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December 21, 2007  
L-07-500

10 CFR 54.13(a)

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

SUBJECT:  
Beaver Valley Power Station, Unit Nos. 1 and 2  
BV-1 Docket No. 50-334, License No. DPR-66  
BV-2 Docket No. 50-412, License No. NPF-73  
Editorial Corrections to the Beaver Valley Power Station License Renewal Application

During review of the Beaver Valley Power Station (BVPS) License Renewal Application in preparation for and during the Nuclear Regulatory Commission (NRC) review and audit process, editorial corrections were identified to the License Renewal Application submitted by FirstEnergy Nuclear Operating Company (FENOC) Letter L-07-113 on August 27, 2007. The corrections are minor in nature; however, to be as complete and accurate as possible, FENOC is providing two enclosures which tabulate the editorial corrections.

These editorial corrections have been discussed with the NRC License Renewal Project Manager for the BVPS License Renewal Application. The enclosures are intended to be inserted into the License Renewal Application and Environmental Report as errata.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Clifford Custer, FENOC Fleet License Renewal Project Manager, at 724-682-7139.

I declare under penalty of perjury that the foregoing is true and correct. Executed on December 21, 2007.

Sincerely,



Peter P. Sena III

A108  
NRR

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L-07-500  
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Reference:

FENOC Letter L-07-113, "License Renewal Application," dated August 27, 2007

Enclosures:

- A Tabulation of Editorial Corrections in the Beaver Valley Power Station License Renewal Application, Chapters 1 through 4 and Appendices A through D
- B Tabulation of Editorial Corrections in the Beaver Valley Power Station License Renewal Application, Appendix E, "Applicant's Environmental Report – Operating License Renewal Stage"

cc: Mr. K. L. Howard, License Renewal Project Manager  
Mr. D. L. Werkheiser, NRC Senior Resident Inspector  
Mr. S. J. Collins, NRC Region I Administrator  
Mr. P. T. Kuo, Director, Division of License Renewal  
Ms. N. S. Morgan, NRR Project Manager

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cc: w Enclosures

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100 College Avenue  
Beaver, PA 15009

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## **ENCLOSURE A**

**Beaver Valley Power Station (BVPS) Unit Nos. 1 and 2**

**Letter L-07-500**

**Tabulation of Editorial Corrections in the  
Beaver Valley Power Station License Renewal Application,  
Chapters 1 through 4 and Appendices A through D**

### **Sections Affected**

List of Figures  
Section 2.1.2.2  
Section 2.1.2.3.2  
Section 2.2  
Section 2.3.1.3  
Section 2.3.2.2  
Section 2.3.2.3  
Section 2.3.3.2  
Section 2.3.3.30  
Section 4.3.5  
Section A.1.43  
Section A.2.7

The tabulation pages of the Enclosure list each correction by Affected Section, License Renewal Application Page No., and Affected Paragraph and Sentence. The count for the affected paragraph, sentence, bullet, etc. starts at the top of the affected page. Below each section the reason for the change is identified, and the sentence affected is printed in italics with deleted text lined-out and added text underlined.

<u>Affected Section</u>	<u>License Renewal Application Page No.</u>	<u>Affected Paragraph and Sentence</u>
<b>List of Figures</b>	<b>Page xliii</b>	<b>Page numbers for Figures</b> The page number for Figure 2.5-1 is listed as 2.5-6, but is revised to read 2.5-5. The page number for Figure 2.5-2 is listed as 2.5-7, but is revised to read 2.5-6.
<b>Section 2.1.2.2</b>	<b>Page 2.1-19</b>	<b>1<sup>st</sup> paragraph</b> The last sentence in the paragraph incorrectly describes the scoping of structural components and commodities as "screening." The paragraph is revised to read, <i>"For each structure within the scope of license renewal, the structural components and commodities were evaluated to determine those subject to aging management review. This evaluation (screening process) for structural components and commodities involved a review of the UFSAR, design basis documents, design drawings, general arrangement drawings, and penetration drawings to identify specific structural components and commodities that make up the structure. <u>During component-level scoping, structural components and commodities were included within the scope of license renewal if they performed an intended function.</u> Structural components and commodities subject to aging management review are those that perform an intended function without moving parts or a change in configuration or properties (i.e., passive), and are not subject to replacement based on qualified life or specified time period (i.e., long-lived). Since structures are inherently passive, and with few exceptions are long-lived, <u>no structural components or commodities were screened out. the screening of structural components and commodities was based primarily on whether they perform an intended function.</u>"</i>
<b>Section 2.1.2.3.2</b>	<b>Page 2.1-23</b>	<b>1<sup>st</sup> two paragraphs</b> The paragraphs are not clear regarding aging management of Environmental Qualification Program equipment. The two paragraphs are divided into three (3) paragraphs, and are revised to read, <i>"Electrical components included in the Environmental Qualification (EQ) Program per 10 CFR 50.49 are replaced based on qualified life and managed as time-limited aging analyses (TLAAs). <u>Therefore, per 10 CFR 54.21(a)(1)(ii), these electrical components are not subject to aging management review.</u></i>  <i><del>The result is that the aging management reviews involve</del> Only non-EQ <u>environmental qualification electrical and I&amp;C components are subject to aging management review.</u></i>  <i><del>Environmental Qualification (EQ) of Electric Equipment is</del> <u>evaluations are time-limited aging analyses and are addressed in Section 4.4.</u></i>

<u>Affected Section</u>	<u>License Renewal Application Page No.</u>	<u>Affected Paragraph and Sentence</u>
<b>Section 2.2</b>	<b>Page 2.2-1</b>	<b>3<sup>rd</sup> paragraph, 1<sup>st</sup> sentence</b> A quotation mark is missing from the parenthetical statement in the 1 <sup>st</sup> sentence. The sentence is revised to read, <i>"The list of systems and structures identified in these tables and determination of system boundaries is based on the plant database (controlled "Q" designation list) and documents reviewed during the scoping process described in Section 2.1.1. System (Table 2.2-1) and structure (Table 2.2-4) intended functions are identified in the section referenced in their respective tables."</i>
<b>Section 2.3.1.3</b>	<b>Page 2.3-10</b>	<b>10 CFR 54.4(a)(1), new bullet</b> An intended function is incorrectly omitted from this section and should be added. The function is incorrectly located in Sections 2.3.2.2 and 2.3.2.3. A new bulleted function is added to the list of 10 CFR 54.4(a)(1) intended functions, and it reads, <i>"<u>Provides protection against over-pressurization and rupture of low pressure piping.</u>"</i>
<b>Section 2.3.2.2</b>	<b>Page 2.3-19</b>	<b>10 CFR 54.4(a)(1), 3<sup>rd</sup> bullet</b> The 3 <sup>rd</sup> bulleted function is incorrectly located in this section and should be deleted. The intended function belongs in Section 2.3.1.3. The 3 <sup>rd</sup> bullet is deleted in its entirety, <i>"<del>Provides protection against over-pressurization and rupture of ECCS low pressure piping that could result in a loss of coolant accident.</del>"</i>
<b>Section 2.3.2.2</b>	<b>Page 2.3-19</b>	<b>10 CFR 54.4(a)(3), 1<sup>st</sup> bullet</b> The 1st bulleted function incorrectly identifies the function as both a Unit 1 and Unit 2 intended function. The intended function applies only to Unit 2. The 1 <sup>st</sup> bullet is revised to read, <i>"Contains SSCs relied upon in safety analyses or plant evaluations to perform a function that demonstrates compliance with regulations for EQ (Unit 2 only); and."</i>
<b>Section 2.3.2.3</b>	<b>Page 2.3-23</b>	<b>10 CFR 54.4(a)(1), 3<sup>rd</sup> bullet</b> The 3 <sup>rd</sup> bulleted function is incorrectly located in this section and should be deleted. The intended function belongs in Section 2.3.1.3. The 3 <sup>rd</sup> bullet is deleted in its entirety, <i>"<del>Provides protection against over-pressurization and rupture of Emergency Core Cooling System low pressure piping.</del>"</i>

<u>Affected Section</u>	<u>License Renewal Application Page No.</u>	<u>Affected Paragraph and Sentence</u>
<b>Section 2.3.3.2</b>	<b>Page 2.3-37</b>	<b>10 CFR 54.4(a)(3), 4<sup>th</sup> bullet</b> The 4 <sup>th</sup> bulleted function is not a Fire Protection intended function, and should be deleted. The 4 <sup>th</sup> bullet is deleted in its entirety, <i>"Provides the means to maintain the bulk air temperature in Containment suitable for personnel and equipment operation during normal operation and a loss of offsite power (FP) (Unit 2 only)."</i> Note: this function is a 10 CFR 54.4(a)(1) intended function, and is properly listed near the top of page 2.3-37 (3 <sup>rd</sup> bullet).
<b>Section 2.3.3.2</b>	<b>Page 2.3-41</b>	<b>License Renewal Drawings, Unit 1</b> Drawing LR 1-15-3 is inadvertently not listed as a License Renewal Drawing on page 2.3-41. The list for the BVPS Unit 1 License Renewal Drawings on page 2.3-41 is revised to include License Renewal Drawing <u>LR 1-15-3</u> .
<b>Section 2.3.3.30</b>	<b>Page 2.3-122</b>	<b>10 CFR 54.4(a)(3), 2<sup>nd</sup> bullet</b> The 2 <sup>nd</sup> bulleted function contains text that should not be included in the function. The intended function is revised to read, <i>"Provides a backup safety-related water supply for the Auxiliary Feedwater System and spent fuel pool (FP)."</i>
<b>Section 4.3.5</b>	<b>Page 4.3-18</b>	<b>Reference 4.3-13</b> Reference 4.3-13 contains text that should not be included with the reference. The reference is revised to read, <i>"NUREG/CR-6583, 'Effects of LWR Coolant Environments on Fatigue Design Curves of Carbon and Low Alloy Steels,' February 1998. 2706.300-001-990, Stress Report Main Loop Stop Valves, Rev. A."</i>
<b>Section A.1.43</b>	<b>Page A.1-19</b>	<b>References A.1-3 and A.1-4</b> References A.1-3 and A.1-4 are not cited in the body of the text in Section A.1, and should be deleted. The word "deleted" will replace the deleted reference. <ul style="list-style-type: none"><li>• Reference A.1-3 is revised to read, <i>"[Deleted] WCAP 14572, Rev. 1 NP A, Addenda 1, 'Westinghouse Owners Group Application of Risk Informed Methods to Piping Inservice Inspection Topical Report.'"</i></li><li>• Reference A.1-4 is revised to read, <i>"[Deleted] NRC letter dated 4/9/04, 'Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS 1 and 2) Risk-Informed Inservice Inspection (RI-ISI) Program.'"</i></li></ul>

Enclosure A  
L-07-500

<u>Affected Section</u>	<u>License Renewal Application Page No.</u>	<u>Affected Paragraph and Sentence</u>
Section A.2.7	Page A.2-20	Reference A.2-19
Reference A.2-19 is not cited in the body of the text in Section A.2, and should be deleted. The word "deleted" will replace the deleted reference. Reference A.2-19 is revised to read, "[Deleted]. WCAP 7733, 'Reactor Vessels Weld Cladding—Base Metal Interaction,' July 1971."		



## **ENCLOSURE B**

**Beaver Valley Power Station (BVPS) Unit Nos. 1 and 2**

**Letter L-07-500**

**Tabulation of Editorial Corrections in the**  
**Beaver Valley Power Station License Renewal Application,**  
**Appendix E, 'Applicant's Environmental Report –**  
**Operating License Renewal Stage'**

### **Sections Affected**

Section 2.3.3.1  
Section 2.3.3.2  
Section 2.4.1  
Section 2.7  
Section 2.8.1  
Section 2.12  
Section 3.4.1  
Section 4.7  
Section 4.14  
Section 4.18  
Section 7.2.2.1  
Section 8.0  
Section C.2.3.4.1  
Table 2.3-2  
Table 2.7-1  
Table 3.4-1  
Table 4.11-1  
Table 6.1-1  
Table 8.0-2  
Table 9.1-1

The tabulation pages of the Enclosure list each correction by Affected Section, License Renewal Application Page No., and Affected Paragraph and Sentence. The count for the affected paragraph, sentence, bullet, etc. starts at the top of the affected page. Below each section the reason for the change is identified, and the sentence affected is printed in italics with deleted text lined-out and added text underlined.

<b>Appendix E Affected Section</b>	<b>License Renewal Application Appendix E Page No.</b>	<b>Affected Paragraph and Sentence</b>
<b>Section 2.3.3.1</b>	<b>Page 2.3-16</b>	<b>1<sup>st</sup> paragraph, 1<sup>st</sup> sentence</b> The 1 <sup>st</sup> sentence should identify “eight” endangered fish species instead of “nine” based on an updated State list of endangered species. The sentence is revised to read, “ <i>Aquatic species listed in Table 2.3-2 consist of two native freshwater mussels, listed as endangered at the federal level, and <u>nine eight</u> fish species that are variously designated as endangered, threatened, or candidates for listing at the state level.</i> ”
<b>Section 2.3.3.1</b>	<b>Page 2.3-17</b>	<b>5<sup>th</sup> paragraph, last sentence</b> The last sentence should identify that the brook silverside fish is no longer a state-candidate species. The sentence is revised to read, “ <i>Brook silverside (Labidesthes sicculus), <u>also previously</u> a state-candidate species, apparently is found infrequently and in small numbers in the New Cumberland Pool.</i> ”
<b>Section 2.3.3.2</b>	<b>Page 2.3-26</b>	<b>1<sup>st</sup> paragraph, 1<sup>st</sup> &amp; 2<sup>nd</sup> sentences</b> The first two sentences should identify that changes have occurred in the Federal list for endangered bird species. The sentences are revised to read, “ <i>Of the three bird species listed in Table 2.3-2, <del>the bald eagle (Haliaeetus leucocephalus) is the only one currently designated at the federal level. This species is increasing in number nationally as a result of the ban on dichloro-diphenyl-trichloroethane (DDT) use and recovery efforts and is currently proposed for federal delisting.</del> <u>none are currently designated at the federal level. The bald eagle (Haliaeetus leucocephalus), previously a federally endangered species, was de-listed under the Endangered Species Act in 2007, but remains protected under the Bald and Golden Eagle Protection Act (Ref. 2.3-39).</u></i> ”
<b>Section 2.3.3.2</b>	<b>Page 2.3-26</b>	<b>2<sup>nd</sup> paragraph, last sentence</b> A new last sentence should be added to clarify that the peregrine falcon is still listed as an endangered bird species. The new sentence reads, “ <i><u>The bird remains a state-endangered species.</u></i> ”
<b>Section 2.3.3.2</b>	<b>Page 2.3-26</b>	<b>3<sup>rd</sup> paragraph, last sentence</b> The last sentence should be changed to correct the grammar and clarify that none of the three endangered bird species described in the previous paragraphs of the text had been observed at BVPS. The sentence is revised to read, “ <i><u>None</u> Neither of these <u>state-endangered bird species were was</u> observed during ecological studies on the BVPS site in the 1970s (Ref. 2.1-5, Table 2.2-10).”</i>

<b>Appendix E Affected Section</b>	<b>License Renewal Application Appendix E Page No.</b>	<b>Affected Paragraph and Sentence</b>
<b>Section 2.4.1</b>	<b>Page 2.4-1</b>	<b>1<sup>st</sup> paragraph, 6<sup>th</sup> sentence</b> Dewpoint measurement is inadvertently included in the description of the Meteorological Tower. The 6 <sup>th</sup> sentence is revised to read, " <i>Ambient temperature and dew point measurements are made at the 35-foot level.</i> "
<b>Section 2.7</b>	<b>Page 2.7-1</b>	<b>2<sup>nd</sup> paragraph, 3<sup>rd</sup> sentence</b> The BVPS property tax percentages are incorrectly calculated in Table 2.7-1 and then used in this sentence. The tax percentage values were recalculated. The 3 <sup>rd</sup> sentence is revised to read, " <i>The percentage of BVPS property tax to the South Side Area School District's operating budget decreased from <del>15.9</del> 16.2 percent in 2001 to <del>0.07</del> 7.3 percent in 2005 (Ref. 2.7-5; Ref. 2.7-6; Ref. 2.7-8; Ref. 2.7-9).</i> "
<b>Section 2.7</b>	<b>Page 2.7-1</b>	<b>2<sup>nd</sup> paragraph, last sentence</b> An explanation is necessary for the lowered property tax payments beginning in 2004 (see License Renewal Application Appendix E, Table 2.7-1). The last sentence is revised to read, " <i><del>In 2003, BVPS tax payments returned to approximate 2001 levels; however, the sewer project is still in progress and local officials do not expect the total budget for Shippingport Borough to return to pre-project levels until the project is completed (Ref. 2.7-4; Ref. 2.7-5; Ref. 2.7-3; Ref. 2.7-10). Even though the sewer project is still in progress, BVPS tax payments returned to approximate 2001 levels in 2003 (Ref. 2.7-4; Ref. 2.7-5; Ref. 2.7-3; Ref. 2.7-10). As a result of changes in state law, in 2004, First Energy signed a settlement with its local taxing bodies that 1) acknowledged a change in the way the plant's value would be assessed, and 2) reported a correspondingly significant reduction in the BVPS assessed value. As a result, BVPS property tax payments to Beaver County, South Side Area School District, and Shippingport Borough reduced significantly.</del></i> "
<b>Section 2.8.1</b>	<b>Page 2.8-1</b>	<b>2<sup>nd</sup> paragraph, 3<sup>rd</sup> sentence</b> The number of systems identified in the sentence contains a typographical error. The 3 <sup>rd</sup> sentence is revised to read, " <i>Together, these <del>35</del> <u>45</u> systems service approximately 144,500 residents in Beaver County.</i> "

<b>Appendix E Affected Section</b>	<b>License Renewal Application Appendix E Page No.</b>	<b>Affected Paragraph and Sentence</b>
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**Section 2.12**                      **Pages 2.12-6, 8, 9**    **References 2.3-22, 38, 39, 59**

Four references should be added to the list of references in Section 2.12 to support revised statements identified in this Enclosure. Previously deleted reference numbers will be used for the inserted references, as follows:

- Reference 2.3-22 is revised to read, "~~Deleted:~~ Trautman, M. B., "The Fishes of Ohio with Illustrated Keys," Ohio State University Press, 1981."
- Reference 2.3-38 is revised to read, "~~Deleted:~~ Pennsylvania Natural Heritage Program, "Species List for Invertebrates, Vertebrates, and Plants," Available online at <http://www.naturalheritage.state.pa.us>, Accessed on November 9, 2007."
- Reference 2.3-39 is revised to read, "~~Deleted:~~ U.S. Fish and Wildlife Service, "Endangered and Threatened Wildlife and Plants; Removing the Bald Eagle in the Lower 48 States from the List of Endangered and Threatened Wildlife; Final Rule," Federal Register Vol. 72, No. 130:37345-37372, July 2007."
- Reference 2.3-59 is revised to read, "~~Deleted:~~ NatureServe Explorer, "Summary Report: *Crotalus horridus* – Linnaeus, 1758; Timber rattlesnake," Available online at <http://www.natureserve.org/explorer>, Accessed November 13, 2007."

**Section 3.4.1**                      **Page 3.4-1**                      **1<sup>st</sup> paragraph, 2<sup>nd</sup> sentence**

The percentage of the BVPS workforce living in Beaver County is incorrect due to the omission of 291 corporate employees matrixed to the BVPS site. The omitted employees were included in the population, and the percentages by county were recalculated (see License Renewal Application Appendix E, Table 3.4-1). The 2<sup>nd</sup> sentence is revised to read, "As shown in Table 3.4-1, approximately ~~59-58~~ percent of the permanent workforce lives in Beaver County and 24 percent lives in Allegheny County."

**Section 4.7**                      **Page 4.7-1**                      **6<sup>th</sup> paragraph, 2<sup>nd</sup> sentence**

Including the paragraphs in the gray box (quotation) on the page, the 6<sup>th</sup> paragraph, 2<sup>nd</sup> sentence contains consumptive water loss values that do not match values in other sections of the Environmental Report. The 2<sup>nd</sup> sentence is revised to read, "FENOC estimates that the maximum consumptive loss that would occur if both BVPS-1 and BVPS-2 were operated at their maximum permitted power level (2,900 MWt per unit) would be approximately ~~59-45~~ cfs (Section 3.1.3), or ~~4.4-0.9~~ percent and ~~4.5-1.1~~ percent of the 7Q10 and minimum expected flow of the Ohio River, respectively."

<b>Appendix E Affected Section</b>	<b>License Renewal Application Appendix E Page No.</b>	<b>Affected Paragraph and Sentence</b>
<b>Section 4.14</b>	<b>Page 4.14-4</b>	<b>Last two paragraphs</b>
<p>The last two paragraphs are duplicates of the previous two paragraphs. The last two paragraphs are deleted in their entirety, <del>"As discussed in Section 3.1.4, FirstEnergy (ATSI) and Duquesne Light perform periodic inspections and maintenance of the lines addressed in this analysis to determine the physical condition of towers, conductors, and other equipment; land use changes; and any encroachments on the corridors, which are either owned or appropriately controlled (e.g., through easements) by these companies. Appropriate practices in this regard would continue in the license renewal term, and neither FirstEnergy or Duquesne Light currently expect changes in operating voltage or other parameters for these lines that would affect conformance status with respect to the NESC® 5 mA standard.</del></p> <p><del>On the basis of these considerations, FENOC concludes that the impact of electric shock is of SMALL significance for these transmission lines, and that further mitigation, such as the installation of warning signs at roadway crossings or increasing wire clearances, is not warranted."</del></p>		
<b>Section 4.18</b>	<b>Page 4.18-3</b>	<b>1<sup>st</sup> paragraph</b>
<p>Due to the revision identified in Section 2.7 addressing the lowering of property tax payments beginning in 2004, this paragraph is revised in its entirety to read, <u>"As a result of changes in state law, in 2004, First Energy signed a settlement with its local taxing bodies that both acknowledged a change in the way the plant's value would be assessed and reported a correspondingly significant reduction in the BVPS assessed value. As a result, BVPS property tax payments to Beaver County, South Side Area School District, and Shippingport Borough reduced significantly. FENOC's annual property tax payments to both Beaver County and Shippingport Borough for the BVPS site represent less than 1 percent of each of their operating budgets for 2004 and 2005. Property tax payments to the South Side Area School District of Beaver County for the BVPS site represent an average of approximately 7.4 percent of the school district's 2004 and 2005 annual operating budgets. As noted in Section 2.7, FENOC assumes that these values are substantially representative of conditions that would exist in the BVPS license renewal term. FENOC's annual property tax payments to Beaver County for the BVPS site represent less than 1 percent of the county's annual operating budget for the period 2001 through 2005 (Table 2.7-1). During the same period, FENOC's property tax payments to Shippingport Borough for the BVPS site represented an average of approximately 4.8 percent of the Borough's annual operating budget. This number is inflated due to a one-</u></p>		

<b>Appendix E Affected Section</b>	<b>License Renewal Application Appendix E Page No.</b>	<b>Affected Paragraph and Sentence</b>
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**Section 4.18, cont.**

~~year tax increase (in 2002) that was used to fund the completion of a sewer project, which then returned to historical values. FENOC's annual property tax payments to the South Side Area School District of Beaver County for the BVPS site represent an average of approximately 8.6 percent of the School District's annual operating budget, but has exhibited a downward trend, decreasing from 15.9 percent in 2001 to 0.07 percent in 2005. As noted in Section 2.7, FENOC assumes that these values are substantially representative of conditions that would exist in the BVPS license renewal term."~~

**Section 7.2.2.1                      Page 7.2-8                      4<sup>th</sup> paragraph, 2<sup>nd</sup> sentence**

The assumed alternative plant firing configuration described in the text is not consistent with the configuration assumed in License Renewal Application, Appendix E, Table 7.2-1. The 2<sup>nd</sup> sentence is revised to read, "*As a minimum, FENOC assumed that the plant would feature water/steam injection-dry low-NOx burners to minimize formation of nitrogen oxides during combustion and selective catalytic reduction for post-combustion nitrogen oxide control.*"

**Section 8.0                      Page 8.0-1                      3<sup>rd</sup> paragraph, 2<sup>nd</sup> and 3<sup>rd</sup> sentences**

Including the paragraph in the gray box (quotation) on the page, the 3<sup>rd</sup> paragraph, 2<sup>nd</sup> and 3<sup>rd</sup> sentences identify no-actions alternatives and environmental impacts of the proposed actions that are not consistent with the impact analysis and License Renewal Application, Appendix E, Tables 8.0-1 and 8.0-2. The 2<sup>nd</sup> and 3<sup>rd</sup> sentences are revised to read, "*In contrast, FENOC expects that environmental impacts in some impact categories would be MODERATE for the no-action alternative (NRC decision not to renew BVPS operating licenses), considered with ~~or without~~ development of replacement generation facilities. ~~These expected adverse environmental impacts would include the loss of approximately 1,000 permanent jobs and loss of substantial tax revenues from termination of BVPS operations.~~*"

**Attachment C.2,**

**Subsection 3.4.1                      Page C.2-42                      1<sup>st</sup> paragraph, 2<sup>nd</sup> complete sentence**

The text contains a typographical error. The 2<sup>nd</sup> sentence is revised to read, "*However, if the county population had decreased from 2000 to 2030, it was assumed there was no growth through 2030 (i.e., the 2030 population was equal to the 2000 population), and the national growth rate was applied from 2030 to 2047 to obtain an overall multiplier ~~fore~~ for the 2047 projection.*"

<b>Appendix E <u>Affected Section</u></b>	<b>License Renewal Application Appendix E <u>Page No.</u></b>	<b><u>Affected Paragraph and Sentence</u></b>
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**TABLES:**

**Table 2.3-2                      Pages 2.3-19 – 24   Entire Table (see revision bars)**

Table 2.3-2 erroneously states that some species were "previously" listed, when in fact they are still listed as endangered, threatened, or candidate species. Table 2.3-2 is revised to show the correct listings. Also, since the License Renewal Application was submitted (August 27, 2007), the bald eagle was removed from the federal list and lowered to "threatened" on the state list. This update is also incorporated into the revised table, with an addition to the footnote explaining the new status. Revised Table 2.3-2, with revision bars, is attached (starts next page).

TABLE 2.3-2

THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<b>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. 2.3-49; Ref. 2.3-50). As of 2000, no recent documented occurrences in Ohio River downstream as far as Meldahl Pool (Ref. 2.3-14). As of 2006, no PNDI record of observation in lower Allegheny River/Upper Ohio River in PA since 1919 or earlier (Ref. 2.1-12, Appendix J). Not reported by PNDI or PFBC as occurring in the Ohio River or other waterbodies in 2002 and 2003 near the BVPS site or Beaver Valley-Crescent Line 318 (Refs. 2.3-41 through 2.3-44).
Clubshell <i>Pleurobema clava</i>	E	E	Small rivers and streams in clean-sweep sand and gravel; has been found buried 2 to 4 inches deep in clean, loose sand. Recent occurrence in Ohio River drainage in PA limited to upper Allegheny River watershed. (Ref. 2.3-51). As of 2002, no documented occurrences in Ohio River downstream as far as Meldahl Pool (Ref. 2.3-14). As of 2006, no PNDI record of observation in lower Allegheny River/Upper Ohio River in PA since 1919 or earlier (Ref. 2.1-12, Appendix J). Not reported by PNDI or PFBC as occurring in the Ohio River or other waterbodies in 2002 and 2003 near the BVPS site or Beaver Valley-Crescent Line 318 (Refs. 2.3-41 through 2.3-44).
<b>Fish</b>			
Silver chub <i>Macrhybopsis storeriana</i>	-	E	Inhabits the bottoms of large low- or base-gradient streams with clean gravel and sand substrate; potential threats likely include pollutants and siltation (Ref. 2.3-22, pages 277-278). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 2.3-41; Ref. 2.3-42). 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 (7 at control station; 14 at non-control stations). Initially reported in 1988. Two specimens (dead) noted in



**TABLE 2.3-2 (CONTINUED)**  
**THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>**

Common Name <i>Scientific Name</i>	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<b>Fish (continued)</b>			
			impingement samples in 1988. PFBC (1991): 22 individuals collected ODNR (1993): Not collected
Skipjack herring <i>Alosa chrysochloris</i>	-	T	<p><i>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. 2.3-22, pages 195-197). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 2.3-41; Ref. 2.3-42).</i></p> <p><i>Recent collections include:</i>  <i>ORSANCO (1992-2001): Collected 5 of 7 years; total 776 individuals (2.4 percent of catch)</i>  <i>BVPS (1992-2001): Collected 1 of 10 years; total 4 individuals (all at control stations). Initially reported in 1970-72.</i>  <i>PFBC (1991): Not collected</i>  <i>ODNR (1993): Not collected</i></p>
Goldeye <i>Hiodon alosoides</i>	-	T	<p><i>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. 2.3-22, pages 207-209; Ref. 2.3-52, pages 54-55). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 2.3-41; Ref. 2.3-42).</i></p> <p><i>Recent collections include:</i>  <i>ORSANCO (1992-2001): 0 individuals (0 percent of catch)</i></p>

**TABLE 2.3-2 (CONTINUED)**  
**THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>**

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<b>Fish (continued)</b>			
			<p><i>BVPS (1992-2001): 0 individuals. Initially reported in 1970-72.</i></p> <p><i>PFBC (1991): 1 individual collected</i></p> <p><i>ODNR (1993): Not collected</i></p>
Mooneye <i>Hiodon tergisus</i>	-	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. 2.3-22, pages 210-212; Ref. 2.3-52, page 55). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 2.3-41; Ref. 2.3-42).</p> <p>Recent collections include:</p> <p>ORSANCO (1992-2001): Collected 5 of 7 years; total 18 individuals. (0.1 percent of catch)</p> <p>BVPS (1992-2001): Collected 6 of 10 years; total 43 individuals (17 at control station; 26 at non-control stations). Initially reported in 1986.</p> <p>PFBC (1991): 16 individuals collected</p> <p>ODNR (1993): Not collected</p>
Smallmouth buffalo <i>Ictiobus bubalus</i>	-	T	<p>Inhabits deep, clear waters of larger rivers with only moderate current (Ref. 2.3-52, pages 131-132). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 2.3-41; Ref. 2.3-42).</p> <p>Recent collections include:</p> <p>ORSANCO (1992-2001): Collected 7 of 7 years; total 422 individuals. (1.3 percent of catch)</p> <p>BVPS (1992-2001): Collected 9 of 10 years; total 51 individuals (16 at control station; 35 at non-control stations). Also noted in impingement sampling in 1994 (number of</p>

TABLE 2.3-2 (CONTINUED)

THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<b>Fish (continued)</b>			
			<p>individuals not recorded, but total collection was comprised of 9 species totaling 58 fishes and 2.1 pounds). Initially reported in 1972-73.</p> <p>PFBC (1991): 6 individuals collected</p> <p>ODNR (1993): Collected</p>
Channel darter <i>Percina copelandi</i>	-	T	<p>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. Primarily found in upper Allegheny River system in PA as of 2007 (Ref. 2.3-53). Identified by PNDI and PFBC as potentially occurring in the Ohio River near the BVPS site in 2002-2003 (Ref. 2.3-41; Ref. 2.3-42).</p> <p>Recent collections include:</p> <p>ORSANCO (1992 – 2001): Collected 2 of 7 years; total 2 individuals. (0.01 percent of catch)</p> <p>BVPS (1992 – 2001): 0 individuals. Initially reported in 1976. One specimen (live) noted in impingement samples in 1983; reported occurrence in impingement samples prior to 1980.</p> <p>PFBC (1991): Not collected</p> <p>ODNR (1993): Not collected</p>
Brook silverside <i>Labidesthes sicculus</i>	-	-	Previously candidate taxon in Pennsylvania
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. 2.3-22, pages 186-188). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 2.3-41; Ref. 2.3-42).</p>

TABLE 2.3-2 (CONTINUED)

THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<b>Fish (continued)</b>			
			<p>Recent collections include:</p> <p>ORSANCO (1992-2001): Collected 3 of 7 years; total 16 individuals. (0.05 percent of catch)</p> <p>BVPS (1992-2001): Collected 7 of 10 years; total 32 individuals (4 at control station; 28 at non-control stations). Including individuals observed but not collected during electrofishing, 9 of 10 years, 40 individuals. Initially reported in 1976.</p> <p>PFBC (1991): 14 individuals collected</p> <p>ODNR (1993): Not collected</p>
River redhorse <i>Moxostoma carinatum</i>	-	C	<p>Prefers deeper waters of Ohio River and lower portions of larger tributaries. Intolerant of turbidity and siltation (Ref. 2.3-22, pages 448-451). Identified by PNDI and PFBC as potentially occurring in the Ohio River in the vicinity of the BVPS site (Ref. 2.3-41; Ref. 2.3-42).</p> <p>Recent collections include:</p> <p>ORSANCO (1992-2001): Collected 1 of 7 years; total 2 individuals. (0.01 percent of catch)</p> <p>BVPS (1992-2001): Collected 2 of 10 years; total 9 individuals (1 at control station; 8 at non-control stations). Initially reported in 1970-72.</p> <p>PFBC (1991): 1 individual collected</p> <p>ODNR (1993): Not collected</p>

TABLE 2.3-2 (CONTINUED)

THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<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 from 1980-2007; known historical occurrence in southwestern PA only in Greene County (Ref. 2.3-54). Specifically reported as not observed during ecological surveys of the BVPS site in 1974 – 1975 (Ref. 2.1-5). Not identified by PNDI as potentially occurring near the BVPS site or Beaver Valley-Crescent Line 318 transmission line corridor in 2002 and 2003 (Ref. 2.3-41; Ref. 2.3-43; Ref. 2.3-45).
Eastern blue-eyed grass <i>Sisyrinchium atlanticum</i>	-	E	Found in moist to dry, sandy, open ground of fields and thin woods (Ref. 2.3-55, page 359; Ref. 2.3-56, page 843). Identified by PNDI as potentially occurring in the vicinity of Beaver Valley-Crescent Line 318 corridor (Ref. 2.3-43).
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 in 2000-2001 (Ref. 2.3-55; Ref. 2.3-56, page 575). Historical occurrence in southeastern Beaver Co. and Allegheny Co., but no verified occurrences there between 1980 and 2007 (Ref. 2.3-57). Identified by PNDI as potentially occurring near the Beaver Valley-Crescent Line 318 corridor (Ref. 2.3-43).
Purple rocket <i>Iodanthus pinnatifidus</i>	-	E	Found in moist alluvial woods and wooded slopes (Ref. 2.3-56, page 291). Identified by PNDI (Ref. 2.3-45) 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. 2.1-6).
Harbinger-of-spring <i>Erigenia bulbosa</i>	-	T	Found near seeps and spring heads on wooded slopes (Ref. 2.3-56, page 141). Identified by PNDI (Ref. 2.3-45) 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. 2.1-6).

TABLE 2.3-2 (CONTINUED)

**THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>**

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<b>Reptiles</b>			
Eastern massasauga rattlesnake <i>Sistrurus catenatus</i>	C	E	Relatively open oldfield 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 County, but not between 1980 and 2007 (Ref. 2.3-58). However, both counties are south of its range as indicated by Conant (Ref. 2.3-46). This species was not collected or observed in the initial ecological survey conducted at the BVPS site (Ref. 2.1-5, Table 2.2-16) or site reconnaissance conducted in 2002 (Ref. 2.3-12), 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 near the BVPS site or Beaver Valley-Crescent Line 318 transmission line corridor in 2002 and 2003 (Refs. 2.3-41 through 2.3-45).
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. 2.3-59). This species was not collected or observed in the initial ecological survey conducted at the BVPS site (Ref. 2.1-5, Table 2.2-16) or site reconnaissance conducted in 2002 (Ref. 2.3-12), 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 (Refs. 2.3-41 through 2.3-45).
<b>Birds</b>			
Bald eagle <i>Haliaeetus leucocephalus</i>	-	T	Thrives around bodies of water where adequate food exists and human intrusions and disturbances are limited. PA populations are recovering from effects of the pesticide dichloro-diphenyl-trichloroethane (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 from 1999 to

TABLE 2.3-2 (CONTINUED)

THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<b>Birds (continued)</b>			
			2007 (Ref. 2.3-60). 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 in 2002 and 2003 (Ref. 2.3-41; Ref. 2.3-43; Ref. 2.3-45). In 2002, PA Game Commission (Ref. 2.3-61) indicated that, except for occasional transient individuals, BVPS was 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 County (Ref. 2.3-62). Not identified by PNDI as a potential conflict with respect to the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor in 2002 and 2003 (Ref. 2.3-41; Ref. 2.3-43; Ref. 2.3-45). In 2002, PA Game Commission (Ref. 2.3-61) indicated that, except for occasional transient individuals, BVPS was not located in an area that is habitat for an endangered or threatened species of bird under their jurisdiction.
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. Nesting was documented on reclaimed strip mines in western PA, including Allegheny County (Ref. 2.3-63). Not identified by PNDI as a potential conflict with respect to the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor in 2002 and 2003 (Ref. 2.3-41; Ref. 2.3-43; Ref. 2.3-45). In 2002, PA Game Commission (Ref. 2.3-61) indicated that, except for occasional transient individuals, BVPS was not located in an area that is habitat for an endangered or threatened species of bird under their jurisdiction.

**TABLE 2.3-2 (CONTINUED)**  
**THREATENED, ENDANGERED, AND CANDIDATE SPECIES**  
**OF POTENTIAL CONCERN TO BEAVER VALLEY POWER STATION LICENSE RENEWAL<sup>a</sup>**

Common Name Scientific Name	U.S. Status	PA Status	Habitat/Occurrence <sup>b</sup>
<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. 2.3-64). Not identified by PNDI as a potential conflict with respect to the BVPS site vicinity or Beaver Valley-Crescent Line 318 transmission line corridor in 2002 and 2003 (Ref. 2.3-41; Ref. 2.3-43; Ref. 2.3-45). In 2002, PA Game Commission (Ref. 2.3-61) indicated that, except for occasional transient individuals, BVPS was not located in an area that is habitat for an endangered or threatened species of mammal under their jurisdiction.

<sup>a</sup>Tabulated species consist of:

1. federally designated threatened, endangered, and candidate species reported by the U.S. Fish and Wildlife Service (FWS) for Pennsylvania (Ref. 2.3-34; Ref. 2.3-35) 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. 2.3-36) or the Pennsylvania Natural Diversity Inventory (PNDI); Refs. 2.3-37 through 2.3-40); the Bald Eagle was de-listed under the Endangered Species Act in 2007, but remains protected under the Bald and Golden Eagle Protection Act (Ref. 2.3-39); and
2. the following species officially listed as endangered, threatened, or candidates for listing by the Commonwealth of Pennsylvania (Pennsylvania Code, Title 17, Chapter 45; Title 58, Chapters 75 and 133):
  - a. species indicated from PNDI searches as having records of occurrence near BVPS, including the Ohio River and Phillis Island (Ref. 2.3-41; Ref. 2.3-42), or the vicinity of the Beaver Valley-Crescent 318 Transmission Line corridor (Refs. 2.3-43 through 2.3-45);
  - b. amphibian and reptile species with ranges that include Beaver County or Allegheny County based on Conant (Ref. 2.3-46); and
  - c. 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. 2.3-47).
  - d. November 2007 species status updated with Pennsylvania Natural Heritage Program (Ref. 2.3-38).

<sup>b</sup>Fish survey data from the following sources: ORSANCO Montgomery and New Cumberland Locks rotenone sampling and New Cumberland Pool electrofishing, 1992-2001 (Ref. 2.3-20); BVPS monitoring as reported in BVPS Annual Environmental Reports Nonradiological for 1980-2002 (Ref. 2.3-48) and BVPS-2 Environmental Report - Operating License Stage (Ref. 2.1-5); and Pennsylvania Fish and Boat Commission (PFBC) gill netting, electrofishing, and seining in New Cumberland Pool, 1991 (Ref. 2.3-18).



<b><u>Appendix E Affected Section</u></b>	<b><u>License Renewal Application Appendix E Page No.</u></b>	<b><u>Affected Paragraph and Sentence</u></b>
<b>Table 2.7-1</b>	<b>Page 2.7-2</b>	<b>Table column titled "Percent of Operating Budgets"</b>
<p>The BVPS property tax percentages are incorrectly calculated in Table 2.7-1. The tax percentage values were recalculated. Additionally, an explanation is necessary for the lowered property tax payments beginning in 2004, and a footnote should be added to the table to address the concern. Revised Table 2.7-1 is attached (next page).</p>		

**TABLE 2.7-1**  
**PROPERTY TAX PAID FOR BEAVER VALLEY POWER STATION;**  
**OPERATING BUDGETS OF BEAVER COUNTY, SOUTH SIDE AREA SCHOOL**  
**DISTRICT, AND SHIPPINGPORT BOROUGH; 2001-2005**

<b>Year</b>	<b>Property Tax Paid for BVPS</b>	<b>Operating Budgets</b>	<b>Percent of Operating Budgets</b>
<b>Beaver County<sup>a</sup></b>			
2001	\$976,792	\$244,370,783	0.4%
2002	\$1,741,485	\$235,263,817	0.7%
2003	\$1,076,636	\$241,100,315	0.4%
2004	\$439,222 <sup>1</sup>	\$249,006,040	0.2%
2005	\$600,900	\$255,367,610	0.2%
<b>South Side Area School District<sup>b</sup></b>			
2001	\$2,436,363	\$15,069,313	16.2%
2002	\$2,131,723	\$15,550,625	13.7%
2003	\$2,331,567	\$17,702,191	13.2%
2004	\$1,398,796 <sup>1</sup>	\$18,650,177	7.5%
2005	\$1,397,142	\$19,020,817	7.3%
<b>Shippingport Borough<sup>c</sup></b>			
2001	\$71,299	\$935,025	7.6%
2002	\$508,463	\$3,110,025	16.3%
2003	\$68,575	\$3,879,405	1.8%
2004	\$27,976 <sup>1</sup>	\$5,041,575	0.6%
2005	\$27,946	\$4,532,305	0.6%

<sup>a</sup>Source: Ref. 2.7-4; Ref. 2.7-5; Ref. 2.7-6; Ref. 2.7-7

<sup>b</sup>Source: Ref. 2.7-5; Ref. 2.7-6; Ref. 2.7-8; Ref. 2.7-9

<sup>c</sup>Source: Ref. 2.7-4; Ref. 2.7-5; Ref. 2.7-3; Ref. 2.7-10

<sup>1</sup>As a result of changes in state law, in 2004, FENOC signed a settlement with its local taxing bodies that 1) acknowledged a change in the way the plant's value would be assessed, and 2) reported a correspondingly significant reduction in the BVPS assessed value. As a result, BVPS property tax payments to Beaver County, South Side Area School District, and Shippingport Borough reduced significantly.

<b><u>Appendix E Affected Section</u></b>	<b><u>License Renewal Application Appendix E Page No.</u></b>	<b><u>Affected Paragraph and Sentence</u></b>
<b>Table 3.4-1</b>	<b>Page 3.4-1</b>	<b>Table column titled "Percentage of Workforce"</b>

The number of employees and percentage of the BVPS workforce living in local counties is incorrect due to the inadvertent omission of 291 corporate employees matrixed to the BVPS site. The omitted employees were included in the population, and the percentages by county were recalculated. Revised Table 3.4-1 is attached (below).

**TABLE 3.4-1**

**COUNTIES OF RESIDENCE FOR PERMANENT WORKFORCE**

<b>County</b>	<b>State</b>	<b>Percentage of Workforce</b>
Beaver	PA	57.80%
Allegheny	PA	24.47%
Columbiana	OH	6.04%
Butler	PA	4.13%
Lawrence	PA	2.11%
Washington	PA	1.81%
Mahoning	OH	1.51%
Hancock	WV	1.11%
Jefferson	PA	0.50%
Mercer	PA	0.20%
Fayette	PA	0.10%
Forest	PA	0.10%
Trumbull	OH	0.10%
Crawford	PA	0.00%
Stark	OH	0.00%
Unknown	----	0.00%

<b>Appendix E <u>Affected Section</u></b>	<b>License Renewal Application Appendix E <u>Page No.</u></b>	<b><u>Affected Paragraph and Sentence</u></b>
<b>Table 4.11-1</b>	<b>Page 4.11-4</b>	<b>Fish Species and Status</b>
Brook Silverside fish should be omitted from this list in keeping with the previous corrections made in Table 2.3-2. The affected page of revised Table 4.11-1 is attached (next page).		

TABLE 4.11-1 (CONTINUED)

SUMMARY IMPACT ASSESSMENT FOR THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL

Invertebrates (continued)		
<b>Additional Impact Considerations and Conclusions<sup>c</sup></b>		
<ul style="list-style-type: none"> <li>FWS indicates that, except for occasional transient species, no federally listed or proposed threatened or endangered species are known to occur within the project impact area (Attachment B).</li> <li>PFBC response to FENOC's preliminary impact assessment raised no concern about BVPS license renewal with respect to these species (Attachment B).</li> </ul>		
<b>Impact Conclusion: SMALL</b>		
Fish		
<b>Species and Status<sup>a, b</sup></b>		
Silver chub ( <i>Macrhybopsis storeriana</i> ), PE	Mooneye ( <i>Hiodon tergisus</i> ), PT	Longnose gar ( <i>Lepisosteus osseus</i> ), PC
Skipjack herring ( <i>Alosa chrysochloris</i> ), PT	Smallmouth buffalo ( <i>Ictiobus bubalus</i> ), PT	River redhorse ( <i>Moxostoma carinatum</i> ), PC
Goldeye ( <i>Hiodon alosoides</i> ), PT	Channel darter ( <i>Percina copelandi</i> ), PT	
<b>Occurrence Potential<sup>a</sup></b>		
Various (see Table 2.3-2). Presence of all of these species in the New Cumberland Pool since 1990 has been documented. Silver chub, skipjack herring, smallmouth buffalo, and longnose gar have been recently collected with relatively high frequency and/or in relatively high abundance. Pollution-intolerant species such as mooneye, goldeye, skipjack herring, and river redhorse have reportedly increased in the upper Ohio River consistent with improvements in water quality.		
<b>Impact Initiators</b>		
Maintenance dredging (e.g., barge slip); cooling water and wastewater discharges; petroleum or hazardous materials spills/unplanned releases; entrainment of early life stages in cooling water; impingement of fish on intake screens.		
<b>Additional Impact Considerations and Conclusions<sup>c</sup></b>		
<ul style="list-style-type: none"> <li>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 spills and unplanned releases (e.g., <i>BVPS Preparedness, Prevention, and Contingency Plan</i>). Closed-cycle cooling reduces potential for impact from impingement, entrainment, and thermal impacts. Under normal operating conditions, BVPS units are not shut down simultaneously, reducing potential for impact from cold shock.</li> </ul>		

<b>Appendix E <u>Affected Section</u></b>	<b>License Renewal Application Appendix E <u>Page No.</u></b>	<b><u>Affected Paragraph and Sentence</u></b>
<b>Table 4.11-1</b>	<b>Page 4.11-7</b>	<b>Bird Species and Status</b>
The bald eagle should only be listed as "PT" (state threatened). Since the License Renewal Application was submitted (August 27, 2007), the bald eagle was removed from the federal list and lowered to "threatened" on the state list. The affected page of revised Table 4.11-1 is attached (next page).		

TABLE 4.11-1 (CONTINUED)

SUMMARY IMPACT ASSESSMENT FOR THREATENED, ENDANGERED, AND CANDIDATE SPECIES  
OF POTENTIAL CONCERN TO BVPS LICENSE RENEWAL

Plants (continued)	
<b>Additional Impact Considerations and Conclusions<sup>c</sup></b>	
<ul style="list-style-type: none"><li>• PNDI/PDCNR 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 these plant species if it does not involve land-disturbing activity (Ref. 4.11-7; Attachment B).</li><li>• FWS indicates that, except for occasional transient species, no federally listed or proposed threatened or endangered species are known to occur within the project impact area (Attachment B).</li></ul>	
<b>Impact Conclusion:</b> SMALL	
Birds	
<b>Species and Status<sup>a, b</sup></b>	
Bald Eagle ( <i>Haliaeetus leucocephalus</i> ), PT	Short-eared Owl ( <i>Asio flammeus</i> ), PE
Peregrine Falcon ( <i>Falco peregrinus</i> ), PE	
<b>Occurrence Potential<sup>a</sup></b>	
Bald Eagle: 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.	
Peregrine Falcon: Moderate for transient or foraging individuals. None to Low for nesting considering habitat availability.	
Short-eared Owl: Moderate for transient or foraging individuals. None for nesting on BVPS site. Low to moderate for nesting on or near Beaver Valley-Crescent Line 318 transmission corridor considering habitat availability.	
<b>Impact Initiators</b>	
Collision with cooling towers or transmission lines.	

<b>Appendix E <u>Affected Section</u></b>	<b>License Renewal Application Appendix E <u>Page No.</u></b>	<b><u>Affected Paragraph and Sentence</u></b>
<b>Table 6.1-1</b>	<b>Page 6.1-4</b>	<b>Issue No. 76, Severe Accidents</b>
The number of potential cost-beneficial severe accident mitigation alternatives (SAMAs) should be eight (8) after consolidating several SAMAs, but Table 6.1-1 was overlooked following consolidation. The affected page of revised Table 6.1-1 is attached (next page).		



**TABLE 6.1-1 (CONTINUED)**  
**ENVIRONMENTAL IMPACTS RELATED TO LICENSE  
RENEWAL OF BVPS-1 AND BVPS-2 (APPLICABLE CATEGORY 2 ISSUES<sup>a</sup>)**

Socioeconomics (continued)		
69	Offsite land use (license renewal term)	SMALL. No plant-induced changes to offsite land use are expected from license renewal. Impacts from continued operation would be positive
70	Public services: transportation	SMALL. Capacities of area roads are adequate and the increase in traffic flow as a result of license renewal would most likely be unnoticeable.
71	Historic and archaeological resources	SMALL. BVPS does not plan to undertake refurbishment. Ground disturbing activities conducted during the license renewal period would be performed in accordance with FENOC procedures that insure the protection of cultural resources.
76	Severe accidents	SMALL. FENOC identified 8 potentially cost beneficial SAMAs and is evaluating their implementation. None are related to aging management.

<sup>a</sup>FENOC adopts, by reference, the NRC's findings for applicable Category 1 issues, all of which have SMALL impacts. No impact analyses are presented for Issue 60, "Electromagnetic Field – Chronic Effects," which has been categorized "NA" by the NRC and for which the applicant is not required to provide an analysis (10 CFR 51.53(c)(3); 10 CFR 51, Subpart A, Appendix B, Table B-1) and Issue 92, "Environmental Justice," which will be addressed by the NRC in plant-specific reviews (10 CFR 51, Subpart A, Appendix B, Table B-1).

7Q10 = once-in-10-year, 7-day-duration low flow  
BVPS = Beaver Valley Power Station  
FENOC = FirstEnergy Nuclear Operating Company  
gpm = gallons per minute  
No. = issue number  
NRC = U.S. Nuclear Regulatory Commission  
USACE = U.S. Army Corps of Engineers

<b>Appendix E Affected Section</b>	<b>License Renewal Application Appendix E Page No.</b>	<b>Affected Paragraph and Sentence</b>
<b>Table 8.0-2</b>	<b>Page 8.0-3</b>	<b>Table Column titled "With Gas-Fired Generation," 5<sup>th</sup> paragraph</b>

The assumed alternative plant firing configuration described in this table is not consistent with corrected text in Section 7.2.2.1 and the configuration assumed in License Renewal Application, Appendix E, Table 7.2-1. Under the air emission controls text for the gas-fired generation configuration, the nitrogen oxides text is revised to read: "*Air emission controls: Nitrogen oxides: dry low-NOx burners during combustion and selective catalytic reduction for post-combustion. ~~water/steam injection; selective catalytic reduction (90% removal).~~ Particulate matter and carbon monoxide emissions limited through proper combustion controls.*" The affected page of revised Table 8.0-2 is attached (next page).

TABLE 8.0-2

IMPACTS COMPARISON DETAIL

Proposed Action (License Renewal) <sup>a</sup>	Base (Terminate Operations & Decommission) <sup>a</sup>	No-Action Alternative	
		With Gas-Fired Generation	With Coal-Fired Generation
Description			
Renew operating licenses for BVPS, extending operation of the units approximately 20 years beyond the expiration of their current operating licenses in 2016 and 2027, respectively (see Chapter 3).	Terminate operations and decommission Unit 1 and Unit 2 following expiration of their current operating licenses in 2016 and 2027, respectively. Adopting, by reference, NRC's description of associated activities provided in the GEIS Chapter 7 and Section 8.4 and in Supplement 1 to NUREG-0586 as representative of corresponding BVPS activities (see Section 7.1.1).	<p>New plant at greenfield site located in northwestern Ohio (see Section 7.2.2.1).</p> <p>Three 530-MW (net) and one 263-MW (net) combined-cycle units.</p> <p>Closed-cycle cooling with mechanical-draft cooling towers.</p> <p>Delivery of natural gas via a new 10-mile-long pipeline.</p> <p>Air emission controls: Nitrogen oxides: dry low-NOx burners during combustion and selective catalytic reduction for post-combustion. Particulate matter and carbon monoxide emissions limited through proper combustion controls.</p> <p>Exhaust dispersed via 150-foot-tall stacks.</p> <p>Estimated workforce: Construction: 500 average; 900 peak Operation: 80</p>	<p>New plant at a greenfield or, preferably, brownfield site along commercially navigable portions of Allegheny, Monongahela, or Ohio Rivers (see Section 7.2.2.2).</p> <p>Three 600-MW (net) pulverized coal units.</p> <p>Closed-cycle cooling with natural-draft cooling towers.</p> <p>Coal and limestone delivery via barge.</p> <p>Air emission controls: Particulates: fabric filter (99.9% removal) Sulfur oxide: wet limestone scrubber (95% removal) Nitrogen oxide: low nitrogen oxide burners, overfire air, selective catalytic reduction (95% removal).</p> <p>Emissions dispersed via 500-foot-tall stacks.</p> <p>Estimated workforce: Construction: 1,750 average, 2,500 peak Operation: 300</p>

<b>Appendix E <u>Affected Section</u></b>	<b>License Renewal Application Appendix E <u>Page No.</u></b>	<b><u>Affected Paragraph and Sentence</u></b>
<b>Table 9.1-1</b>	<b>Pages 9.1-3, 5, 7, 9, and 10</b>	<b>Table columns titled “Number” “ Issue Date” and “Expiration”</b>

Several typographical errors exist in the permit number, issue date and expiration date columns. Additionally, the new Pennsylvania Department of Environmental Protection Air Quality Operating Permit was received following submittal of the License Renewal Application, and the updated permit information will be included in the revision to the table. The affected pages of revised Table 9.1-1 with revision bars is attached (starts next page).

**TABLE 9.1-1**  
**ENVIRONMENTAL AUTHORIZATIONS FOR CURRENT**  
**BEAVER VALLEY POWER STATION OPERATIONS**

Agency	Authority	Authorization	Number	Issue Date	Expiration	Activity Covered
<b>Federal Authorizations</b>						
U.S. Nuclear Regulatory Commission	<i>Atomic Energy Act</i> [42 U.S.C. 2011 et seq.], 10 CFR 50.10	License to operate	DPR-66 (Unit 1)	7/2/76	1/29/2016	Operation of BVPS.
			NPF-73 (Unit 2)	8/14/87	5/27/2027	
U.S. Department of Transportation	----	Hazardous Material Registration	061506 001 0130Q	Tri-annually (3 years)	06/30/2009	Transportation of hazardous materials, Renewed annually
U.S. Environmental Protection Agency	CERCLA [42 U.S.C. s/s 9601 et seq (1980)]	CERCLA/EPCRA/ SARA	04-02474 BVPS facility identification number	----	Indefinite	Used for SARA Tier II reporting and emergency planning
	EPCRA [42 U.S.C. 11011 et seq (1986)]		04-02475 FE Long Term Distribution Center/Warehouse (22)	----	Indefinite	
	SARA [42 U.S.C. 9601 et seq (1986)]					
	RCRA [42 U.S.C. s/s 321 et seq (1976)]	RCRA	PAR000040485	----	Indefinite	Monitor regulated waste activity under the PA Solid Waste Management Act.

**TABLE 9.1-1 (CONTINUED)**  
**ENVIRONMENTAL AUTHORIZATIONS FOR CURRENT**  
**BEAVER VALLEY POWER STATION OPERATIONS**

Agency	Authority	Authorization	Number	Issue Date	Expiration	Activity Covered
<b>State and Local Authorizations (continued)</b>						
Pennsylvania Department of Environmental Protection and (for Construction Stormwater Permits) Beaver County Conservation District (continued)			PAG-2-0004-03-027 GP05046203	12/24/03 ----	Completed	General permit for sewage conveyance project to Shippingport Borough Municipal Wastewater treatment facility.
Pennsylvania Department of Environmental Protection	Pennsylvania Code, Title 25, Chapter 245	Storage Tank Registrations and Permits	Unit 1 Facility ID 04- 13281 Unit 2 Facility ID 04- 13361 Vendor Owned ID 04- 38570	Certificate Issued Annually	Annually on October 4, Indefinite	Registration of aboveground and underground storage tanks, as defined in Pennsylvania Code, Title 25, Chapter 245.1, containing regulated substances.
Pennsylvania Department of Environmental Protection <sup>a</sup>	<i>Pennsylvania Dam Safety and Encroachment Act</i> of Nov. 26, 1978 (P.L. 1375, No. 325) as amended (32 P.S. §693.1 et seq.)	Water Obstruction and Encroachment Permits	18772 (BVPS-1 entrance road culvert) 19184 (original BVPS- 1 construction barge slip) 19522 (Peggs Run relocation)	---- ---- ----	Completed Completed Completed	Allows for operation, maintenance, and normal repair of structures or obstructions built upon waters of the state and the 100-year floodplain.

**TABLE 9.1-1 (CONTINUED)**  
**ENVIRONMENTAL AUTHORIZATIONS FOR CURRENT**  
**BEAVER VALLEY POWER STATION OPERATIONS**

Agency	Authority	Authorization	Number	Issue Date	Expiration	Activity Covered
<b>State and Local Authorizations (continued)</b>						
Pennsylvania Department of Environmental Protection <sup>a</sup> (continued)			18737 (intake and discharge structures)	8/02/71	Indefinite	
			0475711 (BVPS-2 auxiliary intake structure)	7/07/75	Indefinite	
Pennsylvania Department of Environmental Protection	<u>Clean Air Act</u> , 40 U.S.C. 1857 et seq., <i>Pennsylvania Air Pollution Control Act</i> of Jan. 8, 1960, (P.L. 2119)	Air Quality Operating Permit (State Only) (Synthetic Minor)	Beaver Valley Power Station Application for Air Quality Operating Permit #04-086 (State Only) (Synthetic Minor)	10/12/07	Indefinite	Establishes emission limits for BVPS emergency diesel generators and the BVPS- 2 auxiliary boiler. Pending final approval by PADEP, the application replaces the following separate Air Quality Operating Permits, which are now inactive:  04-302-055 (BVPS-2 auxiliary boilers)  04-399-004 (auxiliary diesel generators)  04-399-005A (Emergency Response Facility diesel generator)  04-399-006 (South Office Shops Building diesel generator)

TABLE 9.1-1 (CONTINUED)

ENVIRONMENTAL AUTHORIZATIONS FOR CURRENT  
BEAVER VALLEY POWER STATION OPERATIONS

Agency	Authority	Authorization	Number	Issue Date	Expiration	Activity Covered
State and Local Authorizations (continued)						
Pennsylvania Department of Environmental Protection	Pennsylvania Code, Title 25, Chapter 287.7	Approval for the disposition of intake and cooling tower silt	NA (Letter Concurrence)	12/30/94	Indefinite	Application of dredged and dewatered intake and cooling tower silt at approved areas onsite.
Pennsylvania Department of Environmental Protection	<i>Pennsylvania Water Resources Planning Act</i> (Act 220-2002)	Act 220 Water Withdrawal and Use Registration	221113 [Main Intake Structure] 221113 [Alternate Intake] 221113 [Midland Municipal Authority]	3/16/04	Indefinite	Water withdrawal and use/disposition.
Pennsylvania Fish and Boat Commission	Pennsylvania Fish and Boat Code (Act 1980-1975)	Scientific Collector's Permit	168, Type 3	Issued Annually	Annually on December 31	Collection of fish and other aquatic life for environmental monitoring programs.
Tennessee Department of Environment and Conservation	Tennessee Code Annotated 68- 202- 206	Radioactive Waste License for Delivery	T-PA008-L-07	Issued Annually	Annually on December 31	Shipment of radioactive material to a licensed disposal/processing facility within the State of Tennessee.



**TABLE 9.1-1 (CONTINUED)**  
**ENVIRONMENTAL AUTHORIZATIONS FOR CURRENT**  
**BEAVER VALLEY POWER STATION OPERATIONS**

Agency	Authority	Authorization	Number	Issue Date	Expiration	Activity Covered
<b>State and Local Authorizations (continued)</b>						
South Carolina Department of Environmental Quality	<i>South Carolina Radioactive Waste Transportation and Disposal Act (Act No. 429 of 1980)</i>	Radioactive Waste License for Delivery	0009-37-07-X	Issued Annually	Annually on December 31	Shipment of radioactive material to a licensed disposal/processing facility within the State of South Carolina.
<sup>a</sup> Permit originally issued by Pennsylvania Department of Natural Resources.  BVPS = Beaver Valley Power Station CERCLA = <i>Comprehensive Environmental Response, Compensation, and Liability Act</i> CFR = <i>Code of Federal Regulations</i> EPCRA = <i>Emergency Planning and Community Right to Know Act</i> ID = Identification Number NA = Not Applicable NPDES = National Pollutant Discharge Elimination System PADEP = Pennsylvania Department of Environmental Protection P.L. = Public Law P.S. = Public Statute RBC = Rotating Biological Contactor SARA = <i>Superfund Amendments and Reauthorization Act</i> U.S.C. = <i>United States Code</i>						