and the associated transmission corridors being considered in the LRA would have no significant impact on threatened, endangered, or candidate species under Pennsylvania Game Commission jurisdiction. FENOC has not identified any land disturbing activities that would be undertaken for license renewal, and both FENOC and Duquesne Light would continue to be subject to applicable regulatory controls for the period of extended operation. Neither FENOC nor Duquesne Light is aware of any adverse impact to any threatened, endangered, or candidate bird or mammal species from past or current operation of BVPS or these transmission lines.

FENOC respectfully requests that the Pennsylvania Game Commission (1) formally notify us of any concerns or additional relevant information regarding threatened, endangered, and candidate species pertinent to our preliminary draft assessment and (2), as appropriate, concur with the assessment. FENOC will evaluate any information you provide for inclusion in the assessment, and will include your response to this request in the final LRA environmental report submitted to the NRC. FENOC would appreciate receiving your response within 60 days of receipt to provide ample time to evaluate and incorporate your response into our LRA environmental report for submittal to the NRC.

Thank you for your assistance as we complete this important environmental assessment. Please address any comments or questions you may have to Mr. Mark Ackerman, License



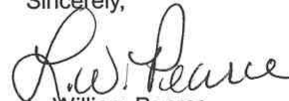
**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

L-03-083  
Page 3

Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,

  
L. William Pearce  
Site Vice President

Attachments: Project Maps (Attachment 1)  
Preliminary Assessment (Attachment 2)

L-03-083  
Page 4

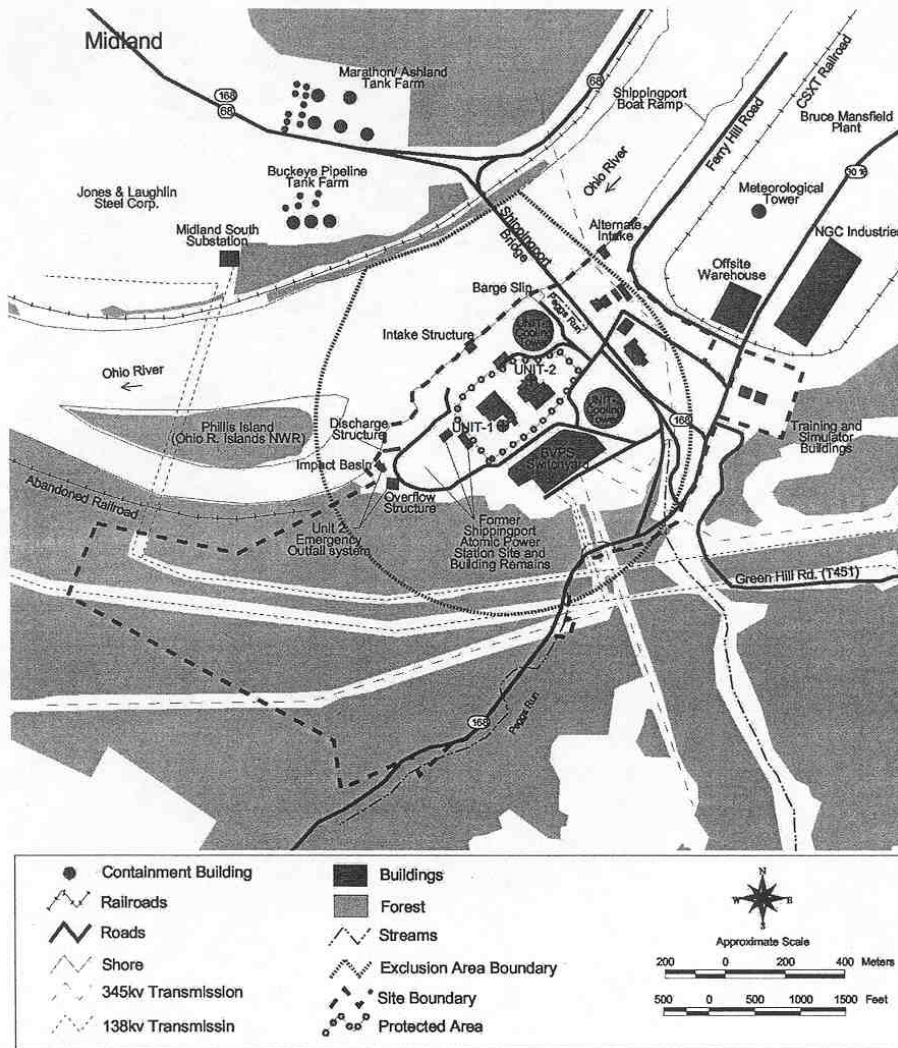
bc: G. DeCamp (CNS)  
T. Grenci (CNS)  
M. S. Ackerman (3 copies)  
Central File

**ATTACHMENT 1  
PROJECT MAPS**

BVPS LRA Environmental Review  
Project Maps

Att. 1-1

FIGURE 1  
 BEAVER VALLEY POWER STATION SITE MAP



BVPS LRA Environmental Review  
 Project Maps

Att. 1-2

FIGURE 2  
 345 kV RECONFIGURATIONS  
 FOR BEAVER VALLEY POWER STATION UNIT 2

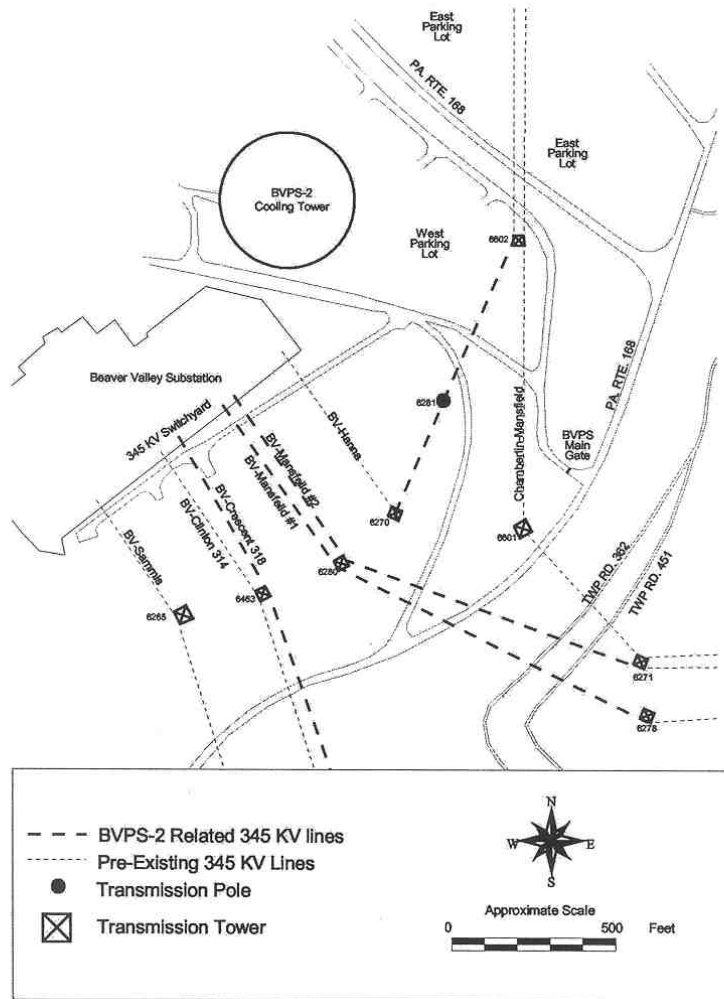
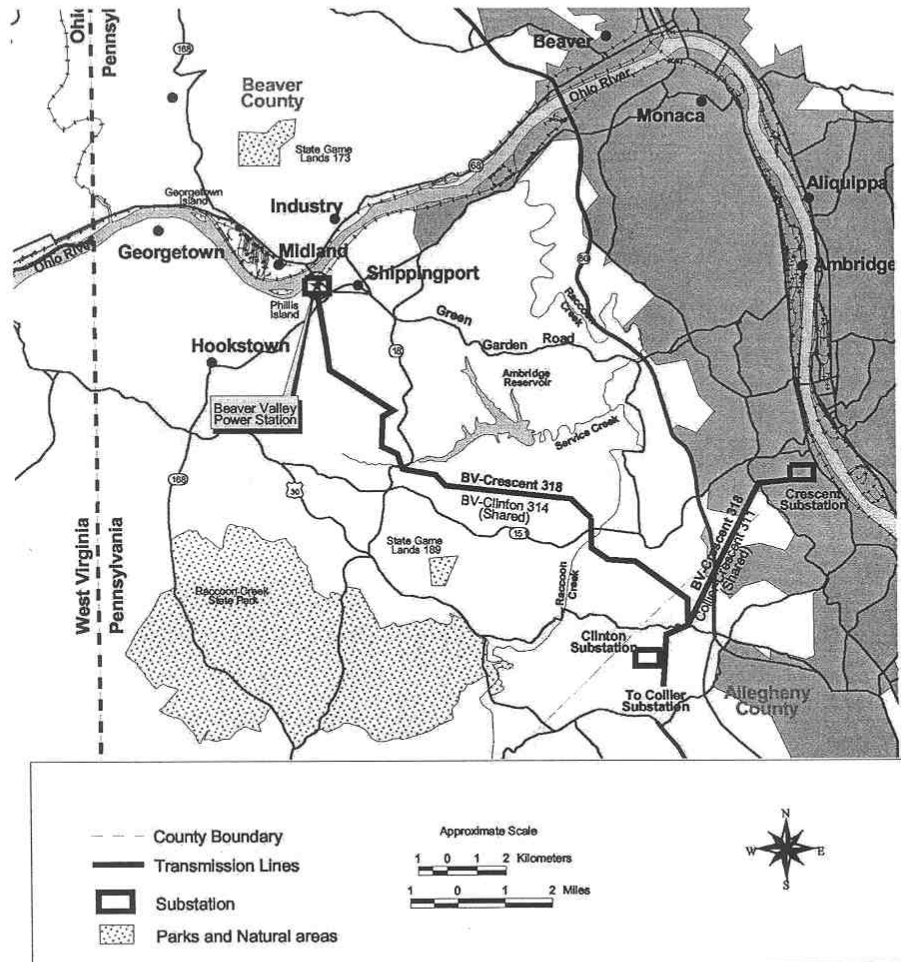


FIGURE 3  
 BEAVER VALLEY-CRESCENT LINE 318 CORRIDOR





**ATTACHMENT 2**

**PRELIMINARY ASSESSMENT**

**PENNSYLVANIA THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
SUBJECT TO PENNSYLVANIA GAME COMMISSION JURISDICTION  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL**

**TABLE 1**  
**PENNSYLVANIA THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**SUBJECT TO PENNSYLVANIA GAME COMMISSION JURISDICTION**  
**OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>**

Common Name Scientific Name	U.S. Status <sup>b</sup>		PA Status <sup>b</sup>		Habitat/Occurrence
	T	E	T	E	
Bald Eagle <i>Haliaeetus leucocephalus</i>	T	E			Thrives around bodies of water where adequate food exists and human intrusions and disturbance is limited. PA populations are recovering from effects of the pesticide DDT, the primary reason for the population decline. From 1997 to 1999, the PA nesting population more than doubled to 43 pairs; however, no nesting has been reported in Beaver or Allegheny Counties as of 1999 (Ref. 1). Individuals are occasionally observed along the Ohio River at BVPS. Not identified by PNDI as a potential conflict with respect to the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 2; Ref. 3, Ref. 4). PA Game Commission (Ref. 5) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened species of bird under their jurisdiction.
Peregrine Falcon <i>Falco peregrinus</i>	-	E			Historically, nested on high cliffs overlooking river systems. Current nesting sites include high bridges and buildings in cities, a result of recovery efforts that led to de-listing of this species at the federal level. PA populations are slowly recovering from effects of the pesticide DDT, the primary reason for the population decline. Successfully nesting at several sites in PA, including Gulf Tower in downtown Pittsburgh, Allegheny Co. (Ref. 6). Not identified by PNDI as a potential conflict with respect to the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 2; Ref. 3, ref. 4). PA Game Commission (Ref. 5) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened species of bird under their jurisdiction.

Att. 2-1

BVPS LRA Preliminary Assessment  
PA Game Commission Threatened &  
Endangered Species

Common Name Scientific Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence
Short-eared Owl <i>Asio flammeus</i>	-	E	Nests on the ground in open country, including reclaimed strip mines; open, uncut grassy fields; large meadows; airports; and, occasionally, marshes. Nesting habitat is extremely limited in PA; intensive agricultural practices render habitats unsuitable. Recent nesting documented on reclaimed strip mines in western PA, including Allegheny Co. (Ref. 7). Not identified by PNDI as a potential conflict with respect to the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 2; Ref. 3, Ref. 4). PA Game Commission (Ref. 5) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened species of bird under their jurisdiction.

**Mammals**

Indiana bat <i>Myotis sodalis</i>	E	E	Hibernates in winter in communal caves, usually with standing or flowing water, of which nine are known in PA (none in Beaver and Allegheny Counties). Known summer habitat includes maternal colonies behind flaking bark on dead or dying trees along stream or river corridors, and upland forests. Primary threat is disturbance to hibernating populations and hibernation sites (Ref. 8). Not identified by PNDI as a potential conflict with respect to the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 2; Ref. 3, Ref. 4). PA Game Commission (Ref. 5) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened species of mammal under their jurisdiction.
--------------------------------------	---	---	---

a. Tabulated species include officially listed as endangered, threatened, or candidates for listing by the Commonwealth of Pennsylvania under Pennsylvania Code, Title 58, Chapter 33: bird and mammal species indicated by the Pennsylvania Game Commission as having recent records of nesting (birds), hibernals (bats), or occurrences (other mammals) in Beaver County or Allegheny County, PA (Ref. 9).

b. Status Codes: E = Endangered, T = Threatened  
FENOC = FirstEnergy Nuclear Operating Company  
BVPS = Beaver Valley Power Station  
PA = Pennsylvania  
PNDI = Pennsylvania Natural Diversity Inventory

Att. 2-2

BVPS LRA Preliminary Assessment  
PA Game Commission Threatened &  
Endangered Species

**TABLE 2**  
**SUMMARY IMPACT ASSESSMENT FOR**  
**THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**SUBJECT TO PENNSYLVANIA GAME COMMISSION JURISDICTION**  
**OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>**

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Bald Eagle <i>Haliaeetus leucocephalus</i> FT, PE	High for transient or foraging individuals. Occasional individuals are observed along the Ohio River at the BVPS site.  None to Low for future nesting on or near BVPS site considering industrial development and human activity.  Low to Moderate for future nesting along Beaver Valley-Crescent Line 318 transmission corridor considering undeveloped areas near Ambridge Reservoir.	Collision with cooling towers or transmission lines.	<ul style="list-style-type: none"> <li>• Surveys of bird collisions at the BVPS-1 cooling tower in spring and fall from 1974 through 1978 found a total of only 27 dead birds (26 passerines and one rail) Ref. 10, Page 5.1-21).</li> <li>• FirstEnergy and Duquesne Light are not aware of any reports of impact or electrocutions of these species associated with Beaver Valley-Crescent Line 318 or transmission line relocations addressed in the BVPS license renewal environmental review.</li> <li>• Results of PNDI searches (Ref. 2, Ref. 3, Ref. 4) conducted at FENOC's request have not identified these or other listed or candidate species under PA Game Commission jurisdiction as potential conflicts with BVPS or transmission line operation.</li> <li>• PA Game Commission (Ref. 5) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened bird under their jurisdiction, nor are any long-term adverse impacts to associated critical or unique habitats anticipated from BVPS operation.</li> </ul>

Impact Conclusion: SMALL

Att. 2-3

BVPS LRA Preliminary Assessment  
PA Game Commission Threatened &  
Endangered Species

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Peregrine Falcon <i>Falco peregrinus</i> PE	Moderate for transient or foraging individuals. None to Low for nesting considering habitat availability.	Same as bald eagle.	Same as bald eagle.
Short-eared Owl <i>Asio flammeus</i> PE	Moderate for transient or foraging individuals. None for nesting on BVPS site. Low for nesting on or near Beaver Valley-Crescent Line 318 transmission corridor considering habitat availability.	Same as bald eagle.	Same as bald eagle.

**Mammals**

Indiana bat <i>Myotis sodalis</i> FE, PE	None for hibernating colonies. Low for maternal colonies on BVPS site. Not collected or observed in 1974-75 ecological surveys of BVPS site (Ref. 9, Table 2.2-16). Low for maternal colonies in trees bordering Beaver Valley-Crescent Line 318 transmission corridor.	Removal of maternal colony trees bordering transmission corridor.	<ul style="list-style-type: none"> <li>• Corridor maintenance practices limit removal of mature trees to those that could interfere with transmission lines.</li> <li>• Streams along corridor are frequently in relatively deep narrow valleys that are spanned, reducing the necessity to clear riparian trees.</li> <li>• Results of PNDI searches (Ref. 2, Ref. 3, Ref. 4) conducted at FENOC's request have not identified this or other mammal species under PA Game Commission jurisdiction as potential conflicts with BVPS or transmission line operation.</li> <li>• PA Game Commission (Ref. 5) indicates that, except for occasional transient individuals, BVPS is not located in an area that is habitat for an endangered or threatened mammal under their jurisdiction, nor are any long-term adverse impacts to associated critical or unique habitats anticipated from BVPS operation.</li> </ul> <p style="text-align: right;">Impact Conclusion: SMALL</p>
--	---	---	--

BVPS LRA Preliminary Assessment  
PA Game Commission Threatened & Endangered Species

Att. 2-4



Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
<p>a. Tabulated species, status, and occurrence potential based on information presented in Table 1.</p> <p>b. Status Codes: FE = Federal Endangered, FT = Federal Threatened, FC = Federal Candidate for Listing, PE = PA Endangered, PT = PA Threatened, PC = PA Candidate for Listing.</p> <p>c. Additional considerations include controls established for impact initiators, industry and plant experience related to potential impacts, information received from regulatory agencies, and other relevant factors.</p> <p>FENOC = FirstEnergy Nuclear Operating Company            BVPS = Beaver Valley Power Station            PA = Pennsylvania            PNDI = Pennsylvania Natural Diversity Inventory</p>			

Att. 2-5

BVPS LRA Preliminary Assessment  
 PA Game Commission Threatened &  
 Endangered Species



**REFERENCES**

1. Pennsylvania Game Commission. *Bald Eagle (*Haliaeetus leucocephalus*)*. [http://sites.state.pa.us/PA\\_Exec/PGC/eagle/profile.htm](http://sites.state.pa.us/PA_Exec/PGC/eagle/profile.htm). Accessed October 12, 2002.
2. Pennsylvania Natural Diversity Inventory. Results for PNDI Search N100081. May 31, 2002.
3. Pennsylvania Natural Diversity Inventory. Results for PNDI Searches N105492, N105493, and N105494, conducted September 4, 2002; "Potential Conflict" Response Forms, September 24, 2002.
4. Pennsylvania Natural Diversity Inventory. Letter from Autumn E. Sabo, Pennsylvania Natural Diversity Inventory, to Greg DeCamp, Constellation Nuclear Services. "Bureau of Forestry, Pennsylvania Natural Diversity Inventory Search FirstEnergy Nuclear Operating Company Transmission Lines, Shippingport Borough, Beaver County, PA – PNDI #013501". March 18, 2003.
5. Pennsylvania Game Commission. Letter from James R. Leigey, Pennsylvania Game Commission, to Mark S. Ackerman, FENOC. "Beaver Valley Power Station License Renewal Project, Shippingport, Beaver County, PA". July 25, 2002.
6. Pennsylvania Game Commission. *Peregrine Falcon (*Falco peregrinus*)*. [http://sites.state.pa.us/PA\\_Exec/PGC/falcon/profile.htm](http://sites.state.pa.us/PA_Exec/PGC/falcon/profile.htm). Accessed October 12, 2002.
7. Pennsylvania Game Commission. *Short-eared Owl (*Asio flammeus*)*. [http://sites.state.pa.us/PA\\_Exec/PGC/owl/profile.htm](http://sites.state.pa.us/PA_Exec/PGC/owl/profile.htm). Accessed October 12, 2002.
8. Pennsylvania Game Commission. *Indiana Bat (*Myotis sodalis*)*. [http://sites.state.pa.us/PA\\_Exec/PGC/bat/indiana/profile.htm](http://sites.state.pa.us/PA_Exec/PGC/bat/indiana/profile.htm). Accessed October 12, 2002.
9. Pennsylvania Game Commission. *Endangered and Threatened Species*. [http://sites.state.pa.us/PA\\_Exec/PGC/endangered/index.htm](http://sites.state.pa.us/PA_Exec/PGC/endangered/index.htm). Accessed October 12, 2002.
10. Duquesne Light Company. *Beaver Valley Power Station Unit 2 Environmental Report – Operating License Stage*. Amendment 6. May 1984.

BVPS LRA Preliminary Assessment  
PA Game Commission Threatened &  
Endangered Species

Att. 2-6



COMMONWEALTH OF PENNSYLVANIA  
**PENNSYLVANIA GAME COMMISSION**  
2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

October 9, 2003

Mr. Mark S. Ackerman  
FirstEnergy Nuclear Operating Company  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop ISI)  
PO Box 4, Route 168W  
Shippensport, PA 15077-0004

In re: Beaver Valley Power Station  
License Renewal Project  
Shippensport, Beaver County, PA

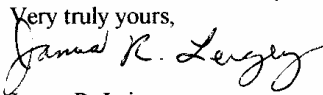
Dear Mr. Ackerman:

This is our response to your letter of September 8, 2003, requesting information and a response about referenced project.

We have completed an office review and determined that except for occasional transient individuals, this project should not affect endangered or threatened species of bird or mammal recognized by the Pennsylvania Game Commission nor do we anticipate any adverse impacts to any critical or unique habitats.

Based on our office review only, we have no objections to the renewal of your license, but should project plans change, or if additional information becomes available, this determination could be re-evaluated.

Please direct any questions or comments to me at 717-783-5957.

Very truly yours,  
  
James R. Leigey  
Wildlife Impact Review Coordinator  
Division of Environmental Planning  
And Habitat Protection  
Bureau of Land Management

JJK/pfb

Cc: File  
SW Reg., Dir., Hough

Attn: Smith  
ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594  
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 LAW ENFORCEMENT: 717-787-5740  
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411

WWW.PGC.STATE.PA.US  
AN EQUAL OPPORTUNITY EMPLOYER

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

**L. William Pearce**  
Site Vice President

724-682-5234  
Fax: 724-643-8069

September 8, 2003  
L-03-085

Mr. John A. Arway  
Chief, Division of Environmental Services  
Pennsylvania Fish and Boat Commission  
450 Robinson Lane  
Bellefonte, PA 16823

Subject: Beaver Valley Power Station License Renewal Project  
Request for Information and Concurrence - Threatened & Endangered Species

References: (a) Letter CNS-02-050, Julea B. Hovey, Constellation Nuclear Services, to Peter A. Colangelo, Pennsylvania Fish and Boat Commission, June 28, 2002.  
(b) Letter SIR #9555, John A. Arway, Pennsylvania Fish and Boat Commission, to Michael D. Banko III, FENOC, September 16, 2002.  
(c) Letter SIR #11240, John A. Arway, Pennsylvania Fish and Boat Commission, to Michael D. Banko III, FENOC, February 26, 2003.

Dear Mr. Arway:

FirstEnergy Nuclear Operating Company (FENOC) is preparing an environmental report as part of our operating license renewal application (LRA) to the U.S. Nuclear Regulatory Commission (NRC) for the Beaver Valley Power Station (BVPS) Units 1 and 2. BVPS Units 1 and 2 have been in operation since 1976 and 1987, respectively. Successful renewal would provide the opportunity to operate the units for up to 20 years beyond the expiration of their current licenses in 2016 and 2027, respectively.

In correspondence to the Pennsylvania Fish and Boat Commission (PFBC) referenced above, FENOC's LRA consultant indicated that the LRA environmental review would include an assessment of potential impacts of BVPS license renewal on threatened, endangered, and candidate species. Since that time, FENOC has completed a preliminary draft of an assessment of potential impacts on species within PFBC's jurisdiction, which will be finalized and included in the LRA environmental report. Accordingly, FENOC is now requesting PFBC assistance in finalizing our assessment to provide additional assurance that it is accurate and complete. By contacting you at this time, FENOC believes that the effectiveness of forthcoming NRC interactions with your office, described in the following paragraph, will be enhanced.

The NRC, at 10 CFR 51.53(c)(3)(ii)(E), requires that license renewal applicants "assess the impact of the proposed action {license renewal} on threatened and endangered species in accordance with the Endangered Species Act." Consistent with our corporate commitment to natural resource conservation, we have addressed in our assessment both federal species and species similarly designated by the Commonwealth of Pennsylvania. The NRC staff routinely interacts with other affected agencies in conducting their environmental review, which leads to preparation of a supplemental environmental impact statement (SEIS) for this licensing action.

L-03-085  
Page 2

It is expected that the PFBC will be contacted regarding potential impact on species within its jurisdiction as part of this activity. The following paragraphs describe relevant aspects of the BVPS environmental setting considered in the LRA and a synopsis of FENOC's assessment of potential impacts of BVPS license renewal on species of interest.

The BVPS site consists of approximately 450 acres on the south side of the Ohio River (New Cumberland Pool) at Shippingport, Beaver County, Pennsylvania (see Attachment 1, Figure 1). The intensively developed or maintained portion of the site, approximately 220 acres, is located on a gravel terrace adjacent to the river; the remainder of the site consists mostly of forested slopes. BVPS employs a closed-cycle cooling system (cooling towers), and withdraws cooling water, primarily makeup water for this system, from the Ohio River at the Intake Structure. Cooling water, primarily cooling tower blowdown, is discharged to the Ohio River at the Discharge Structure and Emergency Overflow Structure and Impact Basin, along with small volumes of treated wastewater, in accordance with provisions of NPDES Permit PA0025615.

Short segments of three transmission lines on and adjacent to the BVPS site and one transmission line extending 15.8 miles southeast from BVPS (Duquesne Light Company's Beaver Valley-Crescent Line 318) are also being addressed in the BVPS LRA environmental report (see Attachment 1, Figures 2 and 3). The latter transmission line corridor traverses primarily through forest and farmland. Based on review of National Wetland Inventory maps, wetlands on or adjacent to this corridor are limited to a small (2-acre) palustrine forested area at the span of Service Creek and possibly one or more very small strips of riparian emergent vegetation at the span of Raccoon Creek (Attachment 1, Figure 3). The transmission line segments being considered in the LRA environmental report have been in service since the mid-1980s.

Our preliminary draft assessment, summarized in Attachment 2, specifically considers your observations with respect to nine special-status fish species noted as potentially occurring in the Ohio River at the BVPS site and at crossings of the Ohio River by transmission lines that connect to the Beaver Valley Substation [References (b) and (c) above]. Based on our assessment, FENOC believes that extended operation and maintenance of BVPS and the transmission corridors being considered in the LRA would have no significant impact on threatened, endangered, or candidate species under PFBC jurisdiction. FENOC has not identified any land disturbing activities that would be undertaken for license renewal, and notes further that none of the transmission lines being considered in the LRA involve crossing of the Ohio River. In addition, both FENOC and Duquesne Light would continue to be subject to applicable regulatory controls for the period of extended operation. Neither FENOC nor Duquesne Light is aware of any adverse impact to populations of any threatened, endangered, or candidate species from past or current operation of BVPS or these transmission lines.

FENOC respectfully requests that the PFBC (1) formally notify us of any additional concerns or relevant information regarding threatened, endangered, and candidate species pertinent to our preliminary draft assessment and (2), as appropriate, concur with the assessment. FENOC will evaluate any information you provide for inclusion in the assessment, and will include your response to this request in the final LRA environmental report submitted to the NRC. FENOC would appreciate receiving your response within 60 days of receipt to provide ample time to evaluate and incorporate your response into our LRA environmental report for submittal to the NRC.

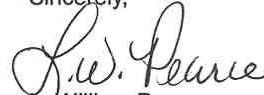
**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

L-03-085  
Page 3

Thank you for your assistance as we complete this important environmental assessment. Please address any comments or questions you may have to Mr. Mark Ackerman, License Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,

  
L. William Pearce  
Site Vice President

Attachments: Project Maps (Attachment 1)  
Preliminary Assessment (Attachment 2)

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

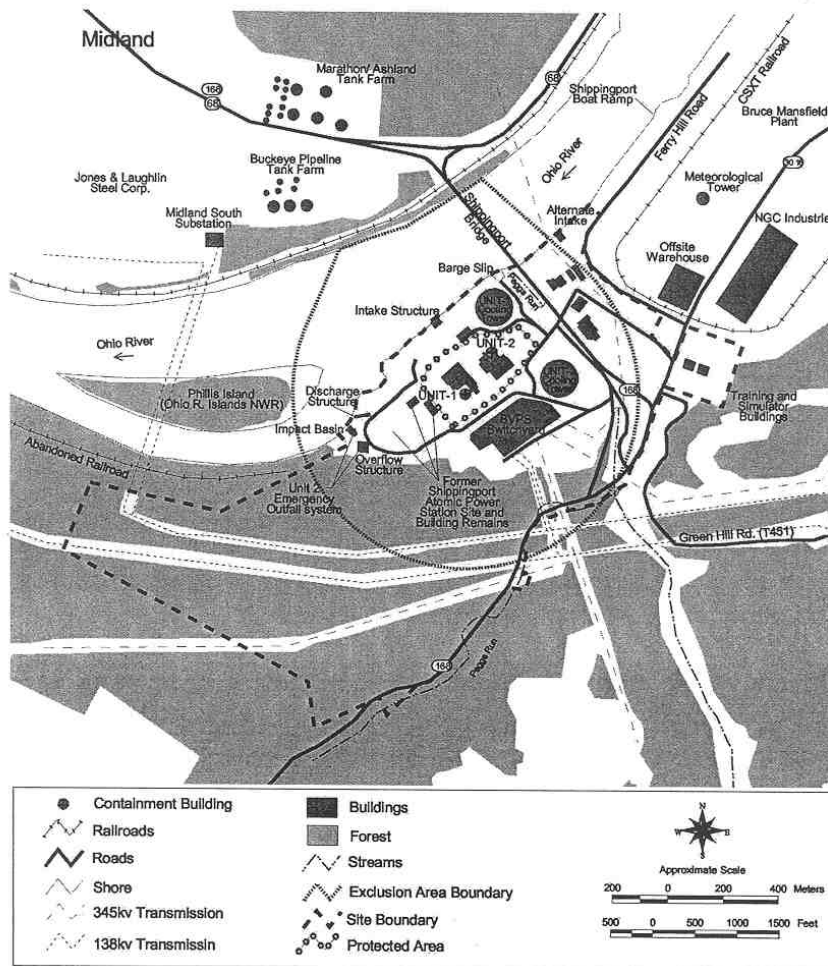
L-03-085  
Page 4

bc: G. DeCamp (CNS)  
T. Greci (CNS)  
M. S. Ackerman (3 copies)  
Central File

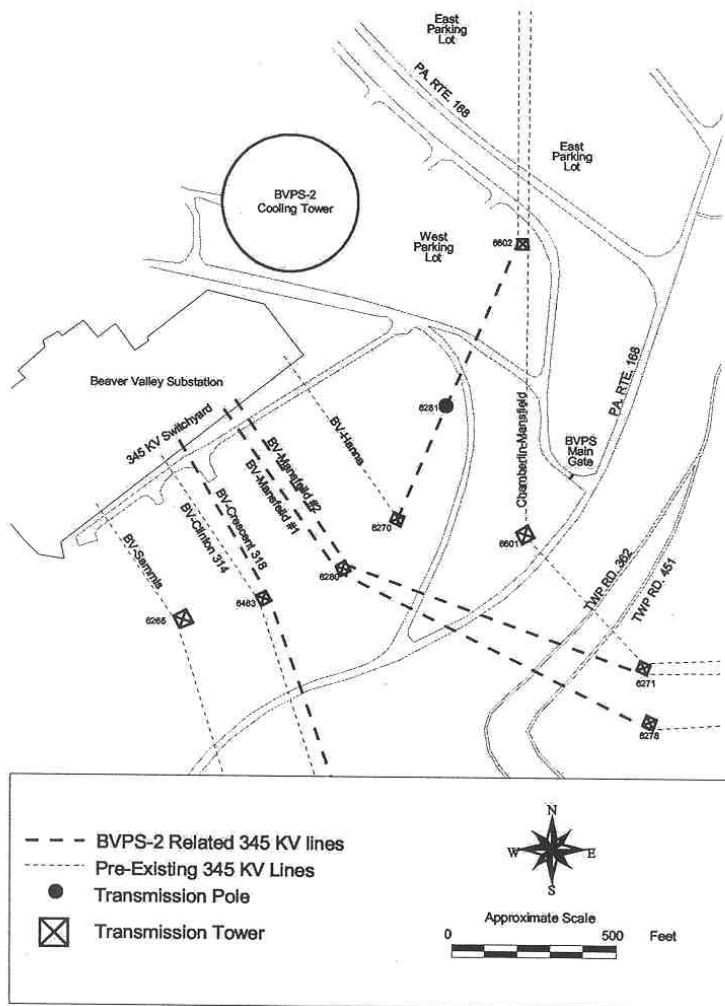


**ATTACHMENT 1  
PROJECT MAPS**

FIGURE 1  
 BEAVER VALLEY POWER STATION SITE MAP



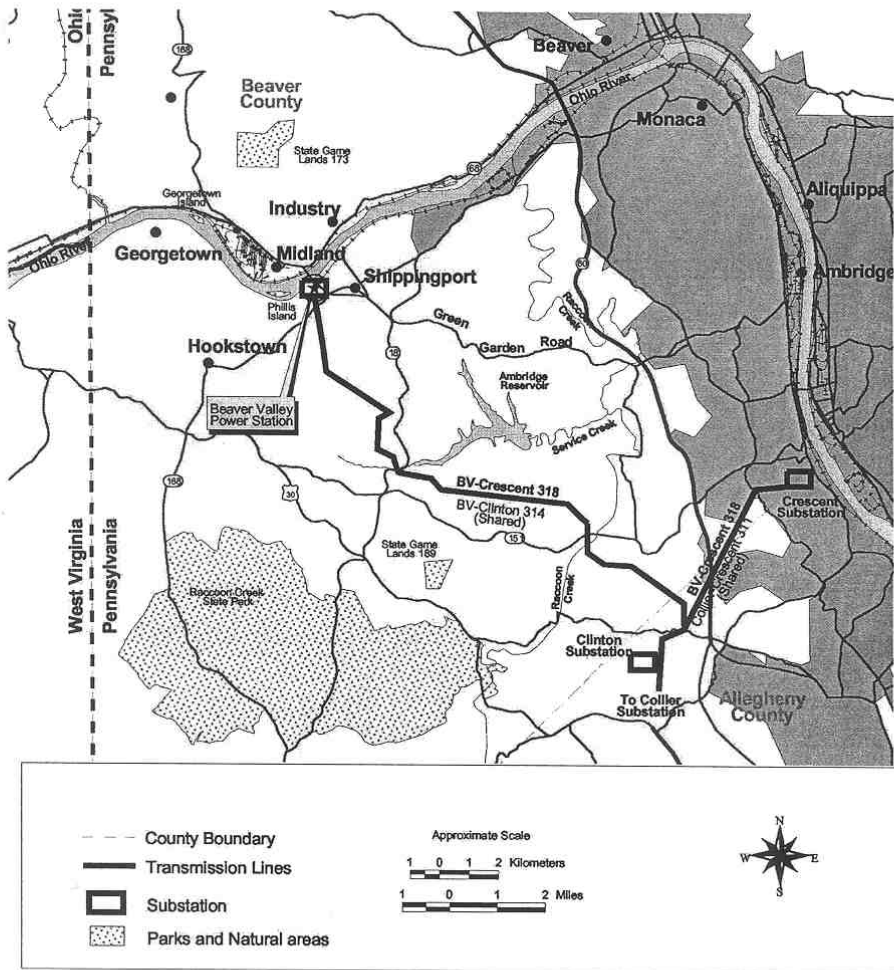
**FIGURE 2**  
**345 kV RECONFIGURATIONS**  
**FOR BEAVER VALLEY POWER STATION UNIT 2**



BVPS LRA Preliminary Assessment  
 Project Maps

Att. 1-2

FIGURE 3  
 BEAVER VALLEY-CRESCENT LINE 318 CORRIDOR



**ATTACHMENT 2**

**PRELIMINARY ASSESSMENT**

**PENNSYLVANIA THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
SUBJECT TO PA FISH AND BOAT COMMISSION JURISDICTION  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL**

TABLE 1  
 PENNSYLVANIA THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
 SUBJECT TO PENNSYLVANIA FISH AND BOAT COMMISSION JURISDICTION  
 OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>

Common Name Scientific Name	U.S. Status <sup>b</sup>		PA Status <sup>b</sup>		Habitat/Occurrence <sup>c</sup>
	E	E	E	E	
<b>Aquatic Invertebrates</b>					
Northern riffleshell <i>Epioblasma torulosa rangiana</i>	E	E			Large and small streams, preferring runs with bottoms of firmly packed sand and fine to coarse gravel; recent occurrence in PA limited to upper Allegheny River watershed (Ref. 1; Ref. 2). No recent documented occurrences in Ohio River downstream as far as Meldahl Pool (Ref. 3). No PNDI record of observation in lower Allegheny River/Upper Ohio River in PA since 1919 or earlier (Ref. 4, Appendix J). Not reported by PNDI or PFBC as occurring in the Ohio River or other water bodies in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 (Ref. 5, Ref. 6, Ref. 7, Ref. 8).
Clubshell <i>Pleurobema clava</i>		E		E	Small rivers and streams in clean-sweep sand and gravel; has been found buried 2-4 inches in clean, loose sand. Recent occurrence in Ohio River drainage in PA limited to upper Allegheny River watershed. (Ref. 9). No recent documented occurrences in Ohio River downstream as far as Meldahl Pool (Ref. 3). No PNDI record of observation in lower Allegheny River/Upper Ohio River in PA since 1919 or earlier (Ref. 4, Appendix J). Not reported by PNDI or PFBC as occurring in the Ohio River or other water bodies in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 (Ref. 5, Ref. 6, Ref. 7, Ref. 8).

BVPS LRA Preliminary Assessment  
 PFBC Threatened & Endangered Species

Att. 2-1



Common Name Scientific Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence <sup>c</sup>
<b>Fish</b>			
Silver chub <i>Macrhybopsis storeriana</i>	-	E	<p>Inhabits the bottoms of large low- or base-gradient streams with clean gravel and sand substrate; potential threats likely include pollutants and siltation (Ref. 10, pages 277-278). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).</p> <p>Recent collections include:            ORSANCO (1992-2001): Collected 4 of 7 years; total 250 individuals (0.8 percent of catch)            BVPS (1992-2001): Collected 4 of 10 years; total 21 individuals (see Table 3). Initially reported in 1988. Two specimens (dead) noted in impingement samples in 1988.            PFBC (1991): 22 individuals collected            ODNR (1993): Not collected</p>
Skipjack herring <i>Alosa chrysochloris</i>	-	T	<p>Large river species, highly migratory, and historically known to congregate in swift waters below dams on the Ohio River. Potential threats likely include turbidity (Ref. 10, pages 195-197). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).</p> <p>Recent collections include:            ORSANCO (1992-2001): Collected 5 of 7 years; total 776 individuals (2.4 percent of catch)            BVPS (1992-2001): Collected 1 of 10 years; total 4 individuals (see Table 3). Initially reported in 1970-72.            PFBC (1991): Not collected            ODNR (1993): Not collected</p>

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-2

Common Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence <sup>c</sup>
<p>Goldeye <i>Hiodon alosoides</i></p>	-	T	<p>Pelagic, large river species historically known to congregate in swift waters below dams on the Ohio River. Relatively tolerant of turbidity, but potentially intolerant of industrial pollutants (Ref. 10, pages 207-209; Ref. 11, pages 54-55). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).</p> <p>Recent collections include:                      ORSANCO (1992-2001): 0 individuals (0 percent of catch)                      BVPS (1992-2001): 0 individuals (see Table 3). Initially reported in 1970-72.                      PFBC (1991): 1 individual collected                      ODNR (1993): Not collected</p>
<p>Mooneye <i>Hiodon tergisus</i></p>	-	T	<p>Prefers large, clear waters with abundant forage; although often found in non-flowing waters, feeds mostly in swift waters, such as occur below dams. Intolerant of silt and turbidity (Ref. 10, pages 10-212; Ref. 11, page 55). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).</p> <p>Recent collections include:                      ORSANCO (1992-2001): Collected 5 of 7 years; total 18 individuals (0.1 percent of catch)                      BVPS (1992-2001): Collected 6 of 10 years; total 43 individuals (see Table 3). Initially reported in 1986.                      PFBC (1991): 16 individuals collected                      ODNR (1993): Not collected</p>

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-3

Common Name Scientific Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence <sup>c</sup>
Smallmouth buffalo <i>Ictiobus bubalus</i>	-	T	Inhabits deep, clear waters of larger rivers with only moderate current (Ref. 11, pages 131-132). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).  Recent collections include:  ORSANCO (1992-2001): Collected 7 of 7 years; total 422 individuals. (1.3 percent of catch)  BVPS (1992-2001): Collected 9 of 10 years; total 51 individuals (see Table 3). Initially reported in 1972-73.  PFBC (1991): 6 individuals collected  ODNR (1993): Collected
Channel darter <i>Percina copelandi</i>	-	T	Large clean streams and rivers with moderate current and substrate of large rocks, fine gravel, and sand; riffles are used for spawning and summer feeding, and deeper, quieter backwaters are used in winter. Now found primarily in upper Allegheny River system in PA (Ref. 12). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).  Recent collections include:  ORSANCO (1992-2001): Collected 2 of 7 years; total 2 individuals. (0.01 percent of catch)  BVPS (1992-2001): 0 individuals (see Table 3). Initially reported in 1976. One specimen (live) noted in impingement samples in 1983 and reported occurrence in impingement samples prior to 1980.  PFBC (1991): Not collected  ODNR (1993): Not collected

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-4

Common Name Scientific Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence <sup>c</sup>
Brook silverside <i>Labidesthes sicculus</i>	-	C	<p>More common in lakes than in streams. Prefers quiet waters with low turbidity; surface feeder. Spawns on gravel in moderate current. Potential threats likely include turbidity (Ref. 10, pages 533-535; Ref. 11, pages 160-161). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).</p> <p>Recent collections include:            ORSANCO (1992-2001): Collected 1 of 7 years; total 1 individual.            (&lt;0.01 percent of catch)            BVPS (1992-2001): Collected 2 of 10 years; total 2 individuals (see Table 3).            Initially reported in 1983.</p> <p>PFBC (1991): Not collected            ODNR (1993): Collected</p>
Longnose gar <i>Lepisosteus osseus</i>	-	C	<p>Inhabits the surface of low or base-gradient clear streams; potential threats likely include turbidity and siltation (Ref. 10, pages 186-188). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).</p> <p>Recent collections include:            ORSANCO (1992-2001): Collected 3 of 7 years; total 16 individuals. (0.05 percent of catch)            BVPS (1992-2001): Collected 7 of 10 years; total 32 individuals. Including individuals observed but not collected during electrofishing, 9 of 10 years, 40 individuals (see Table 3). Initially reported in 1976.</p> <p>PFBC (1991): 14 individuals collected            ODNR (1993): Not collected</p>

Att. 2-5

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Common Name Scientific Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence <sup>c</sup>
River redbhorse <i>Moxostoma carinatum</i>	-	C	<p>Prefers deeper waters of Ohio River and lower portions of larger tributaries. Intolerant of turbidity and siltation (Ref. 10, pages 448-451). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 5).</p> <p>Recent collections include:                      ORSANCO (1992-2001): Collected 1 of 7 years; total 2 individuals. (0.01 percent of catch)                      BVPS (1992-2001): Collected 2 of 10 years; total 9 individuals (see Table 3). Initially reported in 1970-72.                      PFBC (1991): 1 individual collected                      ODNR (1993): Not collected</p>

**Reptiles**

Eastern massasauga <i>Sistrurus catenatus</i>	C	E	<p>Relatively open old field and wet meadow habitat with low-lying areas of saturated soil and higher, drier ground nearby, which is found in PA only in relic prairie terrain in western counties. No historical occurrences in Beaver County; historical occurrence in northeastern Allegheny Co., but not since 1980 (Ref. 13). However, both Counties are south of its range as indicated by Conant (Ref. 14). This species was not collected or observed in the initial ecological survey conducted at the BVPS site (Ref. 15, Table 2.2-16) or site reconnaissance conducted in 2002 (Ref. 16), and little or no wetland habitat suitable for this species exists in the BVPS site vicinity or along the Beaver Valley-Crescent Line 318 corridor. This species was not identified by PNDI or PFBC as potentially occurring in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 5; Ref. 6, Ref. 7, Ref. 8).</p>
--	---	---	--

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-6



Common Name	U.S. Status <sup>b</sup>	PA Status <sup>b</sup>	Habitat/Occurrence <sup>c</sup>
Timber rattlesnake <i>Crotalus horridus</i>	-	C	Prefers woodland habitat variously characterized by remote, mountainous terrain with steep ledges and rock slides; timbered areas with rock outcroppings, dry ridges, and second growth forest. Overwinters in communal underground dens in rocky areas. Primary current threat is habitat destruction, but includes hunting and shooting of individuals (Ref. 17). This species was not collected or observed in the initial ecological survey conducted at the BVPS site (Ref. 15, Table 2.2-16) or site reconnaissance conducted in 2002 (Ref. 16), and was not identified by PNDI or PFBC as potentially occurring in the vicinity of the BVPS site or Beaver Valley-Crescent Line 318 transmission line corridor (Ref. 5, Ref. 6, Ref. 7, Ref. 8).

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-7



- a. Tabulated species include: A) Federally designated threatened, endangered, and candidate species within PFBC jurisdiction reported by the U.S. Fish and Wildlife Service (FWS) for Pennsylvania (Ref. 18, Ref. 19) with known historical ranges that include the upper Ohio River or southwestern Pennsylvania, except those considered to be extirpated in PA, e.g., by the Pennsylvania Biological Survey (Ref. 20); and (B) the following species officially listed as endangered, threatened, or candidates for listing by the Commonwealth of Pennsylvania (Pennsylvania Code, Title 58, Chapter 75): (1) species within the jurisdiction of PFBC noted by PNDI or PFBC as potentially occurring in the vicinity of BVPS, including the Ohio River and Phillis Island, or the vicinity of the Beaver Valley-Crescent Line 318 transmission corridor (Ref. 5, Ref. 6, Ref. 7, Ref. 8); and (2) amphibian and reptile species with ranges that include Beaver County or Allegheny County based on Conant (Ref. 14).
- b. Status Codes: E = Endangered, T = Threatened, C = Candidate for Listing, U = Undetermined Status
- c. Fish survey data from the following sources: ORSANCO Montgomery and New Cumberland Locks rotenone sampling and New Cumberland Pool electrofishing, 1992-2001 (Ref. 21); BVPS monitoring as reported in BVPS Annual Environmental Reports Nonradiological for 1980-2001 (Ref. 22) and BVPS-2 Environmental Report – Operating License Stage (Ref. 15); Pennsylvania Fish and Boat Commission (PFBC) gill netting, electrofishing, and seining in New Cumberland Pool, 1991 (Ref. 23), and Ohio Department of Natural Resources electrofishing in the New Cumberland Pool, 1993 (Ref. 24).

FENOC = FirstEnergy Nuclear Operating Company  
 FWS = U.S. Fish and Wildlife Service  
 BVPS = Beaver Valley Power Station  
 ORSANCO = Ohio River Basin Sanitation Commission

ODNR = Ohio Department of Natural Resources  
 PA = Pennsylvania  
 PFBC = Pennsylvania Fish and Boat Commission  
 PNDI = Pennsylvania Natural Diversity Inventory

BVPS LRA Preliminary Assessment  
 PFBC Threatened & Endangered Species

Att. 2-8

**TABLE 2**  
**SUMMARY IMPACT ASSESSMENT FOR**  
**THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**SUBJECT TO PENNSYLVANIA FISH AND BOAT COMMISSION JURISDICTION**  
**OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL<sup>a</sup>**

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Northern riffleshell <i>Epiplatysma torulosa</i> <i>rangiana</i> FE, PE	(Applicable to all) None to Low. Last documented occurrence in the upper Ohio River or lower Allegheny River in early 1900s. However, recent surveys have documented the presence in the New Cumberland Pool, including the Phillis Island backchannel, of other unionid mussel species not recorded there since the early 1900s, and indicate that some mussels listed by PA or FWS may recolonize upper Ohio River pools in the future (Ref. 3).	(Applicable to all) Maintenance dredging (e.g., barge slip) Cooling water and wastewater discharges. Unplanned petroleum or hazardous materials spills/releases.	(Applicable to all) • Maintenance dredging is regulated by USACE and PADEP permits. • Cooling water and wastewater discharges are regulated by NPDES permit, which includes discharge limits and monitoring requirements. • Controls are established for prevention, preparedness, and response to unplanned spills and releases (e.g., <i>BVPS Preparedness, Prevention, and Contingency Plan</i> ) • Closed-cycle cooling, tendency of plume to remain at surface, and low probability of simultaneous shutdown of both BVPS units reduces potential for adverse thermal impacts. • Unionid mussel population increase or recolonization at Phillis Island, downstream from BVPS outfall, apparently has occurred since BVPS initiated operation.
Clubshell <i>Pleuroberma clava</i> FE, PE	(Applicable to all) None to Low. Last documented occurrence in the upper Ohio River or lower Allegheny River in early 1900s. However, recent surveys have documented the presence in the New Cumberland Pool, including the Phillis Island backchannel, of other unionid mussel species not recorded there since the early 1900s, and indicate that some mussels listed by PA or FWS may recolonize upper Ohio River pools in the future (Ref. 3).	(Applicable to all) Maintenance dredging (e.g., barge slip) Cooling water and wastewater discharges. Unplanned petroleum or hazardous materials spills/releases.	(Applicable to all) • Maintenance dredging is regulated by USACE and PADEP permits. • Cooling water and wastewater discharges are regulated by NPDES permit, which includes discharge limits and monitoring requirements. • Controls are established for prevention, preparedness, and response to unplanned spills and releases (e.g., <i>BVPS Preparedness, Prevention, and Contingency Plan</i> ) • Closed-cycle cooling, tendency of plume to remain at surface, and low probability of simultaneous shutdown of both BVPS units reduces potential for adverse thermal impacts. • Unionid mussel population increase or recolonization at Phillis Island, downstream from BVPS outfall, apparently has occurred since BVPS initiated operation. • Benthic macroinvertebrate monitoring at BVPS, conducted annually from 1973 through present, indicates that BVPS is not adversely affecting the benthic macroinvertebrate community. The NRC concurred and deleted the requirement for benthic macroinvertebrate monitoring in 1980 with Amendment 25 to the BVPS-1 Technical Specifications. • FENOC has not identified any significant land disturbing activities that would be undertaken for license renewal either

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-9

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
			on or in the vicinity of the BVPS site or along the Beaver Valley-Crescent Line 318 corridor.
			<ul style="list-style-type: none"> <li>• Results of PNDI searches, conducted at FENOC's request, (Ref. 5, Ref. 6, Ref. 7, Ref. 8) have not identified these or other listed or candidate invertebrate species within PFBC jurisdiction as potential conflicts with BVPS or transmission line operation.</li> </ul>
			Impact Conclusion: SMALL
<b>Fish</b>			
Silver chub <i>Macrhybopsis storeriana</i> PE	(Applicable to all in fish section) High. Presence of all of these species in the New Cumberland Pool has been recently documented, and silver chub, skipjack herring, smallmouth buffalo, and longnose gar have been recently collected with relatively high frequency and/or in relatively high abundance.	(Applicable to all in fish section) Maintenance dredging (e.g., barge slip) Cooling water and wastewater discharges Unplanned petroleum or hazardous materials spills/releases.	(Applicable to all in fish section) <ul style="list-style-type: none"> <li>• Maintenance dredging is regulated by USACE and PADEP permits.</li> <li>• Cooling water and wastewater discharges are regulated by NPDES permit, which includes discharge limits and monitoring requirements.</li> <li>• Controls are established for prevention, preparedness, and response to unplanned spills and releases (e.g., <i>BVPS Preparedness, Prevention, and Contingency Plan</i>)</li> <li>• Closed-cycle cooling reduces potential for adverse impact from impingement, entrainment, and thermal impacts.</li> <li>• BVPS units are not normally shut down simultaneously, reducing potential for impact from cold shock.</li> <li>• Increase in populations of some of these species has occurred since BVPS initiated operation.</li> <li>• Annual monitoring of the fish community at BVPS indicates presence of special-status fish species at both control and non-control stations (see Table 3).</li> </ul>
<i>Alosa chrysochloris</i> PT			
Goldeye <i>Hiodon alosoides</i> PT			
Mooneye <i>Hiodon tergisus</i> PT			
Smallmouth buffalo <i>Ictiobus bubalus</i> PT	Pollution-intolerant species such as mooneye, goldeye, skipjack herring, and river herring have reportedly increased in the upper Ohio River consistent with improvements in water quality (Ref. 22).	Entrainment of early life stages in cooling water Impingement of fish on intake screens	
Channel darter <i>Percina copelandi</i> PT			

Att. 2-10

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species



Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Brook silverside <i>Labidesthes sicculus</i> PC			<ul style="list-style-type: none"> <li>Monitoring of fish egg and larvae entrainment, conducted at BVPS from 1976 through 1995, indicated that entrainment impacts were not significant. The NRC concurred and deleted these monitoring requirements in 1980 with Amendment 5 to the BVPS-1 Technical Specifications. [Entrainment monitoring was continued on voluntary basis until 1995.]</li> </ul>
Longnose gar <i>Lepisosteus osseus</i> PC			<ul style="list-style-type: none"> <li>Monitoring of fish impingement at BVPS, conducted at BVPS from 1976 through 1995, indicated that impingement losses were small and had little or no impact on fish populations in the river. The NRC concurred and deleted this monitoring requirement in 1983 with Amendment 64 to the BVPS-1 Technical Specifications. [Monitoring continued until 1995 on a voluntary basis.]</li> </ul>
River redbhorse <i>Moxostoma carinatum</i> PC			<ul style="list-style-type: none"> <li>Review of BVPS annual monitoring reports through 2001 indicates that none of these species were specifically identified in fish egg and larvae samples collected during entrainment monitoring, and that the only incidences of impingement of these species noted in impingement monitoring conducted from 1980 through 1995 were: 2 silver chubs found dead on the screens in 1988, 1 in an operating bay and 1 in a non-operating bay, and 1 live channel darter found on an intake screen in 1983.</li> </ul>
			<ul style="list-style-type: none"> <li>Results of PNDI searches and associated species impact reviews by PFBC (Ref. 5, Ref. 6, Ref. 7, Ref. 8), conducted at FENOC's request, identified these species as potential conflicts with BVPS operation and crossings of the Ohio River by BVPS-associated transmission lines. However, transmission lines addressed in the BVPS license renewal environmental review cross only Ohio River tributary streams (by spanning). PFBC (Ref. 6, Ref. 8) indicated that these species are vulnerable to physical and chemical changes to their aquatic environment, and that if environmentally invasive activities will affect any waterways at the site, additional information would be required for a more thorough PFBC</li> </ul>

Att. 2-11

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
			<p>evaluation. PFBC further indicated that if there will be no disturbance or impacts to waterways, and provided that if best management practices are used and an approved strict erosion/sedimentation control plan is maintained, then no significant adverse impacts to rare or protected species under PFBC jurisdiction are anticipated.</p> <ul style="list-style-type: none"> <li>FENOC has not identified any significant land disturbing activities that would be undertaken for license renewal either on or in the vicinity of the BVPS site or along the Beaver Valley-Crescent Line 318 corridor, and notes that effective controls, summarized above, are in place to minimize potential for operational impacts.</li> </ul> <p>Impact Conclusion: SMALL</p>

**Reptiles**

<p>Eastern massasauga <i>Sistrurus catenatus</i> FC, PE</p>	<p>None to Low. No recent confirmed occurrence in Beaver or Allegheny Counties.</p> <p>Little or no suitable wetland habitat on or near BVPS site or Beaver Valley-Crescent Line 318 transmission corridor.</p> <p>Not collected or observed in 1974-75 ecological surveys of BVPS site (Ref. 15, Table 2.2-16) or 2002 site reconnaissance (Ref. 16)</p>	<p>No significant initiators.</p>	<ul style="list-style-type: none"> <li>Results of PNDI searches and associated species impact reviews by PFBC (Ref. 5, Ref. 6, Ref. 7, Ref. 8), conducted at FENOC's request, have not identified these species as potential conflicts with BVPS or transmission line operation.</li> <li>FENOC has not identified any significant land disturbing activities that would be undertaken for license renewal either on or in the vicinity of the BVPS site or along the Beaver Valley-Crescent Line 318 corridor.</li> </ul> <p>Impact Conclusion: SMALL</p>
---	---	-----------------------------------	--

Att. 2-12

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Species and Status <sup>a,b</sup>	Occurrence Potential <sup>a</sup>	Impact Initiators	Additional Impact Considerations and Conclusions <sup>c</sup>
Timber rattlesnake <i>Crotalus horridus</i> PC	Low on BVPS site. Low to moderate on or near Beaver Valley-Crescent Line 318 transmission corridor, based on potential habitat availability.  Not collected or observed in 1974-75 ecological surveys of BVPS site (Ref. 15, Table 2.2-16) or site reconnaissance conducted in 2002 (Ref. 16)		

- a. Tabulated species, status, and occurrence potential based on information presented in Table 1.  
b. Status Codes: FE = Federal Endangered, FT = Federal Threatened, FC = Federal Candidate for Listing, PE = PA Endangered, PT = PA Threatened, PC = PA Candidate for Listing.  
c. Additional considerations include controls established for impact initiators, industry and plant experience related to potential impacts, information received from regulatory agencies, and other relevant factors.

FWS = U.S. Fish and Wildlife Service  
Protection  
BVPS = Beaver Valley Power Station  
Resources  
NPDES = National Pollutant Discharge Elimination System  
PFBC = Pennsylvania Fish and Boat Commission  
NRC = U.S. Nuclear Regulatory Commission  
PA = Pennsylvania  
PADEP = Pennsylvania Department of Environmental  
Protection  
PDCNR = PA Department of Conservation and Natural  
Resources  
PNDI = Pennsylvania Natural Diversity Inventory  
USACE = U.S. Army Corps of Engineers

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-13



TABLE 3  
 SUMMARY OF SPECIAL STATUS FISH COLLECTIONS AT BEAVER VALLEY POWER STATION, 1992-2001<sup>a</sup>

Year <sup>b</sup>	Station 1 (Control) <sup>c</sup>			Station 2A (Noncontrol) <sup>c</sup>			Station 2B (Noncontrol) <sup>c</sup>			Station 3 (Noncontrol) <sup>c</sup>			Annual Subtotal
	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	
<i>Machrybopsis storeriana</i> (Silver chub)													
1992	0	0	NA <sup>d</sup>	0	0	0	0	0	0	0	0	0	0
1993	0	3	0	0	0	0	0	0	0	0	0	0	3
1994	0	2	2	0	2	2	0	0	1	0	0	0	10
1995	0	0	0	0	2	0	0	2	0	0	1	0	5
1996	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1997	NA	0	0	NA	2	0	NA	0	0	NA	1	0	3
1998	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1999	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2000	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2001	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
<b>Total</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>21</b>
<i>Alosa chrysochloris</i> (Skipjack herring)													
1992	0	0	NA	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1997	NA	4	0	NA	0	0	NA	0	0	NA	0	0	4
1998	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1999	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2000	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2001	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
<b>Total</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>
<i>Hiodon tergisus</i> (Mooneye)													
1992	0	0	NA	0	0	0	0	0	0	0	0	0	0
1993	3	6	0	0	1	0	0	2	0	1	10	0	23
1994	1	1	0	0	0	0	0	3	0	0	0	0	5

Att. 2-14

BVPS LRA Preliminary Assessment  
 PFBC Threatened & Endangered Species

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report

Year <sup>b</sup>	Station 1 (Control) <sup>c</sup>			Station 2A (Noncontrol) <sup>c</sup>			Station 2B (Noncontrol) <sup>c</sup>			Station 3 (Noncontrol) <sup>c</sup>			Annual Subtotal
	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	
1995	0	2	0	1	0	0	0	0	0	0	0	0	3
1996	NA	0	0	NA	0	0	0	0	0	NA	0	0	0
1997	NA	4	0	NA	1	0	NA	3	0	NA	0	0	8
1998	NA	0	0	NA	0	0	NA	3	0	NA	0	0	3
1999	NA	0	0	NA	0	0	NA	1	0	NA	0	0	1
2000	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2001	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
<b>Total</b>	<b>4</b>	<b>13</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>1</b>	<b>10</b>	<b>0</b>	<b>43</b>
<i>Ictiobus bubalus</i> (Smallmouth Buffalo)													
1992	0	0	NA	0	0	0	0	0	NA	0	0	0	0
1993	0	1	0	1	0	0	0	2	0	2	3	0	9
1994	0	0	0	1	0	0	0	1	0	2	0	0	4
1995	2	1	0	1	2	0	3	2	0	0	1	0	15
1996	NA	0	0	NA	1	0	NA	0	0	NA	0	0	1
1997	NA	2	0	NA	1	0	NA	2	0	NA	0	0	5
1998	NA	0	0	NA	0	0	NA	3	0	NA	0	0	3
1999	NA	0	0	NA	1	0	NA	0	0	NA	0	0	1
2000	NA	6	0	NA	2	0	NA	0	0	NA	1	0	9
2001	NA	4	0	NA	0	0	NA	0	0	NA	0	0	4
<b>Total</b>	<b>2</b>	<b>14</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>3</b>	<b>10</b>	<b>0</b>	<b>7</b>	<b>5</b>	<b>0</b>	<b>51</b>
<i>Percina copelandi</i> (Channel Darter)													
1992	0	0	NA	0	0	0	0	0	NA	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1997	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1998	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1999	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2000	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2001	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Att. 2-15

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report

Year <sup>b</sup>	Station 1 (Control) <sup>c</sup>			Station 2A (Noncontrol) <sup>c</sup>			Station 2B (Noncontrol) <sup>c</sup>			Station 3 (Noncontrol) <sup>c</sup>			Annual Subtotal
	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	
<i>Labidesthes sicculus</i> (Brook Silverside)													
1992	0	0	NA	0	0	0	0	0	NA	0	0	0	0
1993	0	1	0	0	0	0	0	0	0	0	0	0	1
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1997	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
1998	NA	0	0	NA	0	0	NA	0	1	NA	0	0	1
1999	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2000	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
2001	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<i>Lepisosteus osseus</i> (Longnose Gar) <sup>e</sup>													
1992	0	1	NA	0	0	1	1	0	NA	1	0	0	3
1993	2	0	0	0	1	3	3	2	0	3	0	0	11
1994	0	0	0	1	0	1	1	0	0	0	0	0	2
1995	0	0	0	0	1	3	3	0	0	5	0	0	9
1996	NA	0	0	NA	0	NA	NA	1	0	NA	0	0	1
1997	NA	1	0	NA	0	NA	NA	0	0	NA	0	0	1
1998	NA	0	0	NA	0	NA	NA	0	0	NA	0	0	0
1999	NA	0	0	NA	0	NA	NA	0	0	NA	0	0	0
2000	NA	0	0	NA	2	NA	NA	2	0	NA	1	1	5
2001	NA	0	0	NA	0	NA	NA	0	0	NA	0	0	0
<b>Total</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>5</b>	<b>0</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>32</b>
<i>Moxostoma carinatum</i> (River Redhorse)													
1992	0	0	NA	0	0	0	0	0	NA	0	0	0	0
1993	0	0	0	0	2	0	0	0	0	0	0	0	2
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	NA	0	0	NA	0	NA	NA	0	0	NA	0	0	0
1997	NA	0	0	NA	0	NA	NA	0	0	NA	0	0	0
1998	NA	0	0	NA	0	NA	NA	0	0	NA	0	0	0
1999	NA	0	0	NA	0	NA	NA	0	0	NA	0	0	0

Att. 2-16

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Year <sup>b</sup>	Station 1 (Control) <sup>c</sup>			Station 2A (Noncontrol) <sup>c</sup>			Station 2B (Noncontrol) <sup>c</sup>			Station 3 (Noncontrol) <sup>c</sup>			Annual Subtotal
	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	Gill net	Electrofishing	Seine	
2000	NA	1	0	NA	3	0	NA	1	0	NA	2	0	7
2001	NA	0	0	NA	0	0	NA	0	0	NA	0	0	0
<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>9</b>

- a. Source: Beaver Valley Power Station Annual Environmental Monitoring Reports Nonradiological: 1992-2001 (collection) (Ref. 22), copies of which are routinely provided to the Pennsylvania Fish and Boat Commission.
- b. In 2001, collections were performed during May and July only. For all other years, sampling was typically performed in May, July, September, and November.
- c. Station 1 (control) is located upstream of BVPS on the Ohio River at approximate river mile (RM) 34.5. Stations 2A and 2B are located downstream from the BVPS discharges on the main channel and back channel at Phillis Island, respectively, at approximate RM 35. Station 3 is located downstream from BVPS at approximate RM 37. Seining consisted of three seine hauls at both Station 1 (north shore) and Station 2B (south shore) during each survey. Electrofishing was conducted on both the north and south shoreline areas at each station, for approximately 10 minutes of actual shocking time per survey (5 minutes along each shore at each station). Gill netting was conducted using one gill net set extending from the north shore and one gill net set extending from the south shore at each station for each sampling event. Nets were typically set in the afternoon/evening, left in place overnight, then pulled the following morning.
- d. NA= No sampling conducted with indicated method.
- e. From 1999 through 2001, total of 8 additional longnose gars were observed during electrofishing, as follows: 1 (1999), 6 (2000), 1 (2001). However, no note was made of the station where they were observed.

BVPS LRA Preliminary Assessment  
PFBC Threatened & Endangered Species

Att. 2-17

#### REFERENCES

1. Pennsylvania Department of Conservation and Natural Resources. *Epioblasma torulosa rangiana*. <http://www.dcnr.state.pa.us/wrcf/rif.htm>. Accessed October 12, 2002.
2. U.S. Fish and Wildlife Service, Division of Endangered Species. *Species Accounts: Northern Riffleshell (Epioblasma torulosa rangiana)*. <http://endangered.fws.gov/lff/saf1a.html>. Accessed October 13, 2002.
3. Ecological Specialists, Inc. *Final Report: Freshwater Mussels (Bivalvia: Unionidae) of the Upper Ohio River*. ESI Project #98-004. Prepared for: Mussel Mitigation Trust Fund Committee, Cincinnati, Ohio, and U.S. Fish and Wildlife Service, Cookeville, Tennessee. April 2000.
4. U.S. Army Corps of Engineers. *Draft Environmental Impact Statement on Commercial Sand and Gravel Dredging Operations in the Allegheny and Ohio Rivers, Pennsylvania*. Pittsburgh District. Pittsburgh, Pennsylvania. June 2002. <http://www.lrp.usace.army.mil/>. Accessed September 26, 2002.
5. Pennsylvania Natural Diversity Inventory. Results for PNDI Search N100081. May 31, 2002.
6. Pennsylvania Fish and Boat Commission. Letter SIR #9555 from John A. Arway, Pennsylvania Fish and Boat Commission, to Michael D. Banko III, FENOC. "Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species, PNDI Potential Conflict Number N100081, FirstEnergy Nuclear Operating Company, Beaver Valley Power Station Operating License, Shippingport Township, Beaver County, Pennsylvania". September 16, 2002.
7. Pennsylvania Natural Diversity Inventory. Results for PNDI Searches N105492, N105493, and N105494, conducted September 4, 2002; "Potential Conflict" Response Forms, September 24, 2002.
8. Pennsylvania Fish and Boat Commission. Letter SIR #11240 from John A. Arway, Pennsylvania Fish and Boat Commission, to Michael D. Banko III, FENOC, "Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species, FirstEnergy Nuclear Operating Company for Beaver Valley Power Station, Beaver County, Pennsylvania". February 26, 2003.

9. U.S. Fish and Wildlife Service, Division of Endangered Species. *Species Accounts: Clubshell (Pleurobema clava)*. <http://endangered.fws.gov/iff/saf1b.html>. Accessed October 13, 2002.
10. Trautman, Milton B. *The Fishes of Ohio with Illustrated Keys*. Ohio State University Press. 1981.
11. Cooper, Edwin L. *Fishes of Pennsylvania and the Northeastern United States*. The Pennsylvania State University Press. 1983.
12. Pennsylvania Department of Conservation and Natural Resources. *Channel Darter Percina coplandi*. <http://www.dcnr.state.pa.us/wrcf/chdart.htm>. Accessed October 12, 2002.
13. Pennsylvania Department of Conservation and Natural Resources. *Eastern Massasauga Sistrurus catenatus catenatus*. <http://www.dcnr.state.pa.us/wrcf/emass.htm>. Accessed October 12, 2002.
14. Conant, Roger. *A Field Guide to Reptiles and Amphibians*. Houghton Mifflin. Boston, Massachusetts, 1958.
15. Duquesne Light Company. *Beaver Valley Power Station Unit 2 Environmental Report – Operating License Stage*. Amendment 6. May 1984.
16. Beak Consultants Inc. *Plant Community Characterization Study for the Beaver Valley Power Station Site, Shippingport, Pennsylvania*. Lancaster, New York. October 2002.
17. NatureServe Explorer. *Summary Report: Crotalus horridus – Linnaeus, 1758; Timber rattlesnake*. <http://www.natureserve.org/explorer> Accessed October 14, 2002.
18. U.S. Fish and Wildlife Service. *Threatened and Endangered Species System (TESS) Listings by State and Territory as of 10/12/2002 - Pennsylvania*. <http://ecos.fws.gov/servlet/TESSWebpageUsaLists?state=PA>. Accessed October 13, 2002.
19. U.S. Fish and Wildlife Service. *Threatened and Endangered Species System (TESS) Candidate Species as of 10/12/2002*. <http://ecos.fws.gov/servlet/TESSWebpageNonlisted?listings=0&type=C>. Accessed October 13, 2002.



20. Pennsylvania Biological Survey. *Inventory and Monitoring of Biological Resources in Pennsylvania; Proceedings of the First Conference of the Pennsylvania Biological Survey*. 1998.  
[http://www.dickinson.edu/prorg/pabs/pabs\\_main.htm](http://www.dickinson.edu/prorg/pabs/pabs_main.htm). Accessed October 13, 2002.
21. Ohio River Valley Water Sanitation Commission. ORSANCO fish sampling data for Montgomery and New Cumberland Lock Chamber rotenone collections and New Cumberland Pool electrofishing collections, Ohio River, 1992-2002. ORSANCO database accessed September 2002.
22. FirstEnergy Nuclear Operating Company, Duquesne Light Company *Annual Environmental Report Non-Radiological; Beaver Valley Power Station Units No. 1 and 2; Licenses DPR-66 and NPF-73*. Collection published 1980-2001.
23. Lorson, Rick and Dave Miko. *Ohio River (820D, F, G) Management Report, Sections 01, 02, 03, 04*. Pennsylvania Fish and Boat Commission, Bureau of Fisheries, Fisheries Management Division. June 1994.
24. Sanders, Randall E. *Ohio's Near-Shore Fishes of the Ohio River: 1991 to 2000 (Year Three – 1993 Results)*. Ohio Environmental Protection Agency for the Ohio Department of Natural Resources. Columbus, Ohio. June 15, 1994.

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Commonwealth of Pennsylvania  
Pennsylvania Fish and Boat Commission  
Division of Environmental Services  
450 Robinson Lane  
Bellefonte, PA 16823  
814-359-5147  
October 29, 2003

**IN REPLY REFER TO**  
SIR# 9555, 11240

FENOC  
Mark Ackerman  
Beaver Valley Power Station  
Route 168, PO Box 4  
Shippingport, PA 15077-0004

**RE: Secondary Species Impact Review (SIR) - # 9555 and 11240**  
**Beaver Valley Power Station License Renewal**  
**Beaver County, Pennsylvania**

Dear Mr. Ackerman:

I have reviewed the information from the preliminary draft assessment of potential impacts of the Beaver Valley Power Station license renewal on rare, threatened, and endangered species falling under Pennsylvania Fish & Boat Commission (PFBC) jurisdiction.

In our previous correspondences for this project, we listed several species of fish in the Ohio River for which we had concerns about any proposed environmentally invasive activities. However, according to your letter and report, extended operation and maintenance of BVPS and associated transmission lines will not require any additional disturbance or impacts to waterways. Controls and procedures that are currently in place to protect fish from entrainment, impingement, and other adverse effects of the power station operation are expected to continue. Monitoring studies conducted at BVPS indicate that the plant operation has had some impact on fish populations in the river, the extent of which is unknown. For example, the state endangered silver chub (*Macrhybopsis storeriana*) and the state threatened channel darter (*Percina copelandi*) have been killed or captured via impingement in past monitoring surveys. These data do not account for incidents since 1995 or potential kills that occurred in between monitoring events. Safeguards need to be designed such that further "take" of endangered and threatened species is avoided. It was not clear in your submittal if measures have been taken to ameliorate this situation. Concurrence with the proposed project will not occur until we can be assured that steps have been taken to avoid further take of threatened and endangered fish species known from the project area. Please provide additional information regarding avoidance measures taken for impingement and entrainment of fish species in order for us to continue our review of this project.

Please contact Kathy Derge of my staff at (814) 359-5186 if you have any additional concerns regarding this response. Thank you for your cooperation and attention to this matter of threatened and endangered species conservation.

Sincerely,

Christopher A. Urban, Chief  
Natural Diversity Section

KLD/  
Cc: DEP-SW Region

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

L. William Pearce  
Site Vice President

724-682-5234  
Fax: 724-643-8069

February 3, 2004  
L-04-004

Mr. Christopher A. Urban  
Chief, Natural Diversity Section  
Pennsylvania Fish and Boat Commission  
450 Robinson Lane  
Bellefonte, PA 16823

Subject: Beaver Valley Power Station License Renewal Project  
Fish Impingement and Entrainment Avoidance Measures

References: Letter L-03-085, L. William Pearce, BVPS Site Vice President, FENOC, to  
John A. Arway, Chief, Division of Environmental Services, Pennsylvania  
Fish and Boat Commission, September 8, 2003.

Letter SIR #9555, 11240, Christopher A. Urban, Chief, Natural Diversity  
Section, Pennsylvania Fish and Boat Commission, to Mark Ackerman,  
FENOC-BVPS, October 29, 2003.

Dear Mr. Urban:

Thank you for your response dated October 29, 2003 to our preliminary draft assessment of potential impacts of Beaver Valley Power Station (BVPS) license renewal on threatened, endangered, and candidate species under jurisdiction of the Pennsylvania Fish and Boat Commission (PFBC). In your letter, you requested additional information regarding avoidance measures taken for impingement and entrainment of fish species in order for your review of our license renewal project to continue.

First Energy Nuclear Operating Company (FENOC) is pleased to provide PFBC with additional information regarding fish impingement and entrainment at BVPS, including plant design and operating safeguards implemented to minimize these impacts. As indicated in our preliminary draft assessment provided to Mr. Arway in September, closed-cycle cooling is employed for BVPS Units 1 and 2. This technology reduces the potential for impingement and entrainment losses. Although the operating license renewal process will not change that selection in any way, we are providing the following synopsis of BVPS cooling system safeguards for your consideration.

Fish Impingement and Entrainment Avoidance Measures

L-04-004

Page 2

Closed-cycle Cooling as 'Best Technology Available' – The U.S. Environmental Protection Agency (EPA), in its proposed rules for existing sources (*67 Federal Register* 17122, 4/9/02), considers closed-cycle cooling (employed at BVPS) 'Best Technology Available' for cooling water intake structures.

Reduced Ohio River Water Withdrawal Need – Closed-cycle cooling for BVPS reduces water withdrawals from the Ohio River to the maximum practical extent and well below that of a comparable once-through cooling system. At present, and for the period of extended operation afforded by license renewal, plant water withdrawals are approximately 145 cubic feet per second (cfs). This withdrawal occurs during periods of high river water temperatures (generally July – October) and is marginally reduced during the remainder of the year when river water temperatures moderate. The Ohio River at BVPS has an annual average flow of 39,503 cfs; long-term monthly average flow is lowest in August (16,526 cfs). Therefore, BVPS water withdrawal is approximately 0.4 percent and 0.9 percent of the annual and minimum monthly (August) average Ohio River flows at the BVPS, respectively.

By comparison, a once-through cooling system such as that originally contemplated for BVPS Unit 1 would withdraw a maximum of approximately 2,280 cfs, or approximately 6 percent and 14 percent, respectively, of the annual and minimum monthly average river flows. It is apparent from the flow comparisons that the closed-cycle cooling system technology used at the BVPS site now and during the license renewal period offers a significant reduction in river water withdrawal.

Beneficial Intake Structure Design – The low river water withdrawal need described above greatly reduces the potential to entrain passive and nearly passive early life stages of fish that drift past the BVPS. It also provides for beneficial design features for the cooling water intake structure, particularly greatly reduced effective screen area and entrance flow velocity. As a direct result of these important structure design safeguards, fish impingement potential is also greatly reduced.

Each of the intake structure's four, 0.375-inch mesh vertical screens (50 percent open area) is 14 feet wide. Each screen extends from the floor of the structure at elevation 646.0 feet National Geodetic Vertical Datum (NGVD) to above the standard project flood elevation of 705 feet NGVD. At normal elevation of the New Cumberland Pool (664.5 feet NGVD), which is maintained by the U.S. Army Corps of Engineers even under low flow conditions, the approach velocity and through-screen velocity of incoming water averages less than 0.3 feet per second (fps) and 0.5 fps, respectively. These intake velocities are lower than the swim speed capabilities of very small healthy fish, and are at or below the 0.5 fps guideline available at the time BVPS Unit 2 was initially constructed. EPA continues to cite the 0.5 fps guideline velocity in recent rulemakings to implement Section 316(b) of the Clean Water Act.

Fish Impingement and Entrainment Avoidance Measures  
L-04-004  
Page 3

Benign Intake Structure Siting – The intake structure is situated flush with the main channel shoreline at river mile 34.8, eliminating creation of an artificial embayment that would attract fish. This location is remote from tributaries, embayments, shallows, backwaters, and other habitats (e.g., dam tailwaters) that are particularly attractive to, or provide spawning or nursery habitat for, many important fish species in the New Cumberland Pool.

Optimized Intake Structure Operation – To maximize effective screen area and maintain low water intake velocities, the four vertical traveling screens at the BVPS intake structure are kept free of debris. A screen cleaning system automatically rotates and washes debris from the screens whenever the screen differential pressure reaches 6 inches of water. In addition, each screen bay is routinely inspected and cleaned quarterly or more frequently during periods of high river flow conditions when potential for silt and debris accumulation is greater than normal.

Aquatic Monitoring – The effectiveness of the BVPS cooling system in safeguarding endangered and threatened fish species of interest to our license renewal impacts assessment have been clearly demonstrated by scientific field studies. From 1976 to 1995, Duquesne Light Company (DLC, the former owner of BVPS) routinely examined and reported on the nature and extent of fish impingement and entrainment at the BVPS. Further, DLC and subsequently FENOC have monitored the Ohio River fish population diversity in the BVPS vicinity from 1976 through present. Because of their continuing corporate importance, this monitoring continues to be carried out on a voluntary basis. The aquatic monitoring program results have been documented in formal reports (see *Annual Environmental Report – Nonradiological, Beaver Valley Power Station, Units No. 1 & 2* series reports) routinely provided to the PFBC. Investigators conducting these studies have consistently concluded that these results indicate that BVPS operations have little or no effect on fish populations.

As we indicated in our preliminary assessment, none of the nine state-listed fish species addressed was specifically identified in BVPS entrainment samples. Appearance of these species in impingement samples in the most recent 10-years of impingement sampling (1986-1995), when both BVPS units were operating (BVPS Unit 2 began operation in 1987), was extremely rare. We note that the mere presence of fish in impingement collections at BVPS is not conclusive evidence that associated mortality of all such individuals is the result of BVPS operation. On the contrary, fish that have died or been weakened by factors other than plant operation are particularly susceptible to impingement.

In conclusion, FENOC intends to continue to ensure that the BVPS cooling water intake system is operated in a manner that is protective of Ohio River fish populations, including listed species, in the period of extended operation afforded by license renewal.

Fish Impingement and Entrainment Avoidance Measures

L-04-004

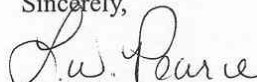
Page 4

We also intend to continue monitoring fish populations in the vicinity of BVPS and reporting results to PFBC on a voluntary basis as part of our environmental stewardship efforts. Finally, FENOC will continue to ensure that the BVPS cooling water intake system complies with requirements of the Clean Water Act, Section 316(b), including associated regulations for existing facilities that EPA expects to finalize in 2004. FENOC expects specific provisions of these new regulations will be applied to BVPS when the current National Pollutant Discharge Elimination System permit for the plant is renewed in 2006, within the terms of the current BVPS operating licenses.

We hope you find this additional information useful to your review of our preliminary assessment and that it provides the necessary assurance that the PFBC seeks.

No new commitments are contained in this submittal. Please address any comments or questions you may have to Mr. Mark Ackerman, License Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,



L. William Pearce

cc: John A. Arway, PFBC



**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

*L. William Pearce*  
Site Vice President

724-682-5234  
Fax: 724-643-8069

September 8, 2003  
L-03-082

Mr. Charles Duritsa  
Director, Southwest Region  
Pennsylvania Department of Environmental Protection  
400 Waterfront Drive  
Pittsburgh, PA 15222

Subject: Beaver Valley Power Station License Renewal Project  
Request for Information and Concurrence – Thermophilic Pathogens

Reference: Letter CNS-02-050, Julea B. Hovey, Constellation Nuclear Services, to  
David E. Hess, Pennsylvania Department of Environmental Protection,  
June 28, 2002

Dear Mr. Duritsa:

FirstEnergy Nuclear Operating Company (FENOC) is preparing an environmental report as part of our operating license renewal application (LRA) to the U.S. Nuclear Regulatory Commission (NRC) for the Beaver Valley Power Station (BVPS) Units 1 and 2. BVPS Units 1 and 2 have been in operation since 1976 and 1987, respectively. Successful renewal would provide the opportunity to operate the units for up to 20 years beyond the expiration of their current licenses in 2016 and 2027, respectively.

At a related meeting held August 12, 2002 at your offices in response to correspondence from our LRA consultant to the Pennsylvania Department of Environmental Protection (PADEP) referenced above, FENOC indicated that the LRA environmental review would include an assessment of public health impact from thermophilic microorganisms. Since that time, FENOC has completed a preliminary draft of that assessment, which will be finalized and included in the LRA environmental report. Accordingly, FENOC is now requesting PADEP assistance in finalizing our assessment to provide additional assurance that it is accurate and complete. By contacting you at this time, FENOC believes that the effectiveness of forthcoming NRC interactions with your office, described in the following paragraph, will be enhanced.

The NRC, at 10 CFR 51.53(c)(3)(ii)(G), requires that license renewal applicants include in the environmental report "... an assessment of the impact of the proposed action {license renewal} on public health from thermophilic organisms in the affected water" for plants that discharge cooling water into a river having an average annual flow rate of less than  $3.15 \times 10^{12}$  cubic feet per year, a condition applicable to BVPS, which discharges to the Ohio River near Shippingport, Pennsylvania (Attachment 1). This requirement stems from the NRC's conclusion that thermophilic organisms in the receiving water body are not expected to be a public health problem at most operating plants, but a generic determination for all plants is not possible in view of the need for site-specific information (10 CFR 51, Subpart A, Appendix B). The NRC staff routinely interacts with other affected agencies in conducting their environmental review,

L-03-082  
Page 2

which leads to preparation of a supplemental environmental impact statement (SEIS) for this licensing action. It is expected that the PADEP will be contacted regarding the potential impact of BVPS license renewal on public health from thermophilic organisms in the Ohio River as part of this activity. The following paragraphs describe relevant aspects of the NRC's generic assessment of this issue and FENOC's preliminary draft site-specific assessment for BVPS.

The NRC generic assessment of this issue is provided in Section 4.3.6 of its *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (see excerpt provided in Attachment 2). The NRC's concern relates to the potential for enhancement of thermophilic pathogens in the receiving water body from plant thermal discharges and consequent potential for adverse public health impacts. Organisms of concern include enteric pathogens (e.g., *Salmonella sp.*, *Shigella sp.*), *Pseudomonas aeruginosa*, thermophilic fungi, *Legionella sp.*, and, in particular, *Naegleria fowleri*, a pathogenic free-living amoeba indigenous to soils. In its guidance, the NRC indicates that applicants should consult with the state agency responsible for environmental health to determine if there is a concern about the presence of *N. fowleri* in plant receiving waters and obtain concurrence on its assessment and mitigation strategy, if one is required.

Based on our preliminary assessment of this issue, FENOC does not believe that operation of the BVPS units during the license renewal period would result in any significant threat to public health from thermophilic pathogens. A major factor in this determination is the observation that temperatures to which these organisms would be exposed are lower than are considered optimal for their proliferation (e.g., human body temperature of approximately 99°F; *N. fowleri* is rarely found in water bodies cooler than 95°F) and the area affected by BVPS thermal discharges would be very small. BVPS uses cooling towers for both units. Discharge to the river consists of cooling tower blowdown and a limited quantity of once-through service water used to cool components. Based on past modeling studies, FENOC estimates that the resulting thermal plume, defined by the 5°F isotherm (i.e., maximum monthly average and daily temperatures of approximately 85°F and 91°F, respectively), would encompass less than 2 acres and extend downriver no more than a few hundred feet; little or no plume area would be warmer than 95°F for more than a brief time. Organisms that may inhabit sediments on the river bottom or immersed banks (e.g., *N. fowleri*) would be exposed to increased temperatures in only a small area in the vicinity of the outfalls because the thermal plume is small and tends to remain near the surface.

FENOC also notes that there is little potential for significant introduction of thermophilic pathogens to the river from the BVPS cooling water discharge itself. Both the cooling tower blowdown and once-through cooling water are routinely treated with biocide for biofouling control, and some residual chlorine, within limits prescribed in the NPDES permit (No. PA0025615), may be discharged. These biocide applications significantly reduce the likelihood that microbial inoculants would be introduced in the discharge.

In addition, there is limited potential for significant human exposure to the thermally affected area. Shore-based recreation (e.g. fishing) on the BVPS property by the public is not permitted, and the U.S. Coast Guard has established a security zone, effective indefinitely, that encompasses all waters extending 200 feet from the shoreline at the BVPS site, including areas at and downstream from the discharge areas. Finally, FENOC is not aware of any public health concerns or incidences related to thermophilic organisms in the Ohio River attributable to current or past BVPS operation.

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

L-03-082  
Page 3

FENOC respectfully requests that the PADEP (1) formally notify us of any concerns or relevant information pertinent to our assessment and (2), as appropriate, concur with the assessment. It is FENOC's understanding that PADEP will coordinate this matter, as appropriate, with the Pennsylvania Department of Health. FENOC will evaluate any information you provide for inclusion in the assessment, and will include your response to this request in the final LRA environmental report submitted to the NRC. FENOC would appreciate receiving your response within 60 days of receipt to provide ample time to evaluate and incorporate your response into our LRA environmental report for submittal to the NRC.

Thank you for your assistance as we complete this important environmental assessment. Please address any comments or questions you may have to Mr. Mark Ackerman, License Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,

  
L. William Pearce  
Site Vice President

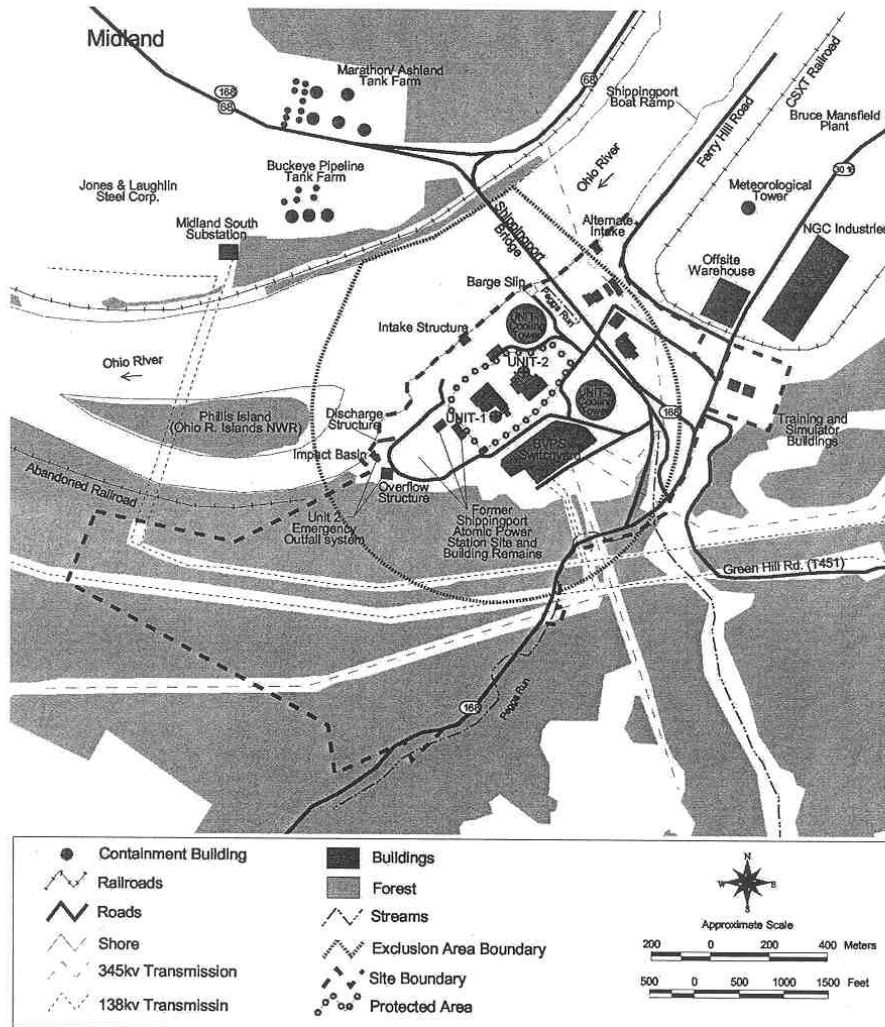
Attachments: Project Map (Attachment 1)  
GEIS Section 4.3.6 (Attachment 2)

L-03-082  
Page 4

bc: G. DeCamp (CNS)  
T. Grenci (CNS)  
M. S. Ackerman (3 copies)  
Central File

ATTACHMENT 1

BEAVER VALLEY POWER STATION SITE MAP





ATTACHMENT 2

GENERIC ENVIRONMENTAL IMPACT STATEMENT FOR LICENSE  
RENEWAL OF NUCLEAR PLANTS (NUREG-1437 VOL. 1)

4.3.6 Human Health

Some microorganisms associated with cooling towers and thermal discharges can have deleterious impacts on human health. Their presence can be enhanced by thermal additions. These microorganisms include the enteric pathogens *Salmonella sp.* and *Shigella sp.* as well as *Pseudomonas aeruginosa* and the thermophilic fungi (Appendix D). Tests for these pathogens are well established, and factors germane to their presence in aquatic environs are known and in some cases controllable. Other aquatic microorganisms normally present in surface waters have only recently been recognized as pathogenic for humans. Among these are Legionnaires' disease bacteria *Legionella sp.* and free-living amoebae of the genera *Naegleria* and *Acanthamoeba*, the causative agents of various, although rare, human infections. Factors affecting the distribution of *Legionella sp.* and pathogenic free-living amoebae are not well understood. Simple, rapid tests for their detection and procedures for their control are not yet available. The impacts of nuclear plant cooling towers and thermal discharges are considered of small significance if they do not enhance the presence of microorganisms that are detrimental to water and public health.

Potential adverse health effects on workers due to enhancement of microorganisms are an issue for steam-electric plants that use cooling towers. Potential adverse health effects on the public from thermally enhanced microorganisms is an issue for the nuclear plants that use cooling ponds, lakes, or canals and that discharge to small rivers. These plants are all combined in the category of small river (average flow less than 2830 m<sup>3</sup>/s (100,000 ft<sup>3</sup>/s) in Tables 5.18 and 5.19 (Note: Table 5.18 lists the Beaver Valley Power Station). These issues were evaluated by reviewing what is known about the organisms that are potentially enhanced by operation of the steam-electric plants.

Because of the reported cases of fatal *Naegleria* infections associated with cooling towers, the distribution of these two pathogens in the power plant environs was studied in some detail (Tyndall et al. 1983; see also Appendix D). In response to these various studies (Appendix D), many electric utilities require respiratory protection for workers when cleaning cooling towers and condensers. However, no Occupational Safety and Health Administration (OSHA) or other legal standards for exposure to microorganisms exist at present. Also, for worker protection, one plant with high concentrations of *Naegleria fowleri* in the circulating water successfully controlled the pathogen through chlorination before its yearly downtime operation (Tyndall et al. 1983).

Changes in the microbial population and in the use of bodies of water may occur after the operating license is issued and the application for license renewal is filed. Ancillary factors may also change, including average temperature of water resulting from climatic conditions. Finally, the long-term presence of a power plant may change the natural dynamics of harmful microorganisms within a body of water by raising the



#### 4.3.6 Human Health, continued:

level of *N. fowleri*, which are indigenous to the soils. Increased populations of *N. fowleri* may have significant adverse impacts. On entry into the nasal passage of a susceptible individual, *N. fowleri* will penetrate the nasal mucosa. The ensuing infection results in a rapidly fatal form of encephalitis. Fortunately, humans in general are resistant to infection with *N. fowleri*. Hallenbeck and Brenniman (1989) have estimated individual annual risks for primary amebic meningoencephalitis caused by the free living *N. fowleri* to swimmers in fresh water, to be approximately  $4 \times 10^{-6}$ . Heavily used lakes and other fresh bodies of water may merit special attention and possibly routine monitoring for *N. fowleri*.

Thermophilic organisms may or may not be influenced by the operation of nuclear power plants. The issue is largely unstudied. However, NRC recognizes a potential health problem stemming from heated effluents. Occupational health questions are currently resolved using proven industrial hygiene principles to minimize worker exposures to these organisms in mists of cooling towers. NRC anticipates that all plants will continue to employ proven industrial hygiene principles so that adverse occupational health effects associated with microorganisms will be of small significance at all sites, and no mitigation measures beyond those implemented during the current term license would be warranted. Aside from continued application of accepted industrial hygiene procedures, no additional mitigation measures are expected to be warranted as a result of license renewal. This is a Category 1 issue.

Public health questions require additional consideration for the 25 plants using cooling ponds, lakes, canals, or small rivers (all under the small river category in Tables 5.18 and 5.19) because the operation of these plants may significantly enhance the presence of thermophilic organisms. The data for these sites are not now at hand and it is impossible to predict the level of thermophilic organism enhancement at any given site with current knowledge. Thus the impacts are not known and are site-specific. Therefore, the magnitude of the potential public health impacts associated with thermal enhancement of *N. fowleri* cannot be determined generically. This is a Category 2 issue.

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Pennsylvania Department of Environmental Protection

400 Waterfront Drive  
Pittsburgh, PA 15222-4745  
October 16, 2003

Southwest Regional Office

412-442-4000  
Fax 412-442-4194

L. William Pearce, Site Vice-President  
First Energy Nuclear Operating Company  
Beaver Valley Power Station  
Route 168, PO Box 4  
Shippingport, PA 15077-0004


Re: Industrial Waste  
NPDES Permit PA0025615  
First Energy Nuclear Operating Company  
Beaver Valley Power Station  
License Renewal Project  
Shippingport Borough  
Beaver County

Dear Mr. Pearce:

Thank you for submitting the September 8, 2003 preliminary Draft Assessment of the Public Health Impacts from Thermophilic Microorganisms ("Draft Assessment"). This Draft Assessment is being prepared as part of the environmental report that is required to be submitted with the operating license renewal application for the Beaver Valley Power Station. We have forwarded this Draft Assessment to the Division of Water Quality Assessment and Standards in our Central Office and the Pennsylvania Department of Health for their review and comment. We have asked both entities to comment within 30 days. Once we receive input from the Division of Water Quality Assessment and Standards and the Department of Health, we will provide you with all comments by your requested deadline.

If you should have any questions concerning this matter please feel free to contact Karen Milcic of my staff at 412-442-4033.

Sincerely,

  
Charles A. Duritsa  
Regional Director  
Southwest Regional Office

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

**L. William Pearce**  
Site Vice President

724-682-5234  
Fax: 724-643-8069

September 8, 2003  
L-03-086

Ms. Jean Cutler  
State Historic Preservation Officer  
Pennsylvania Historical and Museum Commission  
Bureau for Historic Preservation  
Commonwealth Keystone Building, Second Floor  
400 North Street  
Harrisburg, PA 17120-0093

Subject: Beaver Valley Power Station License Renewal Project  
Request for Information and Concurrence – Cultural Resources

- References:
- (a) Letter CNS-02-050, Julea B. Hovey, Constellation Nuclear Services, to Ms. Jean Cutler, Pennsylvania Historical and Museum Commission, June 28, 2002
  - (b) U.S. Atomic Energy Commission. *Final Environmental Statement related to the Beaver Valley Power Station, Unit 1; Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company*. Docket No. 50-334. Directorate of Licensing. Washington, D.C., July 1973.
  - (c) U.S. Atomic Energy Commission. *Final Environmental Statement related to the Beaver Valley Power Station, Unit 2; Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, Toledo Edison Company*. Docket No. 50-412. Directorate of Licensing. Washington, D.C., July 1973.
  - (d) U.S. Nuclear Regulatory Commission. *Final Environmental Statement related to the operation of Beaver Valley Power Station, Unit 2; Duquesne Light Company, et al.* Docket No. 50-412. Office of Nuclear Reactor Regulation. Washington, D.C., September 1985.

Dear Ms. Cutler:

FirstEnergy Nuclear Operating Company (FENOC) is preparing an environmental report as part of our operating license renewal application (LRA) to the U.S. Nuclear Regulatory Commission (NRC) for the Beaver Valley Power Station (BVPS) Units 1 and 2. BVPS Units 1 and 2 have been in operation since 1976 and 1987, respectively. Successful renewal would provide the opportunity to operate the units for up to 20 years beyond the expiration of their current licenses in 2016 and 2027, respectively.

In correspondence to the Pennsylvania Historical and Museum Commission [reference (a)], FENOC's LRA consultant indicated that the LRA environmental review would include an assessment of potential impacts of BVPS license renewal on cultural resources. Since that time, FENOC has completed a preliminary draft of our assessment, which will be finalized and included in the LRA environmental report. Accordingly, FENOC is now requesting Pennsylvania Historical and Museum Commission assistance in finalizing our assessment to provide additional assurance that it is accurate and complete. By contacting you at this time, FENOC believes that the effectiveness of forthcoming NRC interactions with your office, described in the following paragraph, will be enhanced.



L-03-086  
Page 2

The NRC, at 10 CFR 51.53(c)(3)(ii)(K), requires that license renewal applicants include in their environmental report an assessment of “. . . whether any historic or archeological properties will be affected by the proposed project {license renewal}.” The NRC staff routinely interacts with other affected agencies in conducting their environmental review, which leads to preparation of a supplemental environmental impact statement (SEIS) for this licensing action. It is expected that the Pennsylvania Historical and Museum Commission will be contacted regarding potential impact on historic and archeological resources as part of this activity. The following paragraphs describe relevant aspects of the BVPS environmental setting considered in the LRA and a synopsis of FENOC’s assessment of potential impacts of BVPS license renewal on historic and archeological resources.

The BVPS site consists of approximately 450 acres on the south side of the Ohio River (New Cumberland Pool) at Shippingport, Beaver County, Pennsylvania (see Attachment 1, Figure 1). The intensively developed or maintained portion of the site, approximately 220 acres, is located on a gravel terrace adjacent to the river; the remainder of the site consists mostly of forested slopes.

Short segments of three transmission lines on and adjacent to the BVPS site and one transmission line extending 15.8 miles southeast from BVPS (Duquesne Light Company’s Beaver Valley-Crescent Line 318) are also being addressed in the BVPS LRA environmental report (see Attachment 1, Figures 2 and 3). The latter transmission line corridor traverses primarily through forest and farmland. The transmission line segments being considered in the LRA environmental report have been in service since the mid-1980s.

Based on our preliminary draft assessment, FENOC believes that extended operation and maintenance of BVPS and the transmission corridors considered in the LRA would have no significant impact on historic or archeological resources. BVPS Unit 1 and Unit 2 were subject to environmental reviews by the Atomic Energy Commission and the NRC as part of their initial licensing activities, results of which were documented in Final Environmental Statements in 1973 [Ref. (b) and (c)] and 1985 [Ref. (d)]. Regulators concluded at that time that operation of the units would not be expected to have significant adverse impacts on historic or archeological resources. One historic site listed as eligible with the National Register of Historic Places, the Shippingport Atomic Power Station site, is located on the BVPS site. However, this facility has been largely dismantled and would not be affected by renewal of the BVPS operating licenses. FENOC’s current review indicates that there are no other historical sites on the National Register of Historic Places located on or adjacent to either the BVPS site or the Beaver Valley-Crescent Line 318 transmission corridor. In addition, FENOC has not identified any significant land disturbing activities that would be undertaken for license renewal or continued operation of the plant or transmission line.

FENOC respectfully requests that the Pennsylvania Historical and Museum Commission (1) formally notify us of any additional concerns or relevant information regarding historic and archeological resources pertinent to our preliminary draft assessment and (2), as appropriate, concur with the assessment. FENOC will evaluate any information you provide for inclusion in the assessment, and will include your response to this request in the final LRA environmental report submitted to the NRC. FENOC would appreciate receiving your response within 60 days of receipt to provide ample time to evaluate and incorporate your response into our LRA environmental report for submittal to the NRC.

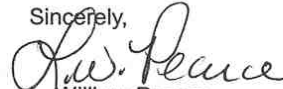
**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

L-03-086  
Page 3

Thank you for your assistance as we complete this important environmental assessment. Please address any comments or questions you may have to Mr. Mark Ackerman, License Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,

  
L. William Pearce  
Site Vice President

Attachments: Project Maps (Attachment 1)

L-03-086  
Page 4

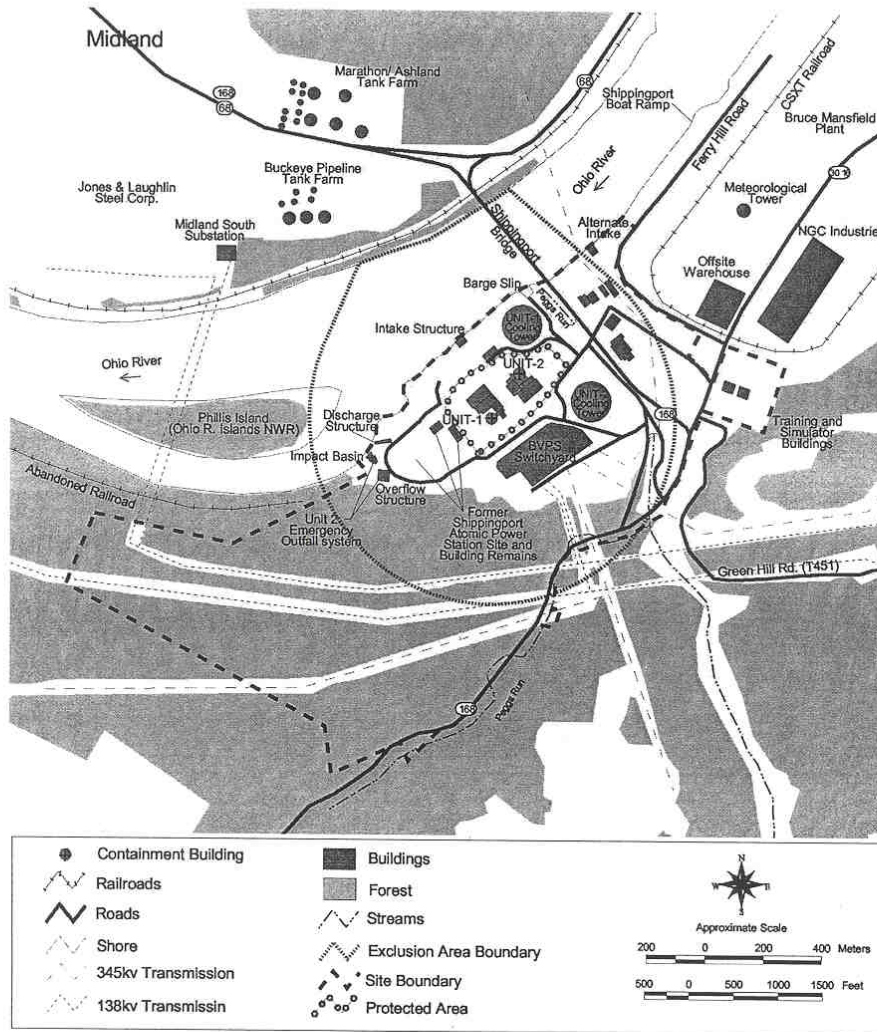
bc: G. DeCamp (CNS)  
T. Greci (CNS)  
M. S. Ackerman (3 copies)  
Central File



**ATTACHMENT 1  
PROJECT MAPS**

L-03-086  
 Page 1

FIGURE 1  
 BEAVER VALLEY POWER STATION SITE MAP

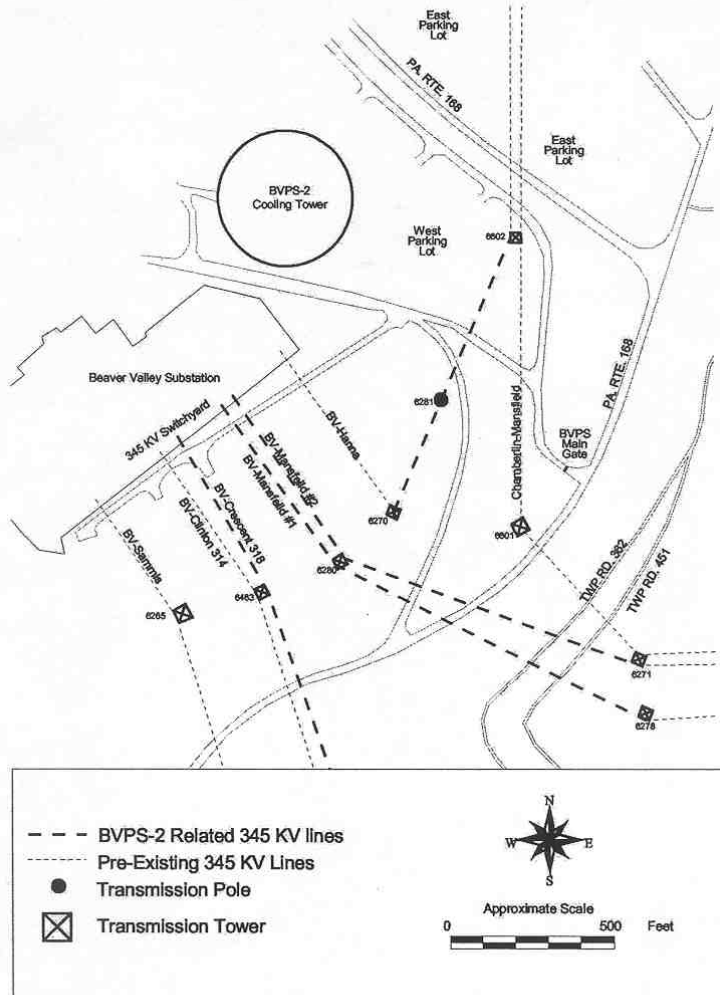


BVPS LRA Environmental Review  
 Project Maps

Att. 1-1

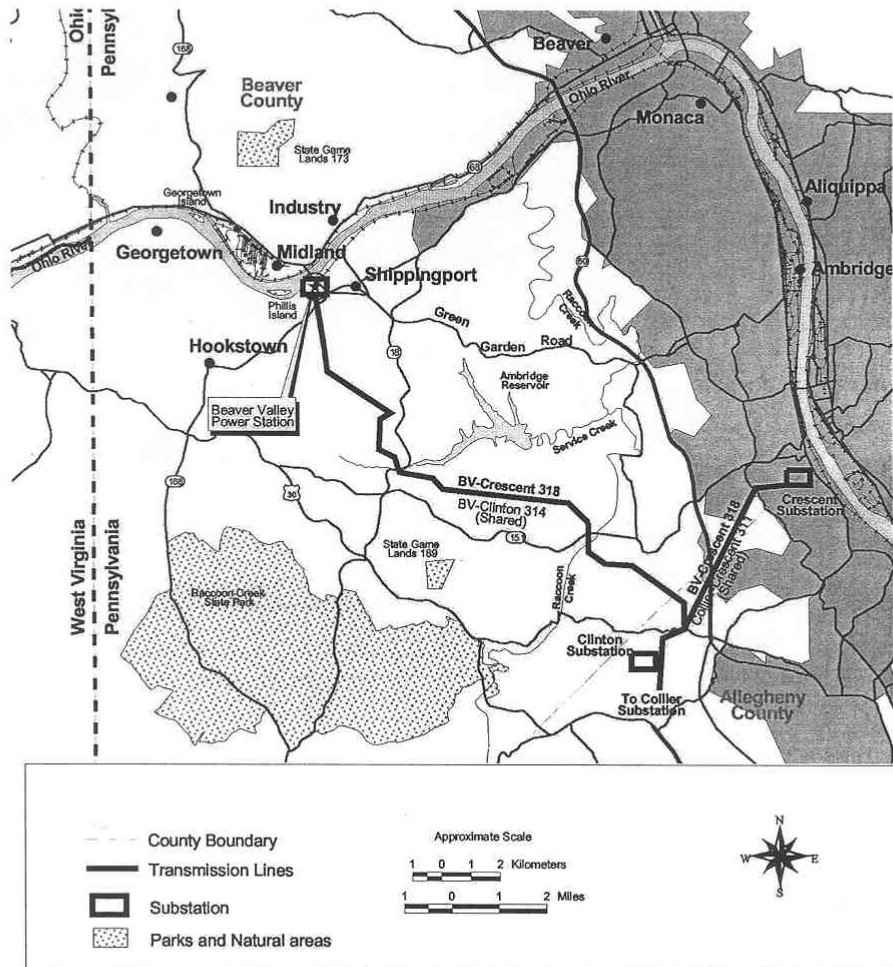
L-03-086  
 Page 2

**FIGURE 2**  
**345 kV RECONFIGURATIONS**  
**FOR BEAVER VALLEY POWER STATION UNIT 2**



L-03-086  
 Page 3

FIGURE 3  
 BEAVER VALLEY-CRESCENT LINE 318 CORRIDOR



BVPS LRA Environmental Review  
 Project Maps

Att. 1-3

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
Bureau for Historic Preservation  
Commonwealth Keystone Building, 2nd Floor  
400 North Street  
Harrisburg, PA 17120-0093

November 19, 2003

L. William Pearce  
FENOC, Beaver Valley Power Station  
P O Box 4  
Shippingport, PA 15077-0004

TO EXPEDITE REVIEW USE  
BHP REFERENCE NUMBER

Re: ER 85-0426-007-C  
NRC: Beaver Valley Power Station License Renewal Project  
Shippingport, Beaver County

Dear Mr. Pearce:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

Your request does not include sufficient information. We are unable to proceed with our review for historic structures until the information on the attached form is provided.

There is a high probability that prehistoric and historic archaeological resources are located in this project area. In our opinion, the activity described in your proposal should have no effect on such resources. Should the scope of the project be amended to include additional ground disturbing activity this office should be contacted immediately and a Phase I Archaeological Survey may be necessary to locate all potentially significant archaeological resources.

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

A handwritten signature in cursive script that reads 'K. W. Carr'.

Kurt W. Carr, Chief  
Division of Archaeology &  
Protection

Enclosure  
KWC/smz

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION (PA 11/99)  
BUREAU FOR HISTORIC PRESERVATION: INFORMATION REQUEST SHEET  
(Please supply items checked below for PHMC to proceed  
with review)

85-0426-007-c

PROJECT INITIATION

- A. FUNDING/PERMITTING/LICENSING/APPROVAL PROGRAM
- 1. Contact person for federal/state/local agency, address, phone number.
  - 2. Letter from federal agency initiating consultation, or a letter from federal agency authorizing an alternate agency or a consultant to initiate consultation.
  - 3. Identify the Federal/State Agency and funding program or permit/license.
  - 4. Identification of all Federal agencies involved in project.
  - 5. Designated "lead" Federal Agency in complex or multi-agency project.
- B. PROJECT DESCRIPTION
- 1. Narrative description of the project and related actions resulting from the project.
  - 2. Proposed boundary of the project's Area of Potential Effect (APE) (remember to consider visual impacts)
  - 3. Description and Justification of selection of the Area of Potential Effect
  - 4. Plans of existing conditions (as-built or as-found)
  - 5. Preliminary drawings or plans (floor plans, elevations, specifications)
  - 6. Work write-ups
  - 7. Plans and specifications
- C. PROJECT LOCATION
- 1. U.S.G.S. 7.5 min. series quadrangle with the PROJECT LOCATION(S) AND LIMITS CLEARLY MARKED using a colored pen. Please include name of the quadrangle
  - 2. U.S.G.S. 7.5 min. series quadrangle with Area of Potential Effect marked (potential area of direct effect can be delineated inside area of indirect effect)
  - 3. Street map (for properties in densely populated areas)
  - 4. Street map showing location and historic district boundaries (if appropriate)
  - 5. Street address of property
  - 6. Municipality in which project is located (not mailing address location)

(over)



- D. PROJECT SIZE (supply as appropriate for project)
  - 1. Acreage of project area
  - 2. Miles/feet of project and right-of-way width
  - 3. Extent and nature of ground disturbing activities (i.e. grading, trenching, foundation excavation)

- E. PHOTOGRAPHS (no Polaroids, copies or scanned images)
  - 1. Exterior of building(s) in project area
  - 2. Interior of building(s) in project area
  - 3. Interior of building(s) illustrating the proposed work areas/features
  - 4. Buildings, streetscape, setting of features in Area of Potential Effect (APE)
  - 5. Views of project site
  - 6. Other \_\_\_\_\_

PUBLIC PARTICIPATION

- 1. Measures which will be/or have been taken to identify consulting parties.
- 2. List of proposed consulting parties.
- 3. Measures which will be/or have been taken to notify and involve the public.

RESOURCE IDENTIFICATION, EVALUATION AND PROJECT EFFECT

- A. Cultural Resource Identification
  - 1. Description of methodology used for identification and sources examined.
  - 2. Plan proposed for identification of historical (including historic districts, buildings, structures, objects) and archaeological resources and proposed methodology to be used.
  - 3. Pennsylvania Historic Resource form(s) for all properties 50 years or older and potentially eligible for the National Register identified in the APE.
  - 4. Historical background/context report/information for historic resources identified.
  - 5. Pennsylvania Archaeological Site Survey Form(s) (P.A.S.S) for archaeological sites identified in surveys of APE.
  - 6. Phase I, II, III Archaeological Survey Reports
  - 7. 5 Copies of Final Phase I, II, III Archaeological Survey Report(s) (4 bound and 1 unbound copies)

- B. Evaluation of Project Effect on Cultural Resources (Physical, visual, atmospheric, direct and indirect, secondary)

C. Other: \_\_\_\_\_  
\_\_\_\_\_

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

**FENOC**

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

*L. William Pearce*  
Site Vice President

724-682-5234  
Fax: 724-643-8069

February 3, 2004  
L-04-013

Mr. Kurt W. Carr  
Chief, Division of Archeology & Protection  
Bureau for Historic Preservation  
Pennsylvania Historical and Museum Commission  
Commonwealth Keystone Building, 2<sup>nd</sup> Floor  
400 North Street  
Harrisburg, PA 17120-0093

Subject: Beaver Valley Power Station License Renewal Project  
Historic Structures Information

References: Letter L-03-086, L. William Pearce, BVPS Site Vice President, FENOC, to  
Ms. Jean Cutler, State Historic Preservation Officer, Bureau for Historic  
Preservation, Pennsylvania Historical and Museum Commission,  
September 8, 2003.

Letter ER 85-0426-007-C, Kurt W. Carr, Chief, Division of Archeology and  
Protection, Bureau for Historic Preservation, Pennsylvania Historical and  
Museum Commission, November 19, 2003.

Dear Mr. Carr:

Thank you for your response dated November 19, 2003, to FirstEnergy Nuclear Operating Company's (FENOC's) preliminary draft assessment of potential impacts of Beaver Valley Power Station (BVPS) license renewal on historic and archeological resources. In your letter, you requested additional information about the BVPS license renewal project and historic resources in the project area to enable completion of the Bureau for Historic Preservation's review for historic structures. Information needs were clarified in a follow-up telephone discussion between Ms. Susan Zacher of your office and Mr. Mark Ackerman, our license renewal project manager, in December 2003.

As indicated in our preliminary assessment and follow-up discussion with Ms. Zacher, environmental reviews conducted as part of initial licensing of the two BVPS units indicated that no significant adverse impacts on historic and archeological resources would result from their operation. Renewal of the BVPS operating licenses for the units by the U.S. Nuclear Regulatory Commission (NRC) would provide the opportunity to extend their operation for up to an additional 20 years beyond the current license

Historic Structures Information  
L-04-013  
Page 2

expiration dates. However, extended operation of the units would continue to be subject to all applicable federal, state, and local laws and regulations. In addition, FENOC has no plans for major refurbishment or significant land disturbing activity associated with license renewal. Therefore, no incremental impact on archeological or historic resources would result from BVPS license renewal.

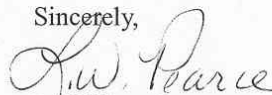
Based on our understanding of information needs from your initial request and follow-up discussion, we are providing a map of the BVPS site on a U.S. Geological Survey topographic base (Attachment A), additional information about the Shippingport Atomic Power Station (SAPS; see Attachment B), remains of which lie within the boundary of the BVPS site, and recent photographs of SAPS buildings or remnants thereof (Attachment C). FENOC understands that the SAPS property is considered by the Pennsylvania Bureau of Historic Preservation to be eligible for listing on the National Register of Historic Places but no eligibility determination has been undertaken on the federal level by the U.S. Department of Interior. FirstEnergy has no plans to pursue listing of the property.

As indicated in Attachment B, the U.S. Department of Energy (DOE) completed decommissioning of SAPS in 1990. These activities involved removal of all fluids, piping, equipment, components, structures, and wastes having radioactivity levels above that required by DOE for unrestricted use of the site. The environmental impacts of decommissioning activities were addressed in a DOE environmental impact statement (DOE/EIS-0080F, May 1982) and subsequent record of decision (Federal Register, Vol. 47, No. 161, p. 36276, August 19, 1982).

SAPS buildings or remnants thereof that currently exist are shown in Attachment C. Of these, two warehouses (Photos 1 and 2) and a consumables storage building (Photo 9) are currently in active use in support of BVPS operations. The remainder are not actively maintained or used to support BVPS plant operations. Security requirements preclude access to the BVPS site, including the former SAPS site area, by the general public.

We hope this additional information fulfills the Bureau's needs in completing its impact review with respect to historic structures. Please address any comments or questions you may have to Mr. Mark Ackerman, License Renewal Project Manager, by telephone at (724) 682-7994, e-mail [ackermanm@firstenergycorp.com](mailto:ackermanm@firstenergycorp.com), or at the letterhead address above.

Sincerely,

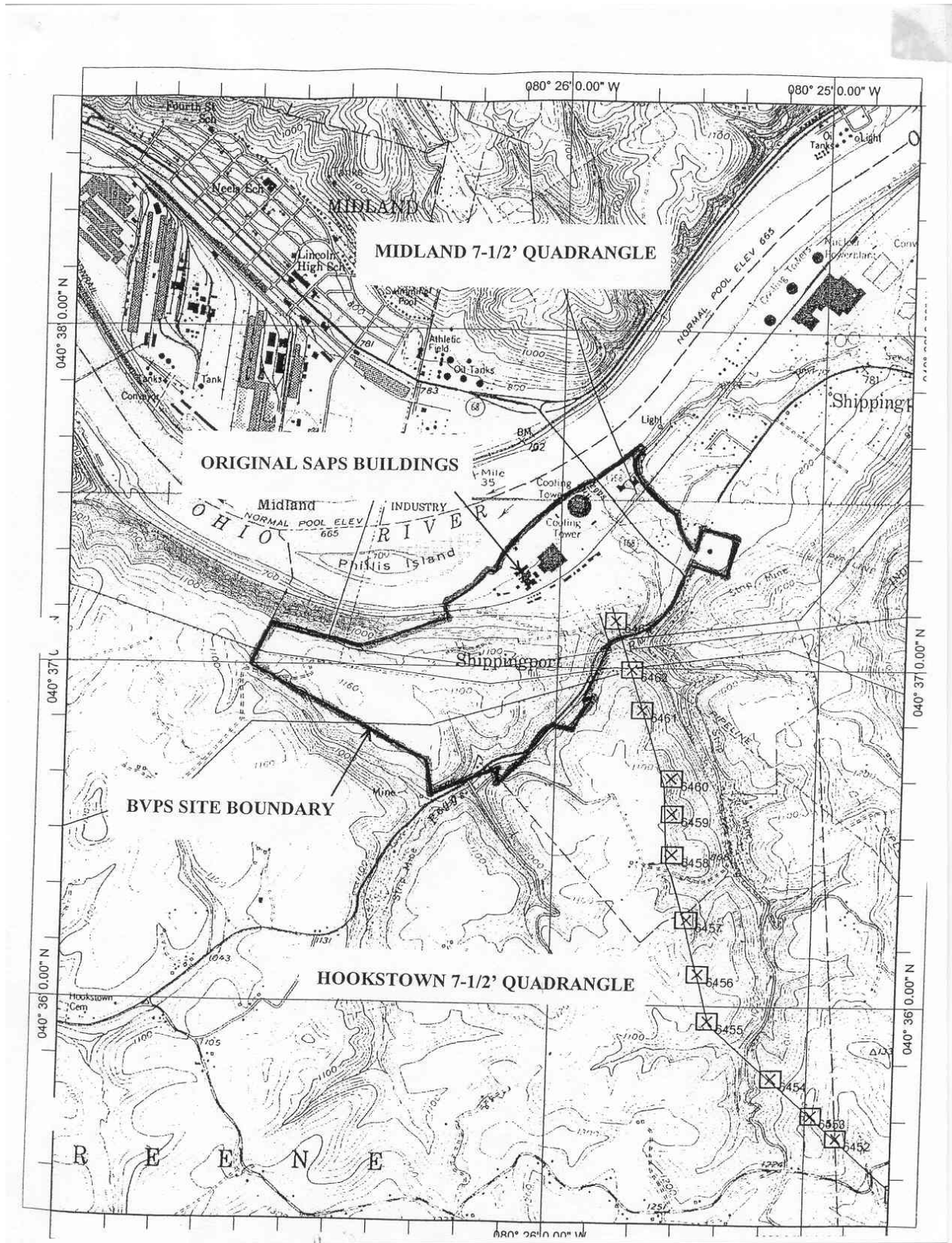
  
L. William Pearce

cc: Ms. Jean Cutler, State Historic Preservation Officer

**ATTACHMENT A**

**BEAVER VALLEY POWER STATION SITE MAP**

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



**ATTACHMENT B**

**SHIPPINGPORT ATOMIC POWER STATION  
FACT SHEET**





## FACT SHEET

SUBJECT: Shippingport Atomic Power Station

DATE: August 27, 2001

### SHIPPINGPORT ATOMIC POWER STATION A Historical Perspective

Shippingport Atomic Power Station was the first large-scale, central station, nuclear electric generating plant in the United States.

**BACKGROUND** – In 1953, the U.S. Atomic Energy Commission (AEC) made the decision to construct the nuclear power plant using a pressurized light water reactor. This project was to confirm the practicability of nuclear power for civilian purposes and to provide the technology necessary for design and operation of large-scale central station nuclear power plants. Because of its extensive naval work with pressurized light water reactors for ship propulsion, the AEC's Division of Naval Reactors, headed by Admiral H.G. Rickover, was assigned the responsibility for the pressurized water reactor project. Duquesne Light Company was selected to take part in this project on the basis of their proposal, one of nine major bids made to the AEC.

**HISTORICAL SIGNIFICANCE** – The building of the first commercial-sized nuclear electric generating station was of such national importance that the President of the United States, Dwight D. Eisenhower, participated via electronic communications in both the groundbreaking and the dedication of Shippingport. Shippingport established itself as a source of valuable information on reactor technology for the entire nuclear power industry. It also served as a training ground for many key personnel in nuclear generating plants throughout the world.

**OWNERSHIP-OPERATION** – The Shippingport station was operated by Duquesne Light under contract with the U.S. Department of Energy (DOE). Duquesne Light owned the conventional electric generating portion of the plant. The reactor and steam-generating portions of the station were owned by the DOE. The nuclear portion of the plant was designed by Westinghouse Electric Corporation's Bettis Atomic Power Laboratory under the direction of and in technical cooperation with Naval Reactors. Duquesne Light supplied the land, built the turbine-generator and contributed \$5 million to the design and construction of the nuclear portion of the plant. To run the turbine-generator, Duquesne Light purchased the steam produced by the nuclear portion of the plant.

**LIGHT WATER BREEDER REACTOR CORE (LWBR)** – In 1977, the Department of Energy modified the Shippingport Station reactor to accept a light water breeder core. This was done to demonstrate that breeding of nuclear fuel can be achieved in a light water reactor system using a thorium-232/uranium 233 fuel system. The LWBR core at Shippingport was installed by the Bettis Atomic Power Lab under the technical direction of the DOE.

**RETIREMENT AND DECOMMISSIONING** – With the completion of the LWBR demonstration program on October 1, 1982, the DOE permanently closed the station. Reactor operations were ceased. The decommissioning activities began in 1985 under the supervision of the Department of Energy Office of Remedial Action and Waste Technology and were completed in 1990.

**TECHNICAL FACTS** – Shippingport consisted of a pressurized water reactor and its associated systems, four steam generators heated by the reactor, a single turbine-generator and associated systems, a radioactive waste disposal system, laboratories, shops and administrative facilities.

**Station Size** – Shippingport was designed to supply a minimum electric output of 60,000 kilowatts. Because of the probability that its output would be greater than originally anticipated, and to allow for increased output from future nuclear fuel loadings, the turbine-generator was built with a capacity of 100,000 kilowatts.

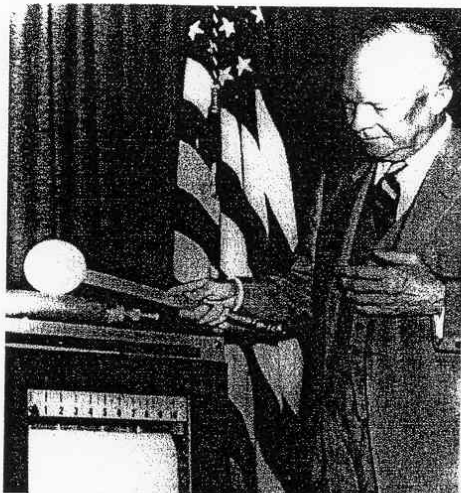
**Groundbreaking** – Groundbreaking ceremonies were held on September 6, 1954.

**Reactor Operation** – The reactor was first put into operation on December 2, 1957. The first electric power was produced on December 18, 1957.

**Dedication Ceremonies** – The dedication of the plant took place on May 26, 1958.

**Change in Power Output** – In 1965, the plant's electric generating capability was increased to 100,000 kilowatts through the installation of a larger and more efficient reactor core. Upon installation of the LWBR core in 1977, the plant net output was restored to the original 60,000 kilowatt capacity.

**Electric Output** – During the life of Shippingport's operation, from 1957 to October 1982, the plant produced over 7 billion kilowatt-hours of electricity.



President Eisenhower participating in the Shippingport dedication ceremony.

\* Information reprinted from SAPS Fact Sheet, Duquesne Light Company, May 1983

**ATTACHMENT C**

**SHIPPINGPORT ATOMIC POWER STATION (SAPS)  
BUILDINGS AND BUILDING REMNANTS  
PHOTOGRAPHS 1 THROUGH 10 (DECEMBER 2003)**

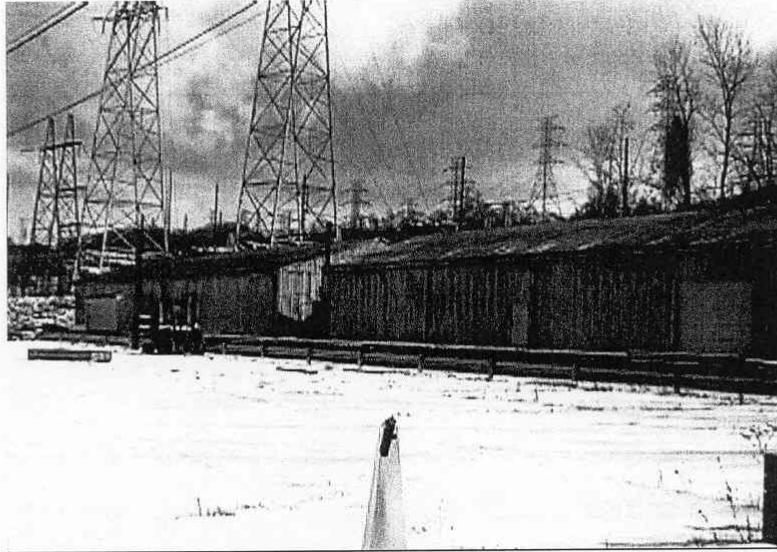


Photo 1. SAPS warehouses

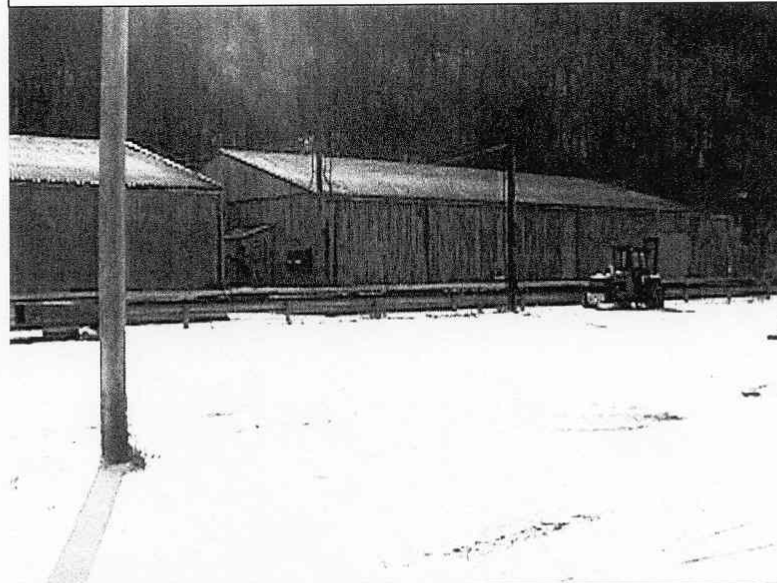


Photo 2. SAPS warehouses (same as Photo 1)

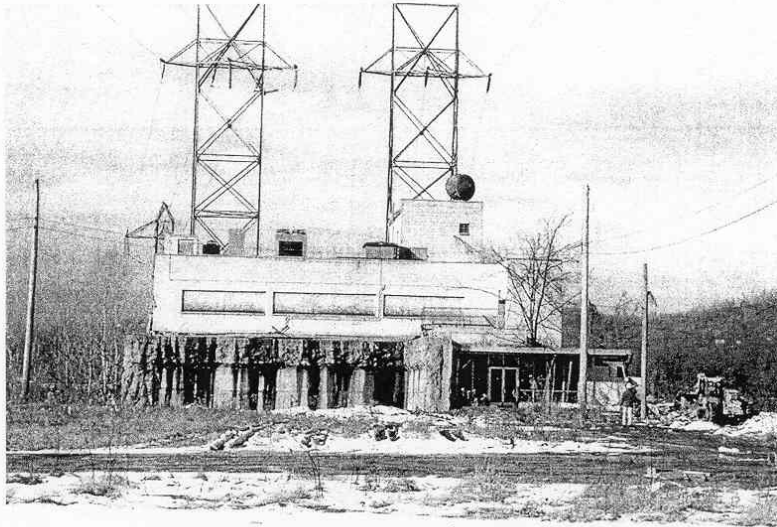


Photo 3. SAPS administration building. Control room is located in this building, behind on lower level. Auxiliary chamber enclosure wall is visible in foreground.

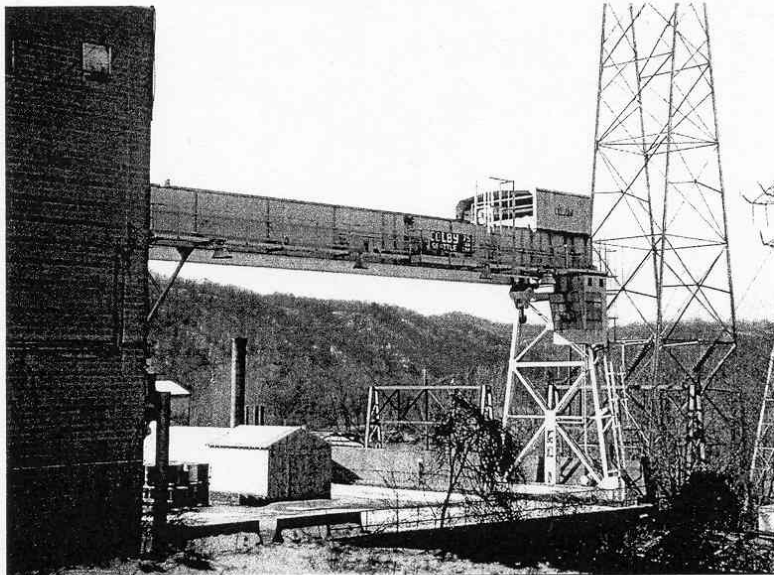


Photo 4. SAPS turbine deck crane

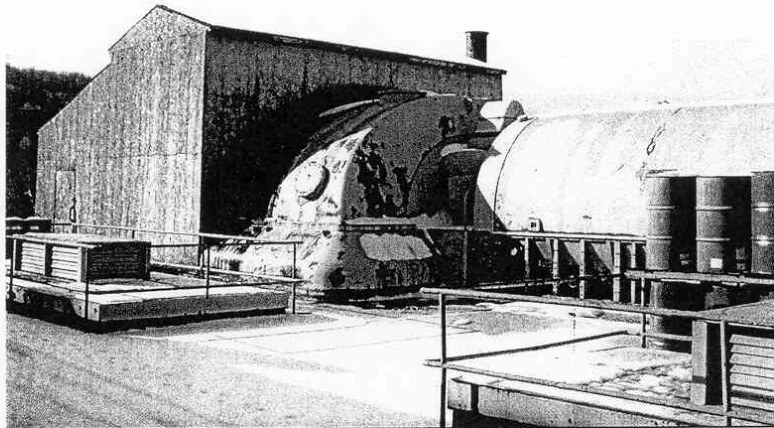
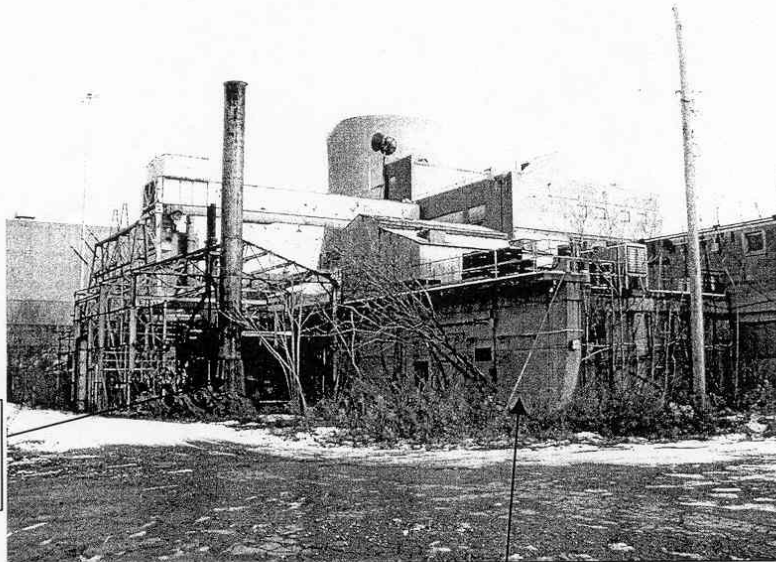


Photo 5. SAPS turbine-generator. Plywood structure was built after plant was decommissioned.



SAPS  
auxiliary  
boiler

Photo 6. SAPS turbine building (water treatment area)  
**Note:** Cooling tower in background is part of the Beaver Valley  
Power Station.



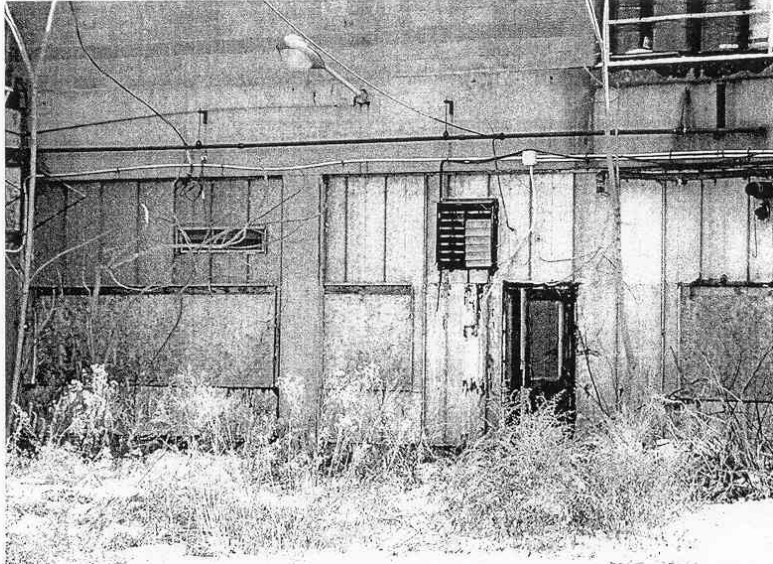


Photo 7. SAPS turbine building

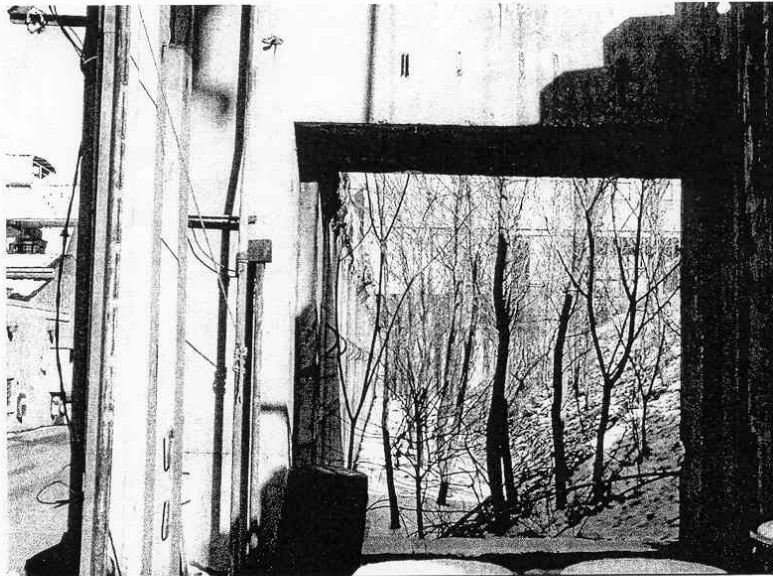


Photo 8. SAPS auxiliary chamber enclosure wall



Photo 9. SAPS water treatment consumables building

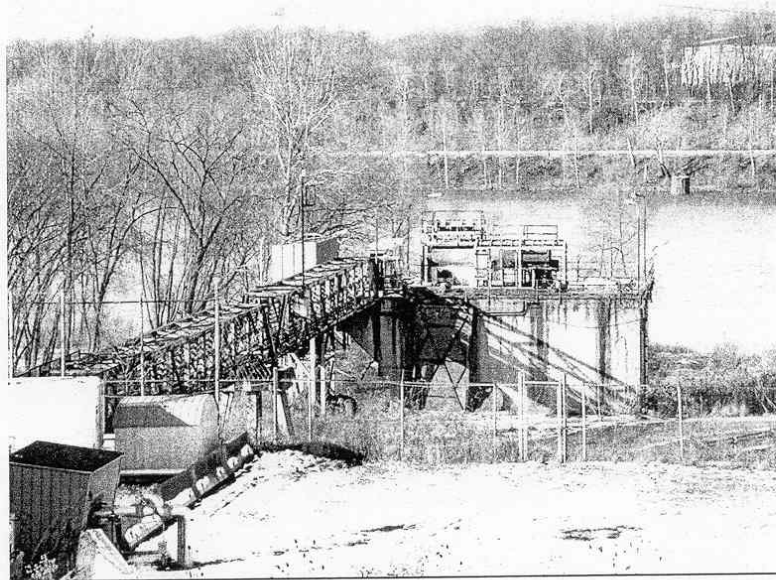


Photo 10. SAPS cooling water intake structure

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Commonwealth of Pennsylvania  
Pennsylvania Historical and Museum Commission  
Bureau for Historic Preservation  
Commonwealth Keystone Building, 2nd Floor  
400 North Street  
Harrisburg, PA 17120-0093

March 12, 2004

L. William Pearce  
FirstEnergy Nuclear Operating Company  
Beaver Valley Power Station  
Route 168, P.O. Box 4  
Shippingport, PA 15077-0004

Re: File No. ER 85-0426-007-D  
NRC Preliminary Draft Assessment:  
Beaver Valley Power Station License  
Renewal Project, Shippingport  
Beaver County

Dear Mr. Pearce:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

Based on our survey files, which include both archaeological sites and standing structures, there are no National Register eligible or listed historic or archaeological properties in the area of this proposed project. Therefore, your responsibility for consultation with the State Historic Preservation Office for this project is complete. Should you become aware, from any source, that historic or archaeological properties are located at or near the project site, please notify the Bureau for Historic Preservation at (717) 783-8946.

Sincerely,

A handwritten signature in black ink, appearing to read "Kurt W. Carr".

Kurt W. Carr, Chief  
Division of Archaeology &  
Protection

KWC/tmw

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

December 4, 2006  
BVLN-ENV-06-012

Ms. Kathleen McGinty, Secretary  
Pennsylvania DEP  
16<sup>th</sup> Floor, Rachel Carson State Office Bldg.  
P. O. Box 2063  
Harrisburg, PA 17105-2063

**Subject: Environmental Review for Beaver Valley Power Station License Renewal Project**

Dear Ms. McGinty:

In 2002, FirstEnergy Nuclear Operating Company (FENOC) requested your input to the Beaver Valley Power Station (BVPS) license renewal environmental review. FENOC is currently preparing a final application for submittal to the U.S. Nuclear Regulatory Commission (NRC). Upon successful acceptance by the NRC, the operating licenses for the two nuclear power generating units at BVPS, located in Beaver County, Pennsylvania will be renewed. You are likely aware that the operating licenses for many U.S. nuclear power plants have been recently renewed and that applications for license renewal of numerous other plants have been submitted to the NRC and are undergoing review. Upon issuance of the renewed operating licenses the life of the BVPS units will be extended for an additional 20 years ( i.e., until 2036 and 2047 for Units 1 and 2, respectively).

In addition to detailed safety reviews, the license renewal process involves a thorough review of potential environmental impacts in accordance with provisions of the National Environmental Policy Act (NEPA). The attached fact sheet provides an overview of the process and associated environmental review activities to be conducted by FENOC and the NRC for the BVPS License Renewal. In brief, the NRC has prepared a generic environmental impact statement (GEIS) that addresses environmental impacts of license renewal on the basis of a review of plants nationwide. Detailed environmental reviews of individual plants, such as BVPS, include preparation of an environmental report (ER) by the applicant and a site-specific supplement to the GEIS by the NRC. The latter documents must include impact assessments for site-specific environmental issues that were not resolved generically by the NRC in the GEIS. They also must identify any known "new and significant information," i.e., new and significant environmental issues or impacts not recognized as such by the NRC in the GEIS, and the NRC's codified findings from the GEIS (10 CFR 51.53). In accordance with NEPA, the NRC's process for developing the site-specific supplements includes substantial opportunity for participation by agencies and the public, including the opportunity to formally comment on the scope of the NRC's site-specific supplement to the GEIS and the adequacy of that document.

Page Two  
November 20, 2006

During the August 2002 through December 2004 period, agencies and stakeholders – including your group – did not identify any new and significant information or environmental impacts beyond those identified by the NRC. Nonetheless, the BVPS License Renewal Environmental Review Team would appreciate your early and active participation in the license renewal environmental review process for BVPS. In particular, we would welcome any new questions or concerns your agency may have developed regarding the environmental implications of BVPS license renewal, as well as any information that your agency may consider to be potentially "new and significant." These efforts will help ensure that the ER we prepare is complete and up-to-date. In this regard, if you believe it necessary, we would be pleased to meet with your agency representative(s) to discuss the BVPS license renewal environmental review in detail.

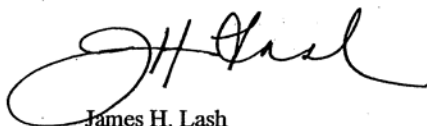
Please feel free to contact Mr. Clifford Custer, License Renewal Project Manager at 724-682-7139, or for environmental-specific issues, Mr. Michael Banko at 724-682-4117. Please address your agency's interest in a meeting, and any questions or concerns about the environmental review to:

Mr. Clifford I. Custer  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop BV-SIM2)  
P.O. Box 4  
Route 168 W  
Shippingport, PA 15077-0004

Tel.: 724-682-7139  
Email: [custerc@firstenergycorp.com](mailto:custerc@firstenergycorp.com)

Thank you on behalf of FENOC and the BVPS License Renewal Environmental Review Team.

Sincerely,



James H. Lash  
Site Vice-President

Attachment

cc: C. I. Custer  
G. A. Dunn  
M. D. Banko  
BVRC: *Keyword(s) – License Renewal Environmental Report*

**ATTACHMENT:**  
**License Renewal Environmental Review Process**  
**For The Beaver Valley Power Station**

**Background**

FirstEnergy Corporation owns the Beaver Valley Power Station (BVPS); a two-unit nuclear power plant located on a 453-acre site on the Ohio River in Shippingport Borough, Beaver County, Pennsylvania. Upon completion of our full potential project, the capacity will approximate 924 MWe at Unit 1, 2 918 MWe at Unit 2, for a total of 1842 MWe for the site. BVPS features a close-cycle cooling system that uses two natural draft cooling towers. The Ohio River (New Cumberland Pool) provides the source of cooling tower makeup water and receives the cooling tower blowdown discharge. Transmission lines from BVPS consist of six 345-kV lines, two of which (BV-Sammis and BV-Hanna) extend into West Virginia and/or Ohio, and seven 138-kV lines, all in Pennsylvania.

The initial 40-year operating licenses for BVPS Units 1 and 2 expire in 2016 and 2027, respectively. In keeping with continued efforts to ensure a safe, reliable, and economical supply of energy to its customers, in August 2007 FirstEnergy plans to submit an application to the U.S. Nuclear Regulatory Commission (NRC) for a renewed license. The renewed license would authorize operation of the units for 20 years beyond their current license expiration dates; i.e., until 2036 and 2047, respectively.

The NRC license renewal application process involves a thorough technical evaluation of plant systems, structures, and components to assess the effects of aging, as well as development of measures to manage these effects to ensure continued safe operation through the period of extended operation. In accordance with the National Environmental Policy Act (NEPA), the license renewal process also involves an assessment of potential environmental impacts associated with extended operation of the plant; major plant refurbishments, if any, within the scope of license renewal; and associated transmission lines considered within the scope of license renewal.

The NRC's NEPA evaluation process provides substantial opportunities for input from stakeholders, including federal, state, and local agencies responsible for resources potentially affected by extended operation and associated major refurbishments. FirstEnergy previously met with interested agencies regarding potential environmental impacts related to extended operation, and is willing to do so again. Additionally, the NRC is specifically obligated to consult with the U.S. Fish and Wildlife Service and the State Historic Preservation Officers of Pennsylvania and other potentially affected states regarding potential impacts to threatened or endangered species and cultural resources, respectively.

FirstEnergy prepared this overview of the license renewal environmental review process to familiarize agency representatives with this process and facilitate active agency participation. Detailed information is available from the NRC license renewal website (<http://www.nrc.gov/reactors/operating/licensing/renewal.html>).

**The License Renewal Environmental Review Process**

The NRC requires applications for renewal of nuclear power plant operating licenses to include an environmental report (ER) which addresses the potential environmental impacts of license renewal and the alternatives to license renewal. To improve efficiency of the environmental review process for these applications, the NRC has prepared and issued a generic environmental impact statement (GEIS), *Generic Environmental Impact Statement for the License Renewal of*



**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

*Nuclear Power Plants* (i.e., NUREG-1437) and amended its environmental protection regulations in 10 CFR 51, Subpart A. In the GEIS, the NRC identified and evaluated 92 issues, representing a full range of potential environmental impacts that could result from license renewal, including impacts from any necessary plant refurbishment activities and impacts from plant operation beyond the current 40-year operating license term. The NRC designated 69 of the issues as Category 1, based on the following criteria:

- a. the impacts associated with the issue apply either to all plants or to plants having a specific cooling system or other specified plant or site characteristic;
- b. a single significance level (i.e., small, medium, or large) has been assigned to the impacts; and
- c. additional plant-specific mitigation measures were likely to not be sufficiently beneficial to warrant implementation.

Environmental impacts associated with these Category 1 issues were thus identified, analyzed, and resolved in the GEIS. However, twenty-one (21) of the 92 total issues did not meet one or more of the Category 1 criteria and, were deemed Category 2 issues. Because these Category 2 issues could not be generically resolved, the NRC requires that they be addressed on a site-specific basis in the applicant's ER [10 CFR 51.53(c) and associated Appendix B, Table B-11].

To ensure thorough analysis of all potential environmental impacts associated with license renewal, the NRC requires that applicants identify in the ER any "new and significant information" regarding the environmental impact of license renewal of which the applicant is aware. Such information includes potentially significant environmental issues the NRC did not consider in the GEIS and information that may lead to a different conclusion than was documented in the GEIS and codified in Table B-1 of the NRC regulations as cited above. In the course of developing the ER, applicants for a renewed operating license routinely consult with resource agencies. These consultations are undertaken to familiarize the agencies with the project, identify agency concerns, and obtain pertinent resource information, including any new and potentially significant information, as needed to ensure a complete and accurate application.

The NRC addresses any new and significant and site-specific issues, that are not resolved in the GEIS, in a Supplemental Environmental Impact Statement (SEIS). In preparing the SEIS, the NRC will use information submitted by FE and:

1. Solicits stakeholder input from media sources and at public meetings to finalize the SEIS scope.
2. Consults with resource agencies to determine agency concerns and obtain additional information.
3. Prepares a Draft SEIS on the basis of independent analysis, using input from the applicant, resource agencies, and the public.
4. Solicits stakeholder comments on the Draft SEIS in the media and at public meetings.
5. Prepares the Final SEIS on the basis of comments received.

The ER will address applicable site-specific environmental issues related to extended operation of BVPS and other appropriate topics as specified in 10 CFR 51.53(c), including:

**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

- Applicable Category 2 issues, including potential impact on water use.
- Ecological resources, land use, and socio-economics.
- Environmental justice.
- New and significant issues, if applicable.
- Alternatives to license renewal (e.g., generation alternatives).
- Historical and archaeological considerations

The NRC will establish a schedule for SEIS preparation and related activities once the application for BVPS has been submitted.

**Environmental Review Activities For BVPS**

FirstEnergy has conducted data gathering efforts as part of the ER development effort. Beginning in July 2002, FirstEnergy met with interested environmental resource agencies to familiarize them with the NRC license renewal process and the BVPS license renewal project, to obtain input. As previously mentioned and as a matter of statutory obligation or policy, the NRC is expected to request informal consultations with some agencies at the SEIS stage (e.g., U.S. Fish and Wildlife Service, PA Historic Preservation Office, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation & Natural Resources, PA Department of Health, Ohio Department of Natural Resources, West Virginia Division of Natural Resources). FirstEnergy specifically requested and received written input from these to include in the ER and facilitate these later consultations with the NRC.

Based on this and other communications, FE will follow up with them if requested.

We also understand that previous reviews for threatened or endangered species may not reflect current conditions. Therefore, in response to previous communications with the responsible agencies, since 2002, FirstEnergy has and will continue to conduct an annual review, through the Pennsylvania Natural Diversity Index (PNDI), in accordance with current Pennsylvania procedures.

**Docketed Examples Available for Review**

Various docketed GEIS and SEISs associated with nuclear plants requesting renewed operating licenses are available from the NRC as NUREG 1437 and associated supplements located at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff>. NRC regulations are readily available at <http://www.nrc.gov/reading-rm/doc-collections/cfr/>.

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building  
P.O. Box 2063  
Harrisburg, PA 17105-2063

December 15, 2006

Secretary

717-787-2814

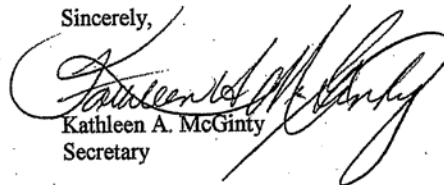
Mr. James H. Lash  
Site Vice-President  
Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

Dear Mr. Lash:

Thank you for your recent letter regarding the environmental review of the Beaver Valley Power Station (BVPS) license renewal project. As of now, the Department of Environmental Protection (DEP) has not identified any new and significant information or environmental impacts beyond those identified by the Nuclear Regulatory Commission's (NRC) Generic Environmental Impact Statement (GEIS) for license renewal. However, DEP will review the site-specific environmental report and the supplements to the GEIS for BVPS and will provide input into the NRC review and approval process, as appropriate.

Thank you again for your initiative and willingness to solicit input from DEP regarding BVPS license renewal environmental review process.

Sincerely,



Kathleen A. McGinty  
Secretary



Mr. James H. Lash

- 2 -

bcc: Secretary Log Letter Lash #24353954  
WARM  
Dave Allard  
Rich Janati  
Larry Ryan  
G. A. Dunn  
Clifford Custer  
Michael Banko  
BRP File Copy

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

December 4, 2006  
BVLR-ENV-06-015

Mr. Ronald Schwartz  
Assistant Regional Director  
Pennsylvania DEP  
400 Waterfront Drive  
Pittsburgh, PA 15222

**Subject: Environmental Review for Beaver Valley Power Station License Renewal Project**

Dear Mr. Schwartz:

In 2002, FirstEnergy Nuclear Operating Company (FENOC) requested your input to the Beaver Valley Power Station (BVPS) license renewal environmental review. FENOC is currently preparing a final application for submittal to the U.S. Nuclear Regulatory Commission (NRC). Upon successful acceptance by the NRC, the operating licenses for the two nuclear power generating units at BVPS, located in Beaver County, Pennsylvania will be renewed. You are likely aware that the operating licenses for many U.S. nuclear power plants have been recently renewed and that applications for license renewal of numerous other plants have been submitted to the NRC and are undergoing review. Upon issuance of the renewed operating licenses the life of the BVPS units will be extended for an additional 20 years ( i.e., until 2036 and 2047 for Units 1 and 2, respectively).

In addition to detailed safety reviews, the license renewal process involves a thorough review of potential environmental impacts in accordance with provisions of the National Environmental Policy Act (NEPA). The attached fact sheet provides an overview of the process and associated environmental review activities to be conducted by FENOC and the NRC for the BVPS License Renewal. In brief, the NRC has prepared a generic environmental impact statement (GEIS) that addresses environmental impacts of license renewal on the basis of a review of plants nationwide. Detailed environmental reviews of individual plants, such as BVPS, include preparation of an environmental report (ER) by the applicant and a site-specific supplement to the GEIS by the NRC. The latter documents must include impact assessments for site-specific environmental issues that were not resolved generically by the NRC in the GEIS. They also must identify any known "new and significant information," i.e., new and significant environmental issues or impacts not recognized as such by the NRC in the GEIS, and the NRC's codified findings from the GEIS (10 CFR 51.53). In accordance with NEPA, the NRC's process for developing the site-specific supplements includes substantial opportunity for participation by agencies and the public, including the opportunity to formally comment on the scope of the NRC's site-specific supplement to the GEIS and the adequacy of that document.

Page Two  
November 20, 2006

During the August 2002 through December 2004 period, agencies and stakeholders – including your group – did not identify any new and significant information or environmental impacts beyond those identified by the NRC. Nonetheless, the BVPS License Renewal Environmental Review Team would appreciate your early and active participation in the license renewal environmental review process for BVPS. In particular, we would welcome any new questions or concerns your agency may have developed regarding the environmental implications of BVPS license renewal, as well as any information that your agency may consider to be potentially "new and significant." These efforts will help ensure that the ER we prepare is complete and up-to-date. In this regard, if you believe it necessary, we would be pleased to meet with your agency representative(s) to discuss the BVPS license renewal environmental review in detail.

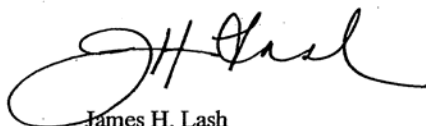
Please feel free to contact Mr. Clifford Custer, License Renewal Project Manager at 724-682-7139, or for environmental-specific issues, Mr. Michael Banko at 724-682-4117. Please address your agency's interest in a meeting, and any questions or concerns about the environmental review to:

Mr. Clifford I. Custer  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop BV-SIM2)  
P.O. Box 4  
Route 168 W  
Shippingport, PA 15077-0004

Tel.: 724-682-7139  
Email: [custercl@firstenergycorp.com](mailto:custercl@firstenergycorp.com)

Thank you on behalf of FENOC and the BVPS License Renewal Environmental Review Team.

Sincerely,



James H. Lash  
Site Vice-President

Attachment

cc: C. I. Custer  
G. A. Dunn  
M. D. Banko  
BVRC: *Keyword(s) – License Renewal Environmental Report*



**ATTACHMENT:**  
**License Renewal Environmental Review Process**  
**For The Beaver Valley Power Station**

**Background**

FirstEnergy Corporation owns the Beaver Valley Power Station (BVPS); a two-unit nuclear power plant located on a 453-acre site on the Ohio River in Shippingport Borough, Beaver County, Pennsylvania. Upon completion of our full potential project, the capacity will approximate 924 MWe at Unit 1, 2 918 MWe at Unit 2, for a total of 1842 MWe for the site. BVPS features a close-cycle cooling system that uses two natural draft cooling towers. The Ohio River (New Cumberland Pool) provides the source of cooling tower makeup water and receives the cooling tower blowdown discharge. Transmission lines from BVPS consist of six 345-kV lines, two of which (BV-Sammis and BV-Hanna) extend into West Virginia and/or Ohio, and seven 138-kV lines, all in Pennsylvania.

The initial 40-year operating licenses for BVPS Units 1 and 2 expire in 2016 and 2027, respectively. In keeping with continued efforts to ensure a safe, reliable, and economical supply of energy to its customers, in August 2007 FirstEnergy plans to submit an application to the U.S. Nuclear Regulatory Commission (NRC) for a renewed license. The renewed license would authorize operation of the units for 20 years beyond their current license expiration dates; i.e., until 2036 and 2047, respectively.

The NRC license renewal application process involves a thorough technical evaluation of plant systems, structures, and components to assess the effects of aging, as well as development of measures to manage these effects to ensure continued safe operation through the period of extended operation. In accordance with the National Environmental Policy Act (NEPA), the license renewal process also involves an assessment of potential environmental impacts associated with extended operation of the plant; major plant refurbishments, if any, within the scope of license renewal; and associated transmission lines considered within the scope of license renewal.

The NRC's NEPA evaluation process provides substantial opportunities for input from stakeholders, including federal, state, and local agencies responsible for resources potentially affected by extended operation and associated major refurbishments. FirstEnergy previously met with interested agencies regarding potential environmental impacts related to extended operation, and is willing to do so again. Additionally, the NRC is specifically obligated to consult with the U.S. Fish and Wildlife Service and the State Historic Preservation Officers of Pennsylvania and other potentially affected states regarding potential impacts to threatened or endangered species and cultural resources, respectively.

FirstEnergy prepared this overview of the license renewal environmental review process to familiarize agency representatives with this process and facilitate active agency participation. Detailed information is available from the NRC license renewal website (<http://www.nrc.gov/reactors/operating/licensing/renewal.html>).

**The License Renewal Environmental Review Process**

The NRC requires applications for renewal of nuclear power plant operating licenses to include an environmental report (ER) which addresses the potential environmental impacts of license renewal and the alternatives to license renewal. To improve efficiency of the environmental review process for these applications, the NRC has prepared and issued a generic environmental impact statement (GEIS), *Generic Environmental Impact Statement for the License Renewal of*

**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

*Nuclear Power Plants* (i.e., NUREG-1437) and amended its environmental protection regulations in 10 CFR 51, Subpart A. In the GEIS, the NRC identified and evaluated 92 issues, representing a full range of potential environmental impacts that could result from license renewal, including impacts from any necessary plant refurbishment activities and impacts from plant operation beyond the current 40-year operating license term. The NRC designated 69 of the issues as Category 1, based on the following criteria:

- a. the impacts associated with the issue apply either to all plants or to plants having a specific cooling system or other specified plant or site characteristic;
- b. a single significance level (i.e., small, medium, or large) has been assigned to the impacts; and
- c. additional plant-specific mitigation measures were likely to not be sufficiently beneficial to warrant implementation.

Environmental impacts associated with these Category 1 issues were thus identified, analyzed, and resolved in the GEIS. However, twenty-one (21) of the 92 total issues did not meet one or more of the Category 1 criteria and, were deemed Category 2 issues. Because these Category 2 issues could not be generically resolved, the NRC requires that they be addressed on a site-specific basis in the applicant's ER [10 CFR 51.53(c) and associated Appendix B, Table B-11].

To ensure thorough analysis of all potential environmental impacts associated with license renewal, the NRC requires that applicants identify in the ER any "new and significant information" regarding the environmental impact of license renewal of which the applicant is aware. Such information includes potentially significant environmental issues the NRC did not consider in the GEIS and information that may lead to a different conclusion than was documented in the GEIS and codified in Table B-1 of the NRC regulations as cited above. In the course of developing the ER, applicants for a renewed operating license routinely consult with resource agencies. These consultations are undertaken to familiarize the agencies with the project, identify agency concerns, and obtain pertinent resource information, including any new and potentially significant information, as needed to ensure a complete and accurate application.

The NRC addresses any new and significant and site-specific issues, that are not resolved in the GEIS, in a Supplemental Environmental Impact Statement (SEIS). In preparing the SEIS, the NRC will use information submitted by FE and:

1. Solicits stakeholder input from media sources and at public meetings to finalize the SEIS scope.
2. Consults with resource agencies to determine agency concerns and obtain additional information.
3. Prepares a Draft SEIS on the basis of independent analysis, using input from the applicant, resource agencies, and the public.
4. Solicits stakeholder comments on the Draft SEIS in the media and at public meetings.
5. Prepares the Final SEIS on the basis of comments received.

The ER will address applicable site-specific environmental issues related to extended operation of BVPS and other appropriate topics as specified in 10 CFR 51.53(c), including:

**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

- Applicable Category 2 issues, including potential impact on water use.
- Ecological resources, land use, and socio-economics.
- Environmental justice.
- New and significant issues, if applicable.
- Alternatives to license renewal (e.g., generation alternatives).
- Historical and archaeological considerations

The NRC will establish a schedule for SEIS preparation and related activities once the application for BVPS has been submitted.

**Environmental Review Activities For BVPS**

FirstEnergy has conducted data gathering efforts as part of the ER development effort. Beginning in July 2002, FirstEnergy met with interested environmental resource agencies to familiarize them with the NRC license renewal process and the BVPS license renewal project, to obtain input. As previously mentioned and as a matter of statutory obligation or policy, the NRC is expected to request informal consultations with some agencies at the SEIS stage (e.g., U.S. Fish and Wildlife Service, PA Historic Preservation Office, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation & Natural Resources, PA Department of Health, Ohio Department of Natural Resources, West Virginia Division of Natural Resources). FirstEnergy specifically requested and received written input from these to include in the ER and facilitate these later consultations with the NRC.

Based on this and other communications, FE will follow up with them if requested.

We also understand that previous reviews for threatened or endangered species may not reflect current conditions. Therefore, in response to previous communications with the responsible agencies, since 2002, FirstEnergy has and will continue to conduct an annual review, through the Pennsylvania Natural Diversity Index (PNDI), in accordance with current Pennsylvania procedures.

**Docketed Examples Available for Review**

Various docketed GEIS and SEISs associated with nuclear plants requesting renewed operating licenses are available from the NRC as NUREG 1437 and associated supplements located at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff>. NRC regulations are readily available at <http://www.nrc.gov/reading-rm/doc-collections/cfr/>.

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Pennsylvania Department of Environmental Protection

400 Waterfront Drive  
Pittsburgh, PA 15222-4745  
December 29, 2006

**Southwest Regional Office**

412-442-4189  
Fax 412-442-4194

Clifford I. Custer  
Beaver Valley Power Station  
(Mail Stop BV-SIM2)  
P. O. Box 4, Route 168 W  
Shippingport, PA 15077-0004

Re: Environmental Assessment Project  
Beaver Valley Power Station License Renewal  
Shippingport Borough  
Beaver County

Dear Mr. Custer:

DEP's regional program staff have reviewed the above project for environmental regulatory and policy requirements, and submit the following comments for your attention. These comments are only based on project information you provided, and may not be comprehensive. The applicant has the responsibility of complying with all relevant environmental laws and regulations for the project.

**Watershed Management**

If your license renewal project will include any new, additional, expanded, replacement and/or other structures or activities that will include work in or along watercourses, floodplains, or bodies of water, including wetlands, your project may require a Water Obstruction and Encroachment Permit, from the Permitting and Technical Services Section, in DEP's Watershed Management Program. Please contact a Permitting and Technical Services representatives at 412-442-4315 for more information.

For your convenience, we have enclosed our e-Map information from our website, ([http://www.dep.pa.us/external\\_gis/gis\\_home.htm](http://www.dep.pa.us/external_gis/gis_home.htm)) of known environmental features within the area you identified which may be of interest or concern to you with your project.

Should you have any questions or if the project is significantly modified in the future, please contact this office at the telephone number listed above.

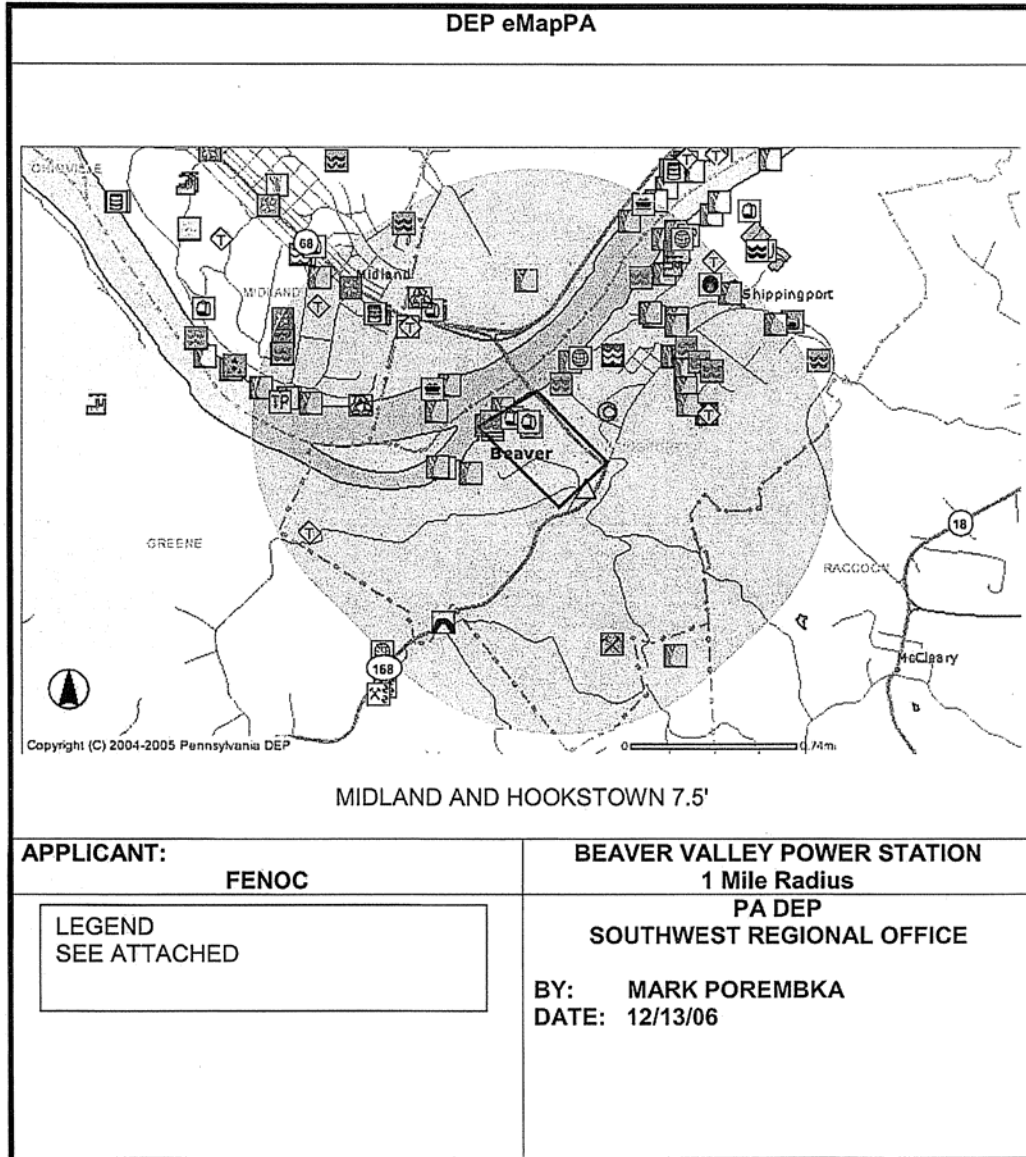
Sincerely,

Ronald A. Schwartz, P.E.  
Assistant Regional Director  
Southwest Regional Office

Enclosure








Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report





## FACILITIES 2006

### Air Emission Plant

-  Air Pollution Control Device
-  Combustion Unit
-  Fuel Material Location

-  General Administrative Location
-  Incinerator - AEP

-  Point of Air Emission
-  Process




### Beneficial Land Use




-  Parcel

### Brownfields

-  Brownfields




### Captive Hazardous Waste Operation




-  Boiler Industrial Furnace
-  Disposal Facility - CAHWO
-  Hazardous Generator Captive

-  Incinerator - CAHWO
-  Recycling Facility - CAHWO
-  Storage Facility - CAHWO

-  Treatment Facility - CAHWO

### Coal Mining Operation

-  Discharge Point - CMO
-  Mineral Preparation Plant - CMO
-  Post Mining Treatment

-  Refuse Disposal Facility
-  Refuse Reprocessing
-  Surface Mine - CMO




-  Underground Mine



### Coal Pillar Location

-  Coal Pillar - Mining










-  Coal Pillar - Oil & Gas









### Commercial Hazardous Waste Operation

-  Disposal Facility - COHWO
-  Hazardous Generator Commercial
-  Recycling Facility - COHWO

-  Storage Facility - COHWO
-  Treatment Facility - COHWO

### Encroachment Location

-  Boat Launch Ramp
-  Bridge - ENCL
-  Bulkhead or Groin
-  Ch 106 Floodplain Permit
-  Channel Work
-  Culvert - ENCL
-  Dock
-  Dredging
-  Fill Stream Channel

-  Flood Levee or Walls
-  Floodway Activity
-  Ford Crossing
-  Gravel Bar Removal
-  Intake Structure
-  Non-Jurisdictional Dam - ENCL
-  Other Activities
-  Outfall Structure - ENCL
-  PA Wetland Replacement Project



- |   |  |
|---|--|
|  Pipeline or Conduit               |  Temporary Wetland Impact |
|  Stream Bank Protection            |  Treatment Wetland System |
|  Stream Enclosure                  |  Wetland Impact           |
|  Stream Relocation                 |  Wetland Mitigation Bank  |
|  Stream Restoration                |  Wetland Restoration      |
|  Stream Restoration w/ Dam Removal |  |
|  Submerged Lands License Agreement |  |

**Encroachment Location for O&G**

- |   |  |
|---|--|
|  Bridge - OGEL |  Culvert - OGEL |
|---|--|

**EPA Toxic Release Inventory**

-  EPA Toxic Release Inventory






**Erosion & Sediment Control Facility**

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> Agricultural Activities   | <input checked="" type="checkbox"/> Public Road Construction  | <input checked="" type="checkbox"/> Silviculture                   |
| <input checked="" type="checkbox"/> Commercial or Ind Dev     | <input checked="" type="checkbox"/> Recreational Facilities   | <input checked="" type="checkbox"/> Utility Fac and/or Trans Lines |
| <input checked="" type="checkbox"/> Government Facilities     | <input checked="" type="checkbox"/> Remediation/Restoration   |  |
| <input checked="" type="checkbox"/> Oil And Gas Development   | <input checked="" type="checkbox"/> Residential Subdivision   |  |
| <input checked="" type="checkbox"/> Private Road or Residence | <input checked="" type="checkbox"/> Sewerage or Water Systems |  |

**Industrial Mineral Mining Operation**

- |  |   |
|--|---|
|  Discharge Point - IMMO           |  Surface Mine - IMMO     |
|  Mineral Preparation Plant - IMMO |  Underground Mine - IMMO |







**Land Recycling Cleanup Location**

- |  |   |   |
|--|---|---|
|  Air Media                                |  Groundwater Media |  Surface Water Media |
|  Contained Release or Abandoned Container |  Sediment Media    |  Waste Media         |
|  |  Soil Media        |   |

**Mine Drainage Trmt/Land Recl Proj Loc**

- |  |  |
|--|--|
|  Coal Refuse Pile Reclamation |  Mine Drainage Treatment    |
|  Deep Mine Reclamation        |  Oil & Gas Well Reclamation |
|  Internal Monitoring Point    |  Surface Mine Reclamation   |

**Municipal Waste Operation**

- |  |  |   |
|--|--|---|
|  Composting             |  Landfill - Abandoned |  Processing Facility - MWO |
|  Land Application - MWO |  Landfill - MWO       |  Resource Recovery         |

 Transfer Station - MWO

**Oil & Gas Location**

 Land Application - OGL


 Oil and Gas Well

 Pit

**Oil and Gas Water Pollution Control Facility**


 Discharge Point - OGWPC

 Internal Monitoring Point - OGWPC

 Treatment OGWPC

**Radiation Facility**

 Accelerator


 Mammography Quality Stds Act Tube

 XRay Machine

**Residual Waste Operation**

 Generator

 Land Application - RWO

 Transfer Station - RWO


 Impoundment

 Landfill - RWO

 Incinerator - RWO


 Processing Facility - RWO

**Storage Tank Location**


 Storage Tank


**Water Pollution Control Facility**


 Compost/Processing

 Internal Monitoring Point - WPCF


 Storage Unit


 Conveyance System

 Land Discharge

 Treatment Plant - WPCF


 Discharge Point - WPCF

 Outfall Structure - WPCF


 Groundwater Monitoring Point


 Pump Station - WPCF

**Water Resource**


 Discharge

 Storage

 Ground Water Withdrawal

 Surface Water Withdrawal

 Interconnection

 Water Allocation

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

January 24, 2007  
BVL-ENV-07-001

Mr. Ronald A. Schwartz, P.E.  
Assistant Regional Director  
Southwest Region  
Pennsylvania Department of Environmental Protection  
400 Waterfront Drive  
Pittsburgh, PA 15222-4745

**Beaver Valley Power Station License Renewal Project Environmental Report**

Dear Mr. Schwartz,

Thank you for your review and response to our recent letter regarding our renewed efforts to develop the Environmental Report for our License Renewal project. We appreciate the comments you included in your letter to ensure that any new or expanded activities or construction related to our project, follow the established permitting processes. We further thank you for providing the attachment, and your website link, identifying known environmental features near our location that may be of interest to us.

As we work to successfully completing our project, please contact me at 724-682-7139 or Mr. Michael Banko at 724-682-4117 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Clifford I. Custer".

Clifford I. Custer  
Project Manager

cc: M. D. Banko

Central File: *Keyword(s)- DEP Southwest Region*

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

December 4, 2006  
BVLR-ENV-06-020

Mr. Douglas J. Austen, Executive Director  
Pennsylvania Fish and Boat Commission  
1601 Elmerton Avenue  
P. O. Box 67000  
Harrisburg, PA 17106-7000

**Subject: Environmental Review for Beaver Valley Power Station License Renewal Project**

Dear Mr. Austen:

In 2002, FirstEnergy Nuclear Operating Company (FENOC) requested your input to the Beaver Valley Power Station (BVPS) license renewal environmental review. FENOC is currently preparing a final application for submittal to the U.S. Nuclear Regulatory Commission (NRC). Upon successful acceptance by the NRC, the operating licenses for the two nuclear power generating units at BVPS, located in Beaver County, Pennsylvania will be renewed. You are likely aware that the operating licenses for many U.S. nuclear power plants have been recently renewed and that applications for license renewal of numerous other plants have been submitted to the NRC and are undergoing review. Upon issuance of the renewed operating licenses the life of the BVPS units will be extended for an additional 20 years ( i.e., until 2036 and 2047 for Units 1 and 2, respectively).

In addition to detailed safety reviews, the license renewal process involves a thorough review of potential environmental impacts in accordance with provisions of the National Environmental Policy Act (NEPA). The attached fact sheet provides an overview of the process and associated environmental review activities to be conducted by FENOC and the NRC for the BVPS License Renewal. In brief, the NRC has prepared a generic environmental impact statement (GEIS) that addresses environmental impacts of license renewal on the basis of a review of plants nationwide. Detailed environmental reviews of individual plants, such as BVPS, include preparation of an environmental report (ER) by the applicant and a site-specific supplement to the GEIS by the NRC. The latter documents must include impact assessments for site-specific environmental issues that were not resolved generically by the NRC in the GEIS. They also must identify any known "new and significant information," i.e., new and significant environmental issues or impacts not recognized as such by the NRC in the GEIS, and the NRC's codified findings from the GEIS (10 CFR 51.53). In accordance with NEPA, the NRC's process for developing the site-specific supplements includes substantial opportunity for participation by agencies and the public, including the opportunity to formally comment on the scope of the NRC's site-specific supplement to the GEIS and the adequacy of that document.

Page Two  
November 20, 2006

During the August 2002 through December 2004 period, agencies and stakeholders – including your group – did not identify any new and significant information or environmental impacts beyond those identified by the NRC. Nonetheless, the BVPS License Renewal Environmental Review Team would appreciate your early and active participation in the license renewal environmental review process for BVPS. In particular, we would welcome any new questions or concerns your agency may have developed regarding the environmental implications of BVPS license renewal, as well as any information that your agency may consider to be potentially "new and significant." These efforts will help ensure that the ER we prepare is complete and up-to-date. In this regard, if you believe it necessary, we would be pleased to meet with your agency representative(s) to discuss the BVPS license renewal environmental review in detail.

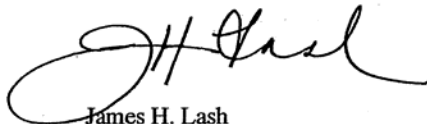
Please feel free to contact Mr. Clifford Custer, License Renewal Project Manager at 724-682-7139, or for environmental-specific issues, Mr. Michael Banko at 724-682-4117. Please address your agency's interest in a meeting, and any questions or concerns about the environmental review to:

Mr. Clifford I. Custer  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop BV-SIM2)  
P.O. Box 4  
Route 168 W  
Shippingport, PA 15077-0004

Tel.: 724-682-7139  
Email: [custercl@firstenergycorp.com](mailto:custercl@firstenergycorp.com)

Thank you on behalf of FENOC and the BVPS License Renewal Environmental Review Team.

Sincerely,



James H. Lash  
Site Vice-President

Attachment

cc: C. I. Custer  
G. A. Dunn  
M. D. Banko  
BVRC: *Keyword(s) – License Renewal Environmental Report*

**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

**Background**

FirstEnergy Corporation owns the Beaver Valley Power Station (BVPS); a two-unit nuclear power plant located on a 453-acre site on the Ohio River in Shippingport Borough, Beaver County, Pennsylvania. Upon completion of our full potential project, the capacity will approximate 924 MWe at Unit 1, 2 918 MWe at Unit 2, for a total of 1842 MWe for the site. BVPS features a close-cycle cooling system that uses two natural draft cooling towers. The Ohio River (New Cumberland Pool) provides the source of cooling tower makeup water and receives the cooling tower blowdown discharge. Transmission lines from BVPS consist of six 345-kV lines, two of which (BV-Sammis and BV-Hanna) extend into West Virginia and/or Ohio, and seven 138-kV lines, all in Pennsylvania.

The initial 40-year operating licenses for BVPS Units 1 and 2 expire in 2016 and 2027, respectively. In keeping with continued efforts to ensure a safe, reliable, and economical supply of energy to its customers, in August 2007 FirstEnergy plans to submit an application to the U.S. Nuclear Regulatory Commission (NRC) for a renewed license. The renewed license would authorize operation of the units for 20 years beyond their current license expiration dates; i.e., until 2036 and 2047, respectively.

The NRC license renewal application process involves a thorough technical evaluation of plant systems, structures, and components to assess the effects of aging, as well as development of measures to manage these effects to ensure continued safe operation through the period of extended operation. In accordance with the National Environmental Policy Act (NEPA), the license renewal process also involves an assessment of potential environmental impacts associated with extended operation of the plant; major plant refurbishments, if any, within the scope of license renewal; and associated transmission lines considered within the scope of license renewal.

The NRC's NEPA evaluation process provides substantial opportunities for input from stakeholders, including federal, state, and local agencies responsible for resources potentially affected by extended operation and associated major refurbishments. FirstEnergy previously met with interested agencies regarding potential environmental impacts related to extended operation, and is willing to do so again. Additionally, the NRC is specifically obligated to consult with the U.S. Fish and Wildlife Service and the State Historic Preservation Officers of Pennsylvania and other potentially affected states regarding potential impacts to threatened or endangered species and cultural resources, respectively.

FirstEnergy prepared this overview of the license renewal environmental review process to familiarize agency representatives with this process and facilitate active agency participation. Detailed information is available from the NRC license renewal website (<http://www.nrc.gov/reactors/operating/licensing/renewal.html>).

**The License Renewal Environmental Review Process**

The NRC requires applications for renewal of nuclear power plant operating licenses to include an environmental report (ER) which addresses the potential environmental impacts of license renewal and the alternatives to license renewal. To improve efficiency of the environmental review process for these applications, the NRC has prepared and issued a generic environmental impact statement (GEIS), *Generic Environmental Impact Statement for the License Renewal of*



**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

*Nuclear Power Plants* (i.e., NUREG-1437) and amended its environmental protection regulations in 10 CFR 51, Subpart A. In the GEIS, the NRC identified and evaluated 92 issues, representing a full range of potential environmental impacts that could result from license renewal, including impacts from any necessary plant refurbishment activities and impacts from plant operation beyond the current 40-year operating license term. The NRC designated 69 of the issues as Category 1, based on the following criteria:

- a. the impacts associated with the issue apply either to all plants or to plants having a specific cooling system or other specified plant or site characteristic;
- b. a single significance level (i.e., small, medium, or large) has been assigned to the impacts; and
- c. additional plant-specific mitigation measures were likely to not be sufficiently beneficial to warrant implementation.

Environmental impacts associated with these Category 1 issues were thus identified, analyzed, and resolved in the GEIS. However, twenty-one (21) of the 92 total issues did not meet one or more of the Category 1 criteria and, were deemed Category 2 issues. Because these Category 2 issues could not be generically resolved, the NRC requires that they be addressed on a site-specific basis in the applicant's ER [10 CFR 51.53(c) and associated Appendix B, Table B-11].

To ensure thorough analysis of all potential environmental impacts associated with license renewal, the NRC requires that applicants identify in the ER any "new and significant information" regarding the environmental impact of license renewal of which the applicant is aware. Such information includes potentially significant environmental issues the NRC did not consider in the GEIS and information that may lead to a different conclusion than was documented in the GEIS and codified in Table B-1 of the NRC regulations as cited above. In the course of developing the ER, applicants for a renewed operating license routinely consult with resource agencies. These consultations are undertaken to familiarize the agencies with the project, identify agency concerns, and obtain pertinent resource information, including any new and potentially significant information, as needed to ensure a complete and accurate application.

The NRC addresses any new and significant and site-specific issues, that are not resolved in the GEIS, in a Supplemental Environmental Impact Statement (SEIS). In preparing the SEIS, the NRC will use information submitted by FE and:

1. Solicits stakeholder input from media sources and at public meetings to finalize the SEIS scope.
2. Consults with resource agencies to determine agency concerns and obtain additional information.
3. Prepares a Draft SEIS on the basis of independent analysis, using input from the applicant, resource agencies, and the public.
4. Solicits stakeholder comments on the Draft SEIS in the media and at public meetings.
5. Prepares the Final SEIS on the basis of comments received.

The ER will address applicable site-specific environmental issues related to extended operation of BVPS and other appropriate topics as specified in 10 CFR 51.53(c), including:

**ATTACHMENT:**  
**License Renewal Environmental Review Process**  
**For The Beaver Valley Power Station**

- Applicable Category 2 issues, including potential impact on water use.
- Ecological resources, land use, and socio-economics.
- Environmental justice.
- New and significant issues, if applicable.
- Alternatives to license renewal (e.g., generation alternatives).
- Historical and archaeological considerations

The NRC will establish a schedule for SEIS preparation and related activities once the application for BVPS has been submitted.

**Environmental Review Activities For BVPS**

FirstEnergy has conducted data gathering efforts as part of the ER development effort. Beginning in July 2002, FirstEnergy met with interested environmental resource agencies to familiarize them with the NRC license renewal process and the BVPS license renewal project, to obtain input. As previously mentioned and as a matter of statutory obligation or policy, the NRC is expected to request informal consultations with some agencies at the SEIS stage (e.g., U.S. Fish and Wildlife Service, PA Historic Preservation Office, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation & Natural Resources, PA Department of Health, Ohio Department of Natural Resources, West Virginia Division of Natural Resources). FirstEnergy specifically requested and received written input from these to include in the ER and facilitate these later consultations with the NRC.

Based on this and other communications, FE will follow up with them if requested.

We also understand that previous reviews for threatened or endangered species may not reflect current conditions. Therefore, in response to previous communications with the responsible agencies, since 2002, FirstEnergy has and will continue to conduct an annual review, through the Pennsylvania Natural Diversity Index (PNDI), in accordance with current Pennsylvania procedures.

**Docketed Examples Available for Review**

Various docketed GEIS and SEISs associated with nuclear plants requesting renewed operating licenses are available from the NRC as NUREG 1437 and associated supplements located at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff>. NRC regulations are readily available at <http://www.nrc.gov/reading-rm/doc-collections/cfr/>.



## Pennsylvania Fish & Boat Commission

Division of Environmental Services  
Natural Diversity Section  
450 Robinson Lane  
Bellefonte, PA 16823-9620  
(814) 359-5237 Fax: (814) 359-5175

March 2, 2007

IN REPLY REFER TO  
SIR# 24822

JULIE FIRESTONE  
FENOC  
BEAVER VALLEY POWER STATION  
ROUTE 168, PO BOX 4  
SHIPPINGPORT, PA 15077-0004

RE: **Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species**  
PNDI Search No. 20070125074250  
**BEAVER VALLEY POWER STATION**  
**GREENE, SHIPPINGPORT Township, BEAVER County, Pennsylvania**

Dear Ms. FIRESTONE:

I have reviewed the map accompanying your recent correspondence, which concerns the above referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, **rare or protected fish species are known from the vicinity of the proposed project site.**

Given the status and sensitivity of the species of concern, we will need more information to allow for a more thorough evaluation of potential adverse impacts from the proposed project. Items **such as** detailed site plans and map, aerial maps of the general area, project alternatives, stream characterizations (stream width, depth, velocity, bottom type, aquatic vegetation present, pH, specific conductance), wetlands/waterways and acreage to be impacted, general habitat descriptions and onsite color photographs (keyed to a site map) would expedite our review process. Pending the review of this information a survey for the species of concern may be warranted.

If you have any questions regarding this response, please contact Nevin Welte at 814-359-5234, **and refer to the SIR number** at the top of this letter. Thank you for your cooperation and attention to this matter of endangered species conservation and habitat protection.

Sincerely,

  
Christopher A. Urban, Chief  
Natural Diversity Section

CAU/NW/ma  
cc: DEP, SW Region

Our Mission:

[www.fish.state.pa.us](http://www.fish.state.pa.us)

*To provide fishing and boating opportunities through the protection and management of aquatic resources.*

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

December 4, 2006  
BVLR-ENV-06-025

Mr. James R. Leigey  
Wildlife Impact Review Coordinator  
Pennsylvania Game Commission  
Section Oil, Gas & Mineral Dept.  
2001 Elmerton Avenue  
Harrisburg, PA 17110-9797

**Subject: Environmental Review for Beaver Valley Power Station License Renewal Project**

Dear Mr. Leigey:

In 2002, FirstEnergy Nuclear Operating Company (FENOC) requested your input to the Beaver Valley Power Station (BVPS) license renewal environmental review. FENOC is currently preparing a final application for submittal to the U.S. Nuclear Regulatory Commission (NRC). Upon successful acceptance by the NRC, the operating licenses for the two nuclear power generating units at BVPS, located in Beaver County, Pennsylvania will be renewed. You are likely aware that the operating licenses for many U.S. nuclear power plants have been recently renewed and that applications for license renewal of numerous other plants have been submitted to the NRC and are undergoing review. Upon issuance of the renewed operating licenses the life of the BVPS units will be extended for an additional 20 years (i.e., until 2036 and 2047 for Units 1 and 2, respectively).

In addition to detailed safety reviews, the license renewal process involves a thorough review of potential environmental impacts in accordance with provisions of the National Environmental Policy Act (NEPA). The attached fact sheet provides an overview of the process and associated environmental review activities to be conducted by FENOC and the NRC for the BVPS License Renewal. In brief, the NRC has prepared a generic environmental impact statement (GEIS) that addresses environmental impacts of license renewal on the basis of a review of plants nationwide. Detailed environmental reviews of individual plants, such as BVPS, include preparation of an environmental report (ER) by the applicant and a site-specific supplement to the GEIS by the NRC. The latter documents must include impact assessments for site-specific environmental issues that were not resolved generically by the NRC in the GEIS. They also must identify any known "new and significant information," i.e., new and significant environmental issues or impacts not recognized as such by the NRC in the GEIS, and the NRC's codified findings from the GEIS (10 CFR 51.53). In accordance with NEPA, the NRC's process for developing the site-specific supplements includes substantial opportunity for participation by agencies and the public, including the opportunity to formally comment on the scope of the NRC's site-specific supplement to the GEIS and the adequacy of that document.

Page Two  
November 20, 2006

During the August 2002 through December 2004 period, agencies and stakeholders – including your group – did not identify any new and significant information or environmental impacts beyond those identified by the NRC. Nonetheless, the BVPS License Renewal Environmental Review Team would appreciate your early and active participation in the license renewal environmental review process for BVPS. In particular, we would welcome any new questions or concerns your agency may have developed regarding the environmental implications of BVPS license renewal, as well as any information that your agency may consider to be potentially "new and significant." These efforts will help ensure that the ER we prepare is complete and up-to-date. In this regard, if you believe it necessary, we would be pleased to meet with your agency representative(s) to discuss the BVPS license renewal environmental review in detail.

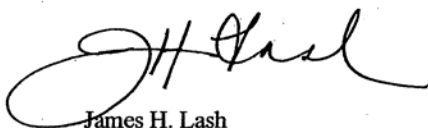
Please feel free to contact Mr. Clifford Custer, License Renewal Project Manager at 724-682-7139, or for environmental-specific issues, Mr. Michael Banko at 724-682-4117. Please address your agency's interest in a meeting, and any questions or concerns about the environmental review to:

Mr. Clifford I. Custer  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop BV-SIM2)  
P.O. Box 4  
Route 168 W  
Shippingport, PA 15077-0004

Tel.: 724-682-7139  
Email: [custerc@firstenergycorp.com](mailto:custerc@firstenergycorp.com)

Thank you on behalf of FENOC and the BVPS License Renewal Environmental Review Team.

Sincerely,



James H. Lash  
Site Vice-President

Attachment

cc: C. I. Custer  
G. A. Dunn  
M. D. Banko  
BVRC: *Keyword(s) – License Renewal Environmental Report*

**ATTACHMENT:**  
**License Renewal Environmental Review Process**  
**For The Beaver Valley Power Station**

**Background**

FirstEnergy Corporation owns the Beaver Valley Power Station (BVPS); a two-unit nuclear power plant located on a 453-acre site on the Ohio River in Shippingport Borough, Beaver County, Pennsylvania. Upon completion of our full potential project, the capacity will approximate 924 MWe at Unit 1, 2 918 MWe at Unit 2, for a total of 1842 MWe for the site. BVPS features a close-cycle cooling system that uses two natural draft cooling towers. The Ohio River (New Cumberland Pool) provides the source of cooling tower makeup water and receives the cooling tower blowdown discharge. Transmission lines from BVPS consist of six 345-kV lines, two of which (BV-Sammis and BV-Hanna) extend into West Virginia and/or Ohio, and seven 138-kV lines, all in Pennsylvania.

The initial 40-year operating licenses for BVPS Units 1 and 2 expire in 2016 and 2027, respectively. In keeping with continued efforts to ensure a safe, reliable, and economical supply of energy to its customers, in August 2007 FirstEnergy plans to submit an application to the U.S. Nuclear Regulatory Commission (NRC) for a renewed license. The renewed license would authorize operation of the units for 20 years beyond their current license expiration dates; i.e., until 2036 and 2047, respectively.

The NRC license renewal application process involves a thorough technical evaluation of plant systems, structures, and components to assess the effects of aging, as well as development of measures to manage these effects to ensure continued safe operation through the period of extended operation. In accordance with the National Environmental Policy Act (NEPA), the license renewal process also involves an assessment of potential environmental impacts associated with extended operation of the plant; major plant refurbishments, if any, within the scope of license renewal; and associated transmission lines considered within the scope of license renewal.

The NRC's NEPA evaluation process provides substantial opportunities for input from stakeholders, including federal, state, and local agencies responsible for resources potentially affected by extended operation and associated major refurbishments. FirstEnergy previously met with interested agencies regarding potential environmental impacts related to extended operation, and is willing to do so again. Additionally, the NRC is specifically obligated to consult with the U.S. Fish and Wildlife Service and the State Historic Preservation Officers of Pennsylvania and other potentially affected states regarding potential impacts to threatened or endangered species and cultural resources, respectively.

FirstEnergy prepared this overview of the license renewal environmental review process to familiarize agency representatives with this process and facilitate active agency participation. Detailed information is available from the NRC license renewal website (<http://www.nrc.gov/reactors/operating/licensing/renewal.html>).

**The License Renewal Environmental Review Process**

The NRC requires applications for renewal of nuclear power plant operating licenses to include an environmental report (ER) which addresses the potential environmental impacts of license renewal and the alternatives to license renewal. To improve efficiency of the environmental review process for these applications, the NRC has prepared and issued a generic environmental impact statement (GEIS), *Generic Environmental Impact Statement for the License Renewal of*



**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

*Nuclear Power Plants* (i.e., NUREG-1437) and amended its environmental protection regulations in 10 CFR 51, Subpart A. In the GEIS, the NRC identified and evaluated 92 issues, representing a full range of potential environmental impacts that could result from license renewal, including impacts from any necessary plant refurbishment activities and impacts from plant operation beyond the current 40-year operating license term. The NRC designated 69 of the issues as Category 1, based on the following criteria:

- a. the impacts associated with the issue apply either to all plants or to plants having a specific cooling system or other specified plant or site characteristic;
- b. a single significance level (i.e., small, medium, or large) has been assigned to the impacts; and
- c. additional plant-specific mitigation measures were likely to not be sufficiently beneficial to warrant implementation.

Environmental impacts associated with these Category 1 issues were thus identified, analyzed, and resolved in the GEIS. However, twenty-one (21) of the 92 total issues did not meet one or more of the Category 1 criteria and, were deemed Category 2 issues. Because these Category 2 issues could not be generically resolved, the NRC requires that they be addressed on a site-specific basis in the applicant's ER [10 CFR 51.53(c) and associated Appendix B, Table B-11].

To ensure thorough analysis of all potential environmental impacts associated with license renewal, the NRC requires that applicants identify in the ER any "new and significant information" regarding the environmental impact of license renewal of which the applicant is aware. Such information includes potentially significant environmental issues the NRC did not consider in the GEIS and information that may lead to a different conclusion than was documented in the GEIS and codified in Table B-1 of the NRC regulations as cited above. In the course of developing the ER, applicants for a renewed operating license routinely consult with resource agencies. These consultations are undertaken to familiarize the agencies with the project, identify agency concerns, and obtain pertinent resource information, including any new and potentially significant information, as needed to ensure a complete and accurate application.

The NRC addresses any new and significant and site-specific issues, that are not resolved in the GEIS, in a Supplemental Environmental Impact Statement (SEIS). In preparing the SEIS, the NRC will use information submitted by FE and:

1. Solicits stakeholder input from media sources and at public meetings to finalize the SEIS scope.
2. Consults with resource agencies to determine agency concerns and obtain additional information.
3. Prepares a Draft SEIS on the basis of independent analysis, using input from the applicant, resource agencies, and the public.
4. Solicits stakeholder comments on the Draft SEIS in the media and at public meetings.
5. Prepares the Final SEIS on the basis of comments received.

The ER will address applicable site-specific environmental issues related to extended operation of BVPS and other appropriate topics as specified in 10 CFR 51.53(c), including:

**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

- Applicable Category 2 issues, including potential impact on water use.
- Ecological resources, land use, and socio-economics.
- Environmental justice.
- New and significant issues, if applicable.
- Alternatives to license renewal (e.g., generation alternatives).
- Historical and archaeological considerations

The NRC will establish a schedule for SEIS preparation and related activities once the application for BVPS has been submitted.

**Environmental Review Activities For BVPS**

FirstEnergy has conducted data gathering efforts as part of the ER development effort. Beginning in July 2002, FirstEnergy met with interested environmental resource agencies to familiarize them with the NRC license renewal process and the BVPS license renewal project, to obtain input. As previously mentioned and as a matter of statutory obligation or policy, the NRC is expected to request informal consultations with some agencies at the SEIS stage (e.g., U.S. Fish and Wildlife Service, PA Historic Preservation Office, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation & Natural Resources, PA Department of Health, Ohio Department of Natural Resources, West Virginia Division of Natural Resources). FirstEnergy specifically requested and received written input from these to include in the ER and facilitate these later consultations with the NRC.

Based on this and other communications, FE will follow up with them if requested.

We also understand that previous reviews for threatened or endangered species may not reflect current conditions. Therefore, in response to previous communications with the responsible agencies, since 2002, FirstEnergy has and will continue to conduct an annual review, through the Pennsylvania Natural Diversity Index (PNDI), in accordance with current Pennsylvania procedures.

**Docketed Examples Available for Review**

Various docketed GEIS and SEISs associated with nuclear plants requesting renewed operating licenses are available from the NRC as NUREG 1437 and associated supplements located at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff>. NRC regulations are readily available at <http://www.nrc.gov/reading-rm/doc-collections/cfr/>.



COMMONWEALTH OF PENNSYLVANIA  
**PENNSYLVANIA GAME COMMISSION**  
2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

January 8, 2007

Mr. Clifford I. Custer  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop BV-SIM2)  
PO Box 4  
Route 168W  
Shippingport, PA 15077-0004

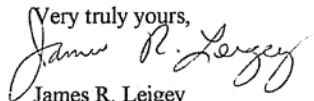
In re: PNDI Review Request  
Beaver Valley Power Station License Renewal Project  
Shippensport Borough  
Beaver County, PA

Dear Mr. Custer:

This is in response to your letter of December 4, 2006 regarding the potential impacts of your proposed project(s) on special concern species of birds or mammals.

Our office review has determined that your proposed project(s) should not cause any adverse impacts to any special concern species of birds or mammals. This determination may be reconsidered if project plans change or extend beyond the present study area, or if additional information becomes available on state-listed species.

If you have any questions, please contact me at (717) 783-5957. Please be advised that this determination is only valid for one year from the date of this letter.

Very truly yours,  
  
James R. Leigey  
Wildlife Impact Review Coordinator  
Division of Environmental  
Planning and Habitat Protection  
Bureau of Wildlife Habitat Management

Cc: File

ADMINISTRATIVE BUREAUS:  
PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594  
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 LAW ENFORCEMENT: 717-787-5740  
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411

WWW.PGC.STATE.PA.US  
AN EQUAL OPPORTUNITY EMPLOYER

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

December 4, 2006  
BVLR-ENV-06-067

Ms. Carolyn Kender, Archaeologist  
The Cultural Center, Capitol Complex  
West Virginia Division of Culture & History  
1900 Kanawha Boulevard, East  
Charleston, WV 25305-0360

**Subject: Environmental Review for Beaver Valley Power Station License Renewal Project**

Dear Ms. Kender:

In 2002, FirstEnergy Nuclear Operating Company (FENOC) requested your input to the Beaver Valley Power Station (BVPS) license renewal environmental review. FENOC is currently preparing a final application for submittal to the U.S. Nuclear Regulatory Commission (NRC). Upon successful acceptance by the NRC, the operating licenses for the two nuclear power generating units at BVPS, located in Beaver County, Pennsylvania will be renewed. You are likely aware that the operating licenses for many U.S. nuclear power plants have been recently renewed and that applications for license renewal of numerous other plants have been submitted to the NRC and are undergoing review. Upon issuance of the renewed operating licenses the life of the BVPS units will be extended for an additional 20 years ( i.e., until 2036 and 2047 for Units 1 and 2, respectively).

In addition to detailed safety reviews, the license renewal process involves a thorough review of potential environmental impacts in accordance with provisions of the National Environmental Policy Act (NEPA). The attached fact sheet provides an overview of the process and associated environmental review activities to be conducted by FENOC and the NRC for the BVPS License Renewal. In brief, the NRC has prepared a generic environmental impact statement (GEIS) that addresses environmental impacts of license renewal on the basis of a review of plants nationwide. Detailed environmental reviews of individual plants, such as BVPS, include preparation of an environmental report (ER) by the applicant and a site-specific supplement to the GEIS by the NRC. The latter documents must include impact assessments for site-specific environmental issues that were not resolved generically by the NRC in the GEIS. They also must identify any known "new and significant information," i.e., new and significant environmental issues or impacts not recognized as such by the NRC in the GEIS, and the NRC's codified findings from the GEIS (10 CFR 51.53). In accordance with NEPA, the NRC's process for developing the site-specific supplements includes substantial opportunity for participation by agencies and the public, including the opportunity to formally comment on the scope of the NRC's site-specific supplement to the GEIS and the adequacy of that document.

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report

---

Page Two  
November 20, 2006

During the August 2002 through December 2004 period, agencies and stakeholders – including your group – did not identify any new and significant information or environmental impacts beyond those identified by the NRC. Nonetheless, the BVPS License Renewal Environmental Review Team would appreciate your early and active participation in the license renewal environmental review process for BVPS. In particular, we would welcome any new questions or concerns your agency may have developed regarding the environmental implications of BVPS license renewal, as well as any information that your agency may consider to be potentially "new and significant." These efforts will help ensure that the ER we prepare is complete and up-to-date. In this regard, if you believe it necessary, we would be pleased to meet with your agency representative(s) to discuss the BVPS license renewal environmental review in detail.

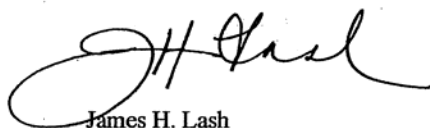
Please feel free to contact Mr. Clifford Custer, License Renewal Project Manager at 724-682-7139, or for environmental-specific issues, Mr. Michael Banko at 724-682-4117. Please address your agency's interest in a meeting, and any questions or concerns about the environmental review to:

Mr. Clifford I. Custer  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop BV-SIM2)  
P.O. Box 4  
Route 168 W  
Shippingport, PA 15077-0004

Tel.: 724-682-7139  
Email: [custerc@firstenergycorp.com](mailto:custerc@firstenergycorp.com)

Thank you on behalf of FENOC and the BVPS License Renewal Environmental Review Team.

Sincerely,



James H. Lash  
Site Vice-President

Attachment

cc: C. I. Custer  
G. A. Dunn  
M. D. Banko  
BVRC: *Keyword(s) – License Renewal Environmental Report*

**ATTACHMENT:**  
**License Renewal Environmental Review Process**  
**For The Beaver Valley Power Station**

**Background**

FirstEnergy Corporation owns the Beaver Valley Power Station (BVPS); a two-unit nuclear power plant located on a 453-acre site on the Ohio River in Shippingport Borough, Beaver County, Pennsylvania. Upon completion of our full potential project, the capacity will approximate 924 MWe at Unit 1, 2 918 MWe at Unit 2, for a total of 1842 MWe for the site. BVPS features a close-cycle cooling system that uses two natural draft cooling towers. The Ohio River (New Cumberland Pool) provides the source of cooling tower makeup water and receives the cooling tower blowdown discharge. Transmission lines from BVPS consist of six 345-kV lines, two of which (BV-Sammis and BV-Hanna) extend into West Virginia and/or Ohio, and seven 138-kV lines, all in Pennsylvania.

The initial 40-year operating licenses for BVPS Units 1 and 2 expire in 2016 and 2027, respectively. In keeping with continued efforts to ensure a safe, reliable, and economical supply of energy to its customers, in August 2007 FirstEnergy plans to submit an application to the U.S. Nuclear Regulatory Commission (NRC) for a renewed license. The renewed license would authorize operation of the units for 20 years beyond their current license expiration dates; i.e., until 2036 and 2047, respectively.

The NRC license renewal application process involves a thorough technical evaluation of plant systems, structures, and components to assess the effects of aging, as well as development of measures to manage these effects to ensure continued safe operation through the period of extended operation. In accordance with the National Environmental Policy Act (NEPA), the license renewal process also involves an assessment of potential environmental impacts associated with extended operation of the plant; major plant refurbishments, if any, within the scope of license renewal; and associated transmission lines considered within the scope of license renewal.

The NRC's NEPA evaluation process provides substantial opportunities for input from stakeholders, including federal, state, and local agencies responsible for resources potentially affected by extended operation and associated major refurbishments. FirstEnergy previously met with interested agencies regarding potential environmental impacts related to extended operation, and is willing to do so again. Additionally, the NRC is specifically obligated to consult with the U.S. Fish and Wildlife Service and the State Historic Preservation Officers of Pennsylvania and other potentially affected states regarding potential impacts to threatened or endangered species and cultural resources, respectively.

FirstEnergy prepared this overview of the license renewal environmental review process to familiarize agency representatives with this process and facilitate active agency participation. Detailed information is available from the NRC license renewal website (<http://www.nrc.gov/reactors/operating/licensing/renewal.html>).

**The License Renewal Environmental Review Process**

The NRC requires applications for renewal of nuclear power plant operating licenses to include an environmental report (ER) which addresses the potential environmental impacts of license renewal and the alternatives to license renewal. To improve efficiency of the environmental review process for these applications, the NRC has prepared and issued a generic environmental impact statement (GEIS), *Generic Environmental Impact Statement for the License Renewal of*



**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

*Nuclear Power Plants* (i.e., NUREG-1437) and amended its environmental protection regulations in 10 CFR 51, Subpart A. In the GEIS, the NRC identified and evaluated 92 issues, representing a full range of potential environmental impacts that could result from license renewal, including impacts from any necessary plant refurbishment activities and impacts from plant operation beyond the current 40-year operating license term. The NRC designated 69 of the issues as Category 1, based on the following criteria:

- a. the impacts associated with the issue apply either to all plants or to plants having a specific cooling system or other specified plant or site characteristic;
- b. a single significance level (i.e., small, medium, or large) has been assigned to the impacts; and
- c. additional plant-specific mitigation measures were likely to not be sufficiently beneficial to warrant implementation.

Environmental impacts associated with these Category 1 issues were thus identified, analyzed, and resolved in the GEIS. However, twenty-one (21) of the 92 total issues did not meet one or more of the Category 1 criteria and, were deemed Category 2 issues. Because these Category 2 issues could not be generically resolved, the NRC requires that they be addressed on a site-specific basis in the applicant's ER [10 CFR 51.53(c) and associated Appendix B, Table B-11].

To ensure thorough analysis of all potential environmental impacts associated with license renewal, the NRC requires that applicants identify in the ER any "new and significant information" regarding the environmental impact of license renewal of which the applicant is aware. Such information includes potentially significant environmental issues the NRC did not consider in the GEIS and information that may lead to a different conclusion than was documented in the GEIS and codified in Table B-1 of the NRC regulations as cited above. In the course of developing the ER, applicants for a renewed operating license routinely consult with resource agencies. These consultations are undertaken to familiarize the agencies with the project, identify agency concerns, and obtain pertinent resource information, including any new and potentially significant information, as needed to ensure a complete and accurate application.

The NRC addresses any new and significant and site-specific issues, that are not resolved in the GEIS, in a Supplemental Environmental Impact Statement (SEIS). In preparing the SEIS, the NRC will use information submitted by FE and:

1. Solicits stakeholder input from media sources and at public meetings to finalize the SEIS scope.
2. Consults with resource agencies to determine agency concerns and obtain additional information.
3. Prepares a Draft SEIS on the basis of independent analysis, using input from the applicant, resource agencies, and the public.
4. Solicits stakeholder comments on the Draft SEIS in the media and at public meetings.
5. Prepares the Final SEIS on the basis of comments received.

The ER will address applicable site-specific environmental issues related to extended operation of BVPS and other appropriate topics as specified in 10 CFR 51.53(c), including:

**ATTACHMENT:**  
**License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

- Applicable Category 2 issues, including potential impact on water use.
- Ecological resources, land use, and socio-economics.
- Environmental justice.
- New and significant issues, if applicable.
- Alternatives to license renewal (e.g., generation alternatives).
- Historical and archaeological considerations

The NRC will establish a schedule for SEIS preparation and related activities once the application for BVPS has been submitted.

**Environmental Review Activities For BVPS**

FirstEnergy has conducted data gathering efforts as part of the ER development effort. Beginning in July 2002, FirstEnergy met with interested environmental resource agencies to familiarize them with the NRC license renewal process and the BVPS license renewal project, to obtain input. As previously mentioned and as a matter of statutory obligation or policy, the NRC is expected to request informal consultations with some agencies at the SEIS stage (e.g., U.S. Fish and Wildlife Service, PA Historic Preservation Office, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation & Natural Resources, PA Department of Health, Ohio Department of Natural Resources, West Virginia Division of Natural Resources). FirstEnergy specifically requested and received written input from these to include in the ER and facilitate these later consultations with the NRC.

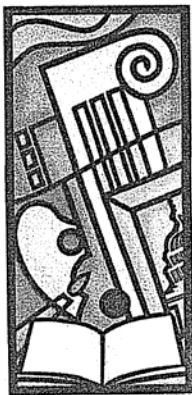
Based on this and other communications, FE will follow up with them if requested.

We also understand that previous reviews for threatened or endangered species may not reflect current conditions. Therefore, in response to previous communications with the responsible agencies, since 2002, FirstEnergy has and will continue to conduct an annual review, through the Pennsylvania Natural Diversity Index (PNDI), in accordance with current Pennsylvania procedures.

**Docketed Examples Available for Review**

Various docketed GEIS and SEISs associated with nuclear plants requesting renewed operating licenses are available from the NRC as NUREG 1437 and associated supplements located at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff>. NRC regulations are readily available at <http://www.nrc.gov/reading-rm/doc-collections/cfr/>.

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



WEST VIRGINIA  
DIVISION OF  
CULTURE & HISTORY

The Cultural Center  
1900 Kanawha Blvd., E.  
Charleston, WV  
25305-0300

Phone 304.558.0220  
Fax 304.558.2779  
TDD 304.558.3562  
www.wvculture.org

EEO/AA Employer

January 9, 2006

Mr. Clifford I. Custer  
Project Manager  
Beaver Valley Power Station  
Route 168 W  
PO Box 4  
Shippingport, PA 15077

Re: Beaver Valley Power Station  
Environmental Review for License Renewal  
FR#: 07-206-HK

Dear Mr. Custer:

We have reviewed the above mentioned project to determine its effects to cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

It is our understanding that Beaver Valley Power Station (BVPS) is conducting an environmental review for license renewal. Upon issuance of the renewed license, the life of BVPS Units 1 and 2 will be extended for an additional 20 years, until 2036 and 2047, respectively. Per your request, we are providing comments regarding the potential of the extended license to effect historic resources within West Virginia.

Archaeological Resources:

It is our understanding that two existing BVPS transmission lines extend into Hancock County, West Virginia and that no new ground disturbing activities are planned as part of the license renewal process. It is our opinion, therefore, that this project will have no effect on any archaeological resources that are eligible for or listed in the National Register of Historic Places. Should future ground disturbing activities be planned by BVPS in West Virginia, you will need to initiate the Section 106.

Architectural Resources:

The West Virginia State Historic Preservation Office has reviewed the information provided with the request for Environmental Review. Unfortunately, we can not complete our review with the information provided. Please indicate the location of the two nuclear power generating units located in Beaver County, Pennsylvania and the height of the units so we may determine the view shed to Hancock County, West Virginia. Also, please

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report


---

Mr. Custer  
January 9, 2007  
Page 2

indicate on a USGS map the location of the transmission lines from BVPS that extend into West Virginia. We will complete our review upon receipt of the materials requested.

We appreciate the opportunity to be of service. *If you have any questions regarding our comments or the Section 106 process, please call Lora Lamarre, Senior Archaeologist, or Ginger Williford, Structural Historian, at (304) 558-0240.*

Sincerely,

  
Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/LAL/GW

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

February 20, 2007  
BVL-ER-07-002

Ms. Susan M. Pierce  
Deputy State Historic Preservation Officer  
West Virginia Division of Culture & History  
The Cultural Center  
1900 Kanawha Blvd. E.  
Charleston, WV 25305-0300

**Re: Request for More Information Regarding Beaver Valley Power Station License  
Renewal Environmental Review (FR#: 07-206-HK)**

Dear Ms. Pierce,

Thank you for your review and response to date. In your letter to us dated January 9, 2007 (FR#: 07-206-HK), you requested additional information regarding the location of Beaver Valley Power Station (BVPS), its height, and the location of associated transmission lines through Hancock County, WV. We are pleased to provide that information to you.

**Location of BVPS:**

The facility is located on the south bank of the Ohio River. On the United States Geological Survey (USGS) maps, it is on the very northernmost edge of the Hookstown, PA quadrangle, and on the very southernmost edge of the Midland, PA quadrangle. Data for the approximate center of the facility are:

- Latitude/Longitude: 40°27'33" / 80°25'57"
- Ohio River mile 34.5

Please see the attached combined USGS maps that show the location of BVPS relative to the Ohio River, as well as to the West Virginia, Ohio, and Pennsylvania state lines.

**Height of BVPS**

The tallest structures at the facility are the two parabolic cooling towers. Each is approximately 550' high. Adding that value to the nominal general site elevation of 735' above sea level, the approximated height above sea level for the cooling towers is not more than 1,285'. Looking at the USGS topographical maps, there are several peaks between BVPS and the West Virginia state line that are over 1,100' high and thus, would make view of the cooling towers unlikely from that state.

Please see the attached combined USGS maps that show the location of BVPS relative to the Ohio River, as well as to the West Virginia, Ohio, and Pennsylvania state lines.

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

**Location of Transmission Lines through Hancock County, WV**

A transmission line designated as BV-Sammis traverses through Hancock County, WV between the PA state line, and the Ohio state line at the Ohio River. Please see the attached combined USGS maps that show the path of the BV-Sammis transmission lines.

Should you or your staff need more information or have any questions, please direct them to Mr. Michael Banko, at 724-682-4117.

Sincerely,

A handwritten signature in black ink, appearing to read "Clifford I. Custer".

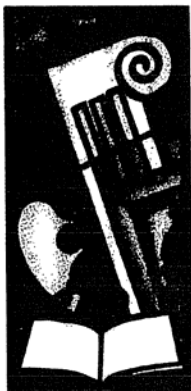
Clifford I. Custer  
License Renewal Project Manager

Attachment

cc: M. D. Banko  
C. A. Munoz (A-GO-10)  
B. F. Sepelak (A-BV-A)

Central File: *Keyword(s)- License Renewal ER*

Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report



WEST VIRGINIA  
DIVISION OF  
CULTURE & HISTORY

The Cultural Center  
1900 Kanawha Blvd., E.  
Charleston, WV  
25305-0300

Phone 304.558.0220  
Fax 304.558.2779  
TDD 304.558.3562  
www.wvculture.org  
EEO/AA Employer

March 14, 2006

Mr. Clifford I. Custer  
Project Manager  
Beaver Valley Power Station  
Route 168 W  
PO Box 4  
Shippingport, PA 15077

Re: Beaver Valley Power Station  
Environmental Review for License Renewal  
FR#: 07-206-HK-1

Dear Mr. Custer:

We have reviewed the additional information for the above mentioned project to determine its effects to cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

It is our understanding that Beaver Valley Power Station (BVPS) is conducting an environmental review for license renewal. Upon issuance of the renewed license, the life of BVPS Units 1 and 2 will be extended for an additional 20 years, until 2036 and 2047, respectively. Per your request, we are providing comments regarding the potential of the extended license to effect historic resources within West Virginia.

Architectural Resources:

Thank you for the additional information requested in our letter dated January 9, 2006. We concur that the two parabolic cooling towers are unlikely to be seen from West Virginia. It is our opinion there are no cultural resources within the project area that are eligible for or listed in the National Register of Historic Places. No further consultation is necessary with respect to cultural resources.

We appreciate the opportunity to be of service. *If you have any questions regarding our comments or the Section 106 process, please call Ginger Williford, Structural Historian, at (304) 558-0240.*

Sincerely,

  
Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/GW



Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report

---



Beaver Valley Power Station  
Route 168  
P.O. Box 4  
Shippingport, PA 15077-0004

---

December 4, 2006  
BVL-ENV-06-047

Dr. Samuel W. Speck, Director  
Ohio Department of Natural Resources  
2045 Morse Road  
Columbus, OH 43229

**Subject: Environmental Review for Beaver Valley Power Station License Renewal Project**

Dear Dr. Speck:

In 2002, FirstEnergy Nuclear Operating Company (FENOC) requested your input to the Beaver Valley Power Station (BVPS) license renewal environmental review. FENOC is currently preparing a final application for submittal to the U.S. Nuclear Regulatory Commission (NRC). Upon successful acceptance by the NRC, the operating licenses for the two nuclear power generating units at BVPS, located in Beaver County, Pennsylvania will be renewed. You are likely aware that the operating licenses for many U.S. nuclear power plants have been recently renewed and that applications for license renewal of numerous other plants have been submitted to the NRC and are undergoing review. Upon issuance of the renewed operating licenses the life of the BVPS units will be extended for an additional 20 years ( i.e., until 2036 and 2047 for Units 1 and 2, respectively).

In addition to detailed safety reviews, the license renewal process involves a thorough review of potential environmental impacts in accordance with provisions of the National Environmental Policy Act (NEPA). The attached fact sheet provides an overview of the process and associated environmental review activities to be conducted by FENOC and the NRC for the BVPS License Renewal. In brief, the NRC has prepared a generic environmental impact statement (GEIS) that addresses environmental impacts of license renewal on the basis of a review of plants nationwide. Detailed environmental reviews of individual plants, such as BVPS, include preparation of an environmental report (ER) by the applicant and a site-specific supplement to the GEIS by the NRC. The latter documents must include impact assessments for site-specific environmental issues that were not resolved generically by the NRC in the GEIS. They also must identify any known "new and significant information," i.e., new and significant environmental issues or impacts not recognized as such by the NRC in the GEIS, and the NRC's codified findings from the GEIS (10 CFR 51.53). In accordance with NEPA, the NRC's process for developing the site-specific supplements includes substantial opportunity for participation by agencies and the public, including the opportunity to formally comment on the scope of the NRC's site-specific supplement to the GEIS and the adequacy of that document.

Page Two  
November 20, 2006

During the August 2002 through December 2004 period, agencies and stakeholders – including your group – did not identify any new and significant information or environmental impacts beyond those identified by the NRC. Nonetheless, the BVPS License Renewal Environmental Review Team would appreciate your early and active participation in the license renewal environmental review process for BVPS. In particular, we would welcome any new questions or concerns your agency may have developed regarding the environmental implications of BVPS license renewal, as well as any information that your agency may consider to be potentially "new and significant." These efforts will help ensure that the ER we prepare is complete and up-to-date. In this regard, if you believe it necessary, we would be pleased to meet with your agency representative(s) to discuss the BVPS license renewal environmental review in detail.

Please feel free to contact Mr. Clifford Custer, License Renewal Project Manager at 724-682-7139, or for environmental-specific issues, Mr. Michael Banko at 724-682-4117. Please address your agency's interest in a meeting, and any questions or concerns about the environmental review to:

Mr. Clifford I. Custer  
BVPS License Renewal Project Manager  
Beaver Valley Power Station (Mail Stop BV-SIM2)  
P.O. Box 4  
Route 168 W  
Shippingport, PA 15077-0004

Tel.: 724-682-7139  
Email: [custerc@firstenergycorp.com](mailto:custerc@firstenergycorp.com)

Thank you on behalf of FENOC and the BVPS License Renewal Environmental Review Team.

Sincerely,



James H. Lash  
Site Vice-President

Attachment

cc: C. I. Custer  
G. A. Dunn  
M. D. Banko  
BVRC: *Keyword(s) – License Renewal Environmental Report*

**ATTACHMENT:**  
**License Renewal Environmental Review Process**  
**For The Beaver Valley Power Station**

**Background**

FirstEnergy Corporation owns the Beaver Valley Power Station (BVPS); a two-unit nuclear power plant located on a 453-acre site on the Ohio River in Shippingport Borough, Beaver County, Pennsylvania. Upon completion of our full potential project, the capacity will approximate 924 MWe at Unit 1, 2 918 MWe at Unit 2, for a total of 1842 MWe for the site. BVPS features a close-cycle cooling system that uses two natural draft cooling towers. The Ohio River (New Cumberland Pool) provides the source of cooling tower makeup water and receives the cooling tower blowdown discharge. Transmission lines from BVPS consist of six 345-kV lines, two of which (BV-Sammis and BV-Hanna) extend into West Virginia and/or Ohio, and seven 138-kV lines, all in Pennsylvania.

The initial 40-year operating licenses for BVPS Units 1 and 2 expire in 2016 and 2027, respectively. In keeping with continued efforts to ensure a safe, reliable, and economical supply of energy to its customers, in August 2007 FirstEnergy plans to submit an application to the U.S. Nuclear Regulatory Commission (NRC) for a renewed license. The renewed license would authorize operation of the units for 20 years beyond their current license expiration dates; i.e., until 2036 and 2047, respectively.

The NRC license renewal application process involves a thorough technical evaluation of plant systems, structures, and components to assess the effects of aging, as well as development of measures to manage these effects to ensure continued safe operation through the period of extended operation. In accordance with the National Environmental Policy Act (NEPA), the license renewal process also involves an assessment of potential environmental impacts associated with extended operation of the plant; major plant refurbishments, if any, within the scope of license renewal; and associated transmission lines considered within the scope of license renewal.

The NRC's NEPA evaluation process provides substantial opportunities for input from stakeholders, including federal, state, and local agencies responsible for resources potentially affected by extended operation and associated major refurbishments. FirstEnergy previously met with interested agencies regarding potential environmental impacts related to extended operation, and is willing to do so again. Additionally, the NRC is specifically obligated to consult with the U.S. Fish and Wildlife Service and the State Historic Preservation Officers of Pennsylvania and other potentially affected states regarding potential impacts to threatened or endangered species and cultural resources, respectively.

FirstEnergy prepared this overview of the license renewal environmental review process to familiarize agency representatives with this process and facilitate active agency participation. Detailed information is available from the NRC license renewal website (<http://www.nrc.gov/reactors/operating/licensing/renewal.html>).

**The License Renewal Environmental Review Process**

The NRC requires applications for renewal of nuclear power plant operating licenses to include an environmental report (ER) which addresses the potential environmental impacts of license renewal and the alternatives to license renewal. To improve efficiency of the environmental review process for these applications, the NRC has prepared and issued a generic environmental impact statement (GEIS), *Generic Environmental Impact Statement for the License Renewal of*

**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

*Nuclear Power Plants* (i.e., NUREG-1437) and amended its environmental protection regulations in 10 CFR 51, Subpart A. In the GEIS, the NRC identified and evaluated 92 issues, representing a full range of potential environmental impacts that could result from license renewal, including impacts from any necessary plant refurbishment activities and impacts from plant operation beyond the current 40-year operating license term. The NRC designated 69 of the issues as Category 1, based on the following criteria:

- a. the impacts associated with the issue apply either to all plants or to plants having a specific cooling system or other specified plant or site characteristic;
- b. a single significance level (i.e., small, medium, or large) has been assigned to the impacts; and
- c. additional plant-specific mitigation measures were likely to not be sufficiently beneficial to warrant implementation.

Environmental impacts associated with these Category 1 issues were thus identified, analyzed, and resolved in the GEIS. However, twenty-one (21) of the 92 total issues did not meet one or more of the Category 1 criteria and, were deemed Category 2 issues. Because these Category 2 issues could not be generically resolved, the NRC requires that they be addressed on a site-specific basis in the applicant's ER [10 CFR 51.53(c) and associated Appendix B, Table B-11].

To ensure thorough analysis of all potential environmental impacts associated with license renewal, the NRC requires that applicants identify in the ER any "new and significant information" regarding the environmental impact of license renewal of which the applicant is aware. Such information includes potentially significant environmental issues the NRC did not consider in the GEIS and information that may lead to a different conclusion than was documented in the GEIS and codified in Table B-1 of the NRC regulations as cited above. In the course of developing the ER, applicants for a renewed operating license routinely consult with resource agencies. These consultations are undertaken to familiarize the agencies with the project, identify agency concerns, and obtain pertinent resource information, including any new and potentially significant information, as needed to ensure a complete and accurate application.

The NRC addresses any new and significant and site-specific issues, that are not resolved in the GEIS, in a Supplemental Environmental Impact Statement (SEIS). In preparing the SEIS, the NRC will use information submitted by FE and:

1. Solicits stakeholder input from media sources and at public meetings to finalize the SEIS scope.
2. Consults with resource agencies to determine agency concerns and obtain additional information.
3. Prepares a Draft SEIS on the basis of independent analysis, using input from the applicant, resource agencies, and the public.
4. Solicits stakeholder comments on the Draft SEIS in the media and at public meetings.
5. Prepares the Final SEIS on the basis of comments received.

The ER will address applicable site-specific environmental issues related to extended operation of BVPS and other appropriate topics as specified in 10 CFR 51.53(c), including:

**ATTACHMENT:  
License Renewal Environmental Review Process  
For The Beaver Valley Power Station**

- Applicable Category 2 issues, including potential impact on water use.
- Ecological resources, land use, and socio-economics.
- Environmental justice.
- New and significant issues, if applicable.
- Alternatives to license renewal (e.g., generation alternatives).
- Historical and archaeological considerations

The NRC will establish a schedule for SEIS preparation and related activities once the application for BVPS has been submitted.

**Environmental Review Activities For BVPS**

FirstEnergy has conducted data gathering efforts as part of the ER development effort. Beginning in July 2002, FirstEnergy met with interested environmental resource agencies to familiarize them with the NRC license renewal process and the BVPS license renewal project, to obtain input. As previously mentioned and as a matter of statutory obligation or policy, the NRC is expected to request informal consultations with some agencies at the SEIS stage (e.g., U.S. Fish and Wildlife Service, PA Historic Preservation Office, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation & Natural Resources, PA Department of Health, Ohio Department of Natural Resources, West Virginia Division of Natural Resources). FirstEnergy specifically requested and received written input from these to include in the ER and facilitate these later consultations with the NRC.

Based on this and other communications, FE will follow up with them if requested.

We also understand that previous reviews for threatened or endangered species may not reflect current conditions. Therefore, in response to previous communications with the responsible agencies, since 2002, FirstEnergy has and will continue to conduct an annual review, through the Pennsylvania Natural Diversity Index (PNDI), in accordance with current Pennsylvania procedures.

**Docketed Examples Available for Review**

Various docketed GEIS and SEISs associated with nuclear plants requesting renewed operating licenses are available from the NRC as NUREG 1437 and associated supplements located at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff>. NRC regulations are readily available at <http://www.nrc.gov/reading-rm/doc-collections/cfr/>.

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---



**Clifford I Custer/FirstEnergy**  
12/29/2006 08:59 AM

To Lance R Garrett/FirstEnergy@FirstEnergy  
cc Mike D Banko/FirstEnergy@FirstEnergy, Julie A  
Firestone/FirstEnergy@FirstEnergy, David F  
Kunsemiller/CONTRACTORS/FirstEnergy@FirstEnergy  
bcc  
Subject Fw: 06-0316; Beaver Valley Power Station

Lance please print and file this e-mail with our Environmental Report logbook.

Cliff Custer  
FENOC Project Manager  
License Renewal  
Work: (724) 682-7139  
BPR: (412) 305-4981

----- Forwarded by Clifford I Custer/FirstEnergy on 12/29/2006 08:57 AM -----



"Bankey, Mindy"  
<Mindy.Bankey@dnr.state.oh.us>  
12/29/2006 07:57 AM

To <custerc@firstenergycorp.com>  
cc  
Subject 06-0316; Beaver Valley Power Station

**ODNR COMMENTS TO Mr. Clifford I. Custer, BVPS License Renewal Project Manager, Beaver Valley Power Station, P.O. Box 4, Shippingport, Pennsylvania 15077-0004.**

**Location:** The site is located along the Ohio River, Beaver County, Pennsylvania.

**Project:** First Energy Nuclear Operating Company is seeking comments on the Beaver Valley Power Station License Renewal. The new license would extend the life of the BVPS for an additional 20 years.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Rare and Endangered Species:** The ODNR, Division of Natural Areas and Preserves, Natural Heritage Database contains no records of rare species or unique natural features within the proposed project, and there are no state nature preserves or scenic rivers in the vicinity of the site.

**Fish and Wildlife:** The ODNR, Division of Wildlife (DOW) has no comments regarding this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mindy Bankey at 614.265.6836 if you have questions about these comments or need additional information.

Mindy Bankey  
Environmental Administrator

**Beaver Valley Power Station Units 1 & 2  
License Renewal Application  
Appendix E - Environmental Report**

---

Division of Real Estate & Land Management  
Ohio Department of Natural Resources  
2045 Morse Rd, C4  
Columbus, Ohio 43229-6693  
614.265.6836  
Fax 614.267.4764