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Docket: NRC-2018-0130

Exelon Generation Company, LLC; Peach Bottom Atomic Power Station Units 2 and 3

Comment On: NRC-2018-0130-0012

Exelon Generation Company, LLC; Peach Bottom Atomic Power Station, Units 2 and 3

Document: NRC-2018-0130-DRAFT-0010

Comment on FR Doc # 2019-16794

Submitter Information

Name: Anonymous Anonymous

Submitter's Representative: Valincia Darby

Government Agency Type: Federal

Government Agency: DOI

General Comment

See attached file(s)

Attachments

er19-0348



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Custom House, Room 244
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2904

IN REPLY REFER TO:

September 23, 2019

9043.1
ER 19/0348

Ms. Briana Grange
Division of Materials and License Renewal
Office of Nuclear Reactor Regulation
Mail Stop: OWFN-11-F01
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

RE: DEIS Nuclear Regulatory Commission Peach Bottom Atomic Power Station, Units 2 and 3, draft plant-specific Supplement 10, Second Renewal, to the Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants, NUREG1437 Exelon Generation Company, LLC, York, PA; USFWS Project #2017-0333

Dear Ms. Grange:

The U.S. Department of the Interior (DOI) has reviewed the draft plant-specific Supplement 10 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants, regarding Subsequent (Second) License Renewal for Peach Bottom Atomic Power Station Units 2 and 3 (Project; NUREG-1437). The following comments are provided pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) and the Endangered Species Act (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

The U.S. Fish and Wildlife Service (Service) previously provided comments on October 9, 2018 (attached), during the Scoping Process for this relicensing, and we refer the Nuclear Regulatory Commission (NRC) to those comments regarding NRC's rankings (i.e., SMALL, MODERATE) of the impacts of continued operation of Units 2 and 3 using the existing cooling water approach. Exelon is authorized to withdraw up to 2,363.62 million gallons per day (3,657 cfs), which represents 9.25 percent of the average annual flow of the Susquehanna River into Conowingo Pond (39,500 cfs). This is a substantial amount of water use for once-through cooling purposes. The Service continues to disagree with some of the assigned rankings related to thermal impacts, and entrainment and impingement impacts, which we believe the NRC has underestimated.

Additional Comments:

Page 3-57, line 25: The increases in migratory fish populations were not due to the installation of fish passage facilities, as passage efficiencies at the Conowingo and Holtwood fish lifts are

currently too low to allow for population growth of target species (e.g., American shad, *Alosa sapidissima*). The referenced increases were due to the implementation of a trap and transport program which involved trapping target fish species below the Conowingo Dam, and transporting and releasing them above the four lower Susquehanna River dams.

Page 3-58, line 24: Fish do not pass downstream via the fish lifts. Downstream passage is through the powerhouse (turbines), through dam gates, or through a trash sluice.

Page 3-58, line 27: Biota are generally prevented from freely moving into and out of the Muddy "Run" (not "River") reservoir by the dam which separates this reservoir from the Susquehanna River. Most movement of aquatic organisms between these two water bodies is via the Muddy Run Pumped Storage Project's penstocks (i.e., via entrainment).

Page 3-58, line 30: The correct agency name is the National "Oceanic" and Atmospheric Administration.

Page 3-58, line 38: This is not completely accurate as currently worded. Adult American eels (*Anguilla rostrata*) die after spawning and therefore do not return to freshwater; rather, larvae drift on ocean currents into estuaries, transform into glass eels, and then migrate up freshwater rivers as juveniles (elvers; yellow eels), where they will spend the majority of their lives before reaching sexual maturity (silver eel stage), at which point they migrate to the ocean to spawn and die.

Page 3-61, line 13: This is not the correct scientific name for the common carp. The correct name is *Cyprinus carpio*.

Page 3-62, line 39: The gizzard shad (*Dorosoma cepedianum*) is not a target species. The other target species are alewife (*Alosa pseudoharengus*) and blueback herring (*A. aestivalis*). The gizzard shad is an introduced nuisance species that displaces target species at the fish lifts, and its population has likely benefited from the thermal impacts of the Project, which may enhance winter survival of juveniles.

Page 3-64, line 5: The statement that "all five" species have been delisted due to recovery is incorrect. The swamp pink (*Helonias bullata*; Threatened) and Maryland darter (*Etheostoma sellare*; Endangered) are still listed/protected under the ESA.

Page 3-70, line 23: This sentence misrepresents the information provided in the cited source. The Indiana bat (*Myotis sodalis*) does still hibernate in Pennsylvania, and its winter (hibernation) range includes seventeen states, not eight.

Page 3-70, lines 41-43: As of 2019, Indiana bats have been documented as still occurring in at least two hibernacula (only 11 total individuals), and possibly in a third hibernaculum that has not been checked recently because access to this privately-owned site has not been granted.

Page 3-72, line 11: The statement that Indiana bats no longer hibernate in Pennsylvania is incorrect (see above comment regarding the species' status in the State as of 2019).

Page 3-75, line 27: The correct spelling is "Conejohela."

Page 3-78, line 6: The common logperch (*Percina caprodes*) does not occur in the Chesapeake Bay drainage (Stauffer et al. 2016). All records of impinged logperch at Peach Bottom, and all records from the Susquehanna River and Conowingo Pond, pertain to Chesapeake logperch (*Percina bimaculata*).

Page 3-78, line 18; Page 4-66, line 7; Page 4-67, Table 4-8: All of these logperch were Chesapeake logperch (see above comment). Regarding Table 4-8, footnote (b), there should have been no reason in 2015 for researchers to distinguish between common logperch and Chesapeake logperch in Peach Bottom impingement samples, as the former does not occur in the Chesapeake Bay drainage (Stauffer et al. 2016). All logperch impinged on Peach Bottom intake screens are Chesapeake logperch.

Section 4.8.1.1, *Species and Habitats Protected Under the Endangered Species Act Under U.S. Fish and Wildlife Service Jurisdiction*, Page 4-59, Table 4-6, Effect Determinations for Federally Listed Species Under U.S. Fish and Wildlife Service Jurisdiction; AND page 4-64, lines 16-22:

The Service concurs with the NRC's determinations that relicensing and continued operation of the Peach Bottom Atomic Power Station Units 2 and 3, as proposed, may affect, but is not likely to adversely affect, the northern long-eared bat (*Myotis septentrionalis*) and the Indiana bat. The Service's concurrence is based on our understanding that no new ground-disturbing activities or substantial tree-clearing activities (i.e., aside from normal maintenance activities) are planned as a part of the relicensing. These effects determinations are valid for 2 years from the date of this letter. If the proposed relicensing has not been fully implemented prior to this, an additional review by this office will be necessary. Should project plans change, or if additional information on listed and proposed species becomes available, or new species are listed or critical habitat designated, these determinations may be reconsidered.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

The Department appreciates the opportunity to provide these comments.

Sincerely,



Lindy Nelson
Regional Environmental Officer

Attachment

Cc: USFWS, BER (ERT), Stephanie Nash

References:

Stauffer, J.R., Jr., R.W. Criswell, and D.P. Fischer. 2016. The Fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

October 9, 2018

May Ma
Office of Administration
Mail Stop TWFN-7-A60M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

RE: Docket Nos. 50-277 and 50-278; **NRC-2018-0130**; Exelon Generation Company, LLC;
Notice of Intent to prepare an Environmental Impact Statement and Conduct Scoping
Process for Peach Bottom Atomic Power Station, Units 2 and 3 (EPID NO. L-2018-
RNW-0013).

Dear Chief Ma:

The U.S. Fish and Wildlife Service (Service) has reviewed the September 10, 2018 NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT AND CONDUCT SCOPING PROCESS FOR PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 (EPID NO. L-2018-RNW-0013). Exelon Generation Company, LLC (Applicant) has applied for "Subsequent Renewed Operating Licenses" for Units 2 and 3 of the Peach Bottom Atomic Power Station (PBAPS) in Peach Bottom Township, York County, and Drumore and Fulton Townships, Lancaster County, Pennsylvania. The PBAPS is located on the west shore of the Conowingo Pond at the mouth of Rock Run Creek. The Conowingo Pond is formed by the backwater of the Conowingo Dam on the lower Susquehanna River. The Applicant is requesting that the Nuclear Regulatory Commission renew the operating terms for the two units by 20 years beyond the current license expiration dates. In addition to continuing operation and maintenance activities, nuclear power plants may conduct refurbishment activities to support extended operation during the license renewal term. Refurbishment is not anticipated for PBAPS. No other plant modifications to support extended operations that could directly affect the environment or plant effluents are planned. The following comments are provided pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) and the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

The Service has focused its review and comments on the issues of (1) impingement of fish on cooling water intake structure screens, (2) possible thermal impacts to fish and macroinvertebrate communities, (3) effects of the PBAPS discharge on dissolved oxygen and possible associated impacts to fish, and (4) potential effects to federally listed threatened and endangered species.

For the first three issues referenced above, the Applicant has concluded that environmental impacts over the Second License Renewal term would be SMALL. The Service does not agree with these conclusions, as discussed in the following comments.

Fish Impingement at Cooling Water Intake Screens (Section 4.6.2.1 in Applicant's Environmental Report)

Chesapeake Logperch:

The calculated annual impingement (trapping fish against screens) at the PBAPS outer intake is 221,421 fish (URS and Normandeau 2008). Neither the inner structure nor the outer structure has a fish handling system, the result being 100 percent impingement mortality (IM) for fish that are impinged at the facility's cooling water intake structure (CWIS). The Chesapeake logperch (*Percina bimaculata*), a species that is listed as threatened in Maryland and Pennsylvania and is currently under review for possible Federal listing under the Endangered Species Act (ESA), is among the species that have been documented to be impinged on the Peach Bottom screens. To facilitate greater flexibility under the ESA, the Service issued a Director's Order in January of 2017, which established a new tool to engage landowners in voluntary conservation efforts to help America's at-risk species (and candidate species) before listing, or to preclude the need for listing, under the ESA¹.

Chesapeake logperch Conservation Actions recommended by the Pennsylvania Fish and Boat Commission (PFBC) include working with Federal and State government agencies to minimize impingement and entrainment (drawing fish, eggs, or larvae into power plant systems).² Alternatives to the existing PBAPS CWIS and cooling approach should be explored in order to address Chesapeake logperch conservation. In their response to Exelon Generation's request for consultation, the PFBC expressed concern about potential effects to Chesapeake logperch, but they stated that they intend to address impingement and entrainment concerns during the National Pollution Discharge Elimination System (NPDES) permit renewal process.

Anadromous Fish:

The Service has been working with the Maryland Department of Natural Resources, PFBC, Pennsylvania Department of Environmental Protection, Susquehanna River Basin Commission, National Marine Fisheries Service, and the owners of hydroelectric facilities on the lower Susquehanna River to restore populations of migratory fish species including American shad (*Alosa sapidissima*). Although only a small number of American shad currently migrate through the Conowingo Pond, with annual totals at the Conowingo Dam East Fish Lift ranging between 6,992 and 16,608 from 2013 through 2018, the Service is concerned that IM impacts at the PBAPS CWIS could hinder these restoration efforts. Recent American shad annual IM estimates, based on sampling of screens during the period August 30, 2005 through November 16, 2006, adjusted for sub-sampling, gear efficiency (i.e., screen impingement efficiency) and

¹ https://www.fws.gov/endangered/improving_ESA/prelisting-conservation.html

² <http://www.fishandboat.com/Resource/Documents/species-plan-chesapeake-logperch.pdf>

days when there was no sampling, were 552 juveniles during the October to November outmigration and 77 adults during the spring spawning migration, for a total estimated annual IM of 629 American shad (URS and Normandeau 2008).

More recently, during intake screen sampling at PBAPS, from November 2 to November 25, 2015, during which time there were 11 sampling events for each unit, 62 juvenile American shad were collected from the screens (Normandeau 2015). It is important to note, however, that this collection was based on sorting of only 20 percent of the debris removed from the screens and placed in dumpsters. Adjustments for sub-sampling and gear efficiency would result in a much larger estimate of impinged juvenile American shad. Because there are no efforts to enumerate emigrating juvenile American shad, the percentage of emigrating juveniles that are impinged at the PBAPS CWIS is unknown. However, given the many factors affecting the Susquehanna River American shad population, some of which may be hindering restoration efforts, it is important to identify all sources of mortality that can be controlled, and make every effort to address those factors.

Observations of alosines (American shad, blueback herring, and alewife) in PBAPS impingement collections appear to be correlated with the abundance of alosines passed by fish lifts and the abundance of early life stage American shad stocked annually by the PFBC (URS and Normandeau 2008). If there is a correlation, then impingement numbers may increase for these species as their populations increase due to ongoing restoration efforts. Alosines exhibit schooling behavior, and there is the potential for a disproportionate IM impact on emigrating American shad and river herring. Therefore, changes to PBAPS's CWIS or cooling system approach may be needed to reduce relative IM rates for these species.

Section 4.6.2.1.1 of the applicant's Environmental Report presents results of earlier impingement studies. For impingement sampling results during the fall of 1999, it was concluded that the number of American shad impinged was very small compared to the number of fry and fingerlings stocked in the Susquehanna River and tributaries during the previous summer, and numbers of American shad and blueback herring impinged were very small compared to numbers of spawning adults captured and passed at Conowingo Dam in the spring of 1999, particularly considering the reproductive potential of these species.

It was concluded that impingement losses were not sufficiently high to adversely affect Susquehanna River shad and river herring populations and did not represent a threat to ongoing restoration efforts. However, this impingement sampling was conducted at a time when the numbers of adult American shad and river herring entering the Conowingo project tailrace were an order of magnitude higher than numbers passing the Conowingo Dam in recent years. During the 2018 migration season, the number of American shad passed at the Conowingo East Fish Lift represented approximately 10% of the number of American shad passed in 1999.

Although the final East Fish Lift passage report for 2018 is not yet available, daily reports for the 2018 season documented only 1 blueback herring passing the East Fish Lift, compared to 130,625 blueback herring passed in 1999. The situation for blueback herring and American shad has drastically changed since the 1999 study, and populations of both species are critically low. Recent documented impingement of either of these species at PBAPS should be viewed in this

context. Given the critical state of the populations of American shad and river herring in the Susquehanna River, any source of mortality is a concern and should be addressed. Therefore, the Service does not agree with the conclusion that the environmental impact of impingement over the Second License Renewal term would be SMALL.

Exelon is not proposing any new technologies or operational changes to address IM because they argue that they have already achieved a significant reduction from the Calculation Baseline, primarily through installation of the outer intake. More specifically, the outer intake has reduced approach and through-screen velocities, and has flush alignment of screens with the shoreline with lateral fish escape passages. In addition, through flow is reduced by not operating all water pumps during late fall and winter months (i.e., less cooling needed in colder months), and by recirculating warm discharge water to the intake basins in the winter. There is also an air bubbler system in front of trash racks (although meant to prevent ice formation), which may encourage fish avoidance behavior. The outer intake structure was specifically designed and installed to prevent IM, based on studies of fish swim speeds. It was designed and installed to achieve an approach velocity of ≤ 0.75 feet per second (fps; maximum velocity tolerated by the most sensitive species - e.g., young white crappie). Exelon also feels that the elimination of intake canals eliminated fish entrapment and therefore, the calculated credit, using only approach velocity, is likely underestimated. In addition, Exelon points to studies showing exponential increase in IM with increasing approach velocities above 1 fps, which means estimated IM at the inner intake would be underestimated, resulting in an underestimate of the efficacy of the outer screen.

In recent inter-agency discussions, it was suggested that a closed-loop (i.e., recirculating) cooling system may be cost-prohibitive for a project the size of PBAPS. However, water withdrawal would be reduced by about 90 percent, as would impingement of fish and debris, and entrainment of fish eggs and larvae. Alternatives to a closed-loop cooling system include installation of a cylindrical wedge wire screen CWIS, to replace the existing traveling screens, which would remain submerged and drastically reduce IM, or installation of a fish handling system on the traveling screens, which would gently remove impinged fish, thus reducing IM. The existing traveling screens and maintenance of the screens result in 100 percent mortality of impinged fish. However, even with the addition of a fish handling system, there is no guarantee that it will significantly reduce IM for “fragile species,” which include American shad and other alosines. Regarding either the cylindrical wedge wire screen approach or a fish handling system, it is important to note that screens typically need to be replaced periodically. In the absence of closed-loop cooling, the Service supports a replacement of the traveling screens with a cylindrical wedge wire screen intake, or addition of a fish handling system. We also support requirements for the continued use of the helper cooling towers, according to the current schedule based on water temperature thresholds.

Possible Thermal Impacts to Fish and Macroinvertebrate Communities (Section 4.6.2.2 of Applicant’s Environmental Report)

The Service has identified a number of issues of concern for consideration in the scoping process. Fish community monitoring data suggest a possible thermal influence on fish populations. The Final Report for Post-EPU Thermal and Biological Monitoring, PBAS

(Thermal Monitoring Report; Normandeau and ERM 2017), concluded that non-native gizzard shad were collected in greater numbers at thermally-influenced monitoring stations than at non-thermal stations, including large numbers of individuals less than 100 mm, suggesting possible spawning activity near thermally affected areas or use of these areas as a thermal refuge. It is noted in the Thermal Monitoring Report that studies of gizzard shad die-offs due to cold water temperatures indicate that juveniles are more susceptible to winter die-offs than are adults. Electrofishing relative abundance of gizzard shad was much higher than historical observations, and the documented long-term increase corresponds with a long-term decrease in relative abundance of white crappie, suggesting negative thermal impacts to the balanced indigenous community.

The large gizzard shad population also poses challenges to fish passage efforts and migratory fish population restoration efforts at lower Susquehanna River hydropower projects (e.g., Conowingo and Holtwood). The large numbers of gizzard shad that enter fish passage facilities can result in the exclusion of target species (i.e., American shad, river herring), or a reduction in the number of target species successfully entering fishways and passing these dams during migration.

There are also concerns related to temperature differences between the Conowingo tailrace where fish enter the fishway, and water in the fishway that originates in Conowingo Pond. At times a significant temperature differential has been noted, and there is concern that higher temperatures in the fishway, due to elevated water temperature in Conowingo Pond, may deter fish from entering the fishway or cause them to fall back and return to the tailrace, resulting in reduced or delayed migration and associated reduction in spawning success. This issue has been documented at other fishways that are fed by impoundments with elevated or stratified water temperatures (e.g., Caudill *et al.* 2013).

In terms of macroinvertebrate richness, according to results presented in the Thermal Monitoring Report, the one monitoring station that is clearly not affected by the Peach Bottom thermal plume had the lowest habitat score for macroinvertebrates, but nevertheless scored highest for all overall measures of macroinvertebrate community, suggesting possible detrimental thermal effects on the Conowingo Pond macroinvertebrate community (i.e., monitoring stations with higher habitat scores scored lower for number of macroinvertebrate species, presumably due to thermal impacts) (Normandeau and ERM 2017). Therefore, the Service does not agree with Exelon Generation's conclusion that thermal discharges from PBAPS will result in SMALL impacts to aquatic organisms in Conowingo Pond.

Dissolved Oxygen (DO) (Section 4.6.2.2 of Applicant's Environmental Report)

The Thermal Monitoring Report concluded that "...it is unlikely that the lowest observed [DO] concentration (4.4 mg/L) [was] injurious or caused stress to fish," and "...DO during this time period [August and September] needs to be protective of only juvenile/adult life stages of fish which can tolerate DO less than 5.0 mg/L for short periods of time without measurable negative effects." In general, prolonged exposure to 4 mg/L causes acute mortality in many invertebrates and non-salmonid fish embryos (Gray *et al.* 2002). Severe production impairment of early-life-stage non-salmonid species occurs when oxygen falls below 4.5 mg/L (EPA 1986). A literature

review by Chamberlain *et al.* (1980) found that juvenile largemouth bass demonstrated reduced swimming speed at DO concentrations of less than 5.0 to 6.0 mg/L (temperature = 25 degrees C). Stewart *et al.* (1967) observed reduced growth of juvenile largemouth bass at 5.9 mg/L and lower concentrations, with significant growth reductions at concentrations below 5.5 mg/L. The Habitat Suitability Index Model for largemouth bass considers a DO concentration of 5 to 8 mg/L as providing a suitability of 80 percent during midsummer within pools or littoral areas, and a concentration of 8 mg/L as being optimal (suitability rating of 100 percent) (Stuber *et al.* 1982). Therefore, an optimal DO range for successful growth and reproduction in Conowingo Pond is likely greater than or equal to 7 mg/L for many target fish species, and the Service does not agree with Exelon Generation's conclusion that thermal discharges from PBAPS will result in SMALL impacts to aquatic organisms in Conowingo Pond.

Federal-Status Species (Section 3.6.1.4.1 of Applicant's Environmental Report)

In-scope transmission line right-of-way (ROW) maintenance for the two 500-kV generator tie lines between the main plant and the PBAPS substation includes periodic or as-needed controls such as herbicide application, mechanical clearing, hand clearing, pruning, and/or tree removal. Federal trust species that could be adversely affected by vegetation management are addressed below.

Bog Turtle:

The PBAPS falls within the range of the federally listed threatened bog turtle (*Glyptemys [Clemmys] muhlenbergii*). However, at the Service's request, a Phase 1 survey was conducted to evaluate all wetlands within 300 feet of the project area. The survey was conducted in August, 2017. None of the five wetlands on site provide suitable habitat, and in a November 2, 2017 letter, the Service concurred with this habitat determination and concluded that relicensing of the PBAPS will not affect the bog turtle. As stated in the Service's letter, this determination is valid for 2 years from the date of the letter. If the Phase 1 habitat assessment did not include all wetlands in all areas that may be directly or indirectly affected by future activities associated with continued operation of the PBAPS, the scope of the Phase 1 survey should be expanded to include those wetlands and survey results should be submitted to the Service's Pennsylvania Field Office for review.

Bald Eagle:

The bald eagle (*Haliaeetus leucocephalus*) was removed from the Federal Endangered Species List on August 8, 2007, and is no longer protected under Section 7 of the ESA; however, bald eagles are still protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). As of 2015, there were three active bald eagle nests on or in the vicinity of the PBAPS site. Exelon Generation has submitted to the Service a signed Bald Eagle Project Screening Form indicating that all recommended avoidance measures will be followed for any future activities associated with continued operation of the PBAPS that could harm or disturb nesting eagles. As a reminder, if ROW maintenance activities or other activities that may disturb eagles are

undertaken in the future, the applicant should follow the Bald Eagle Management Guidelines found on the Service's website³ prior to commencement of work.

Indiana Bat:

The PBAPS project area falls within the range of the Indiana bat (*Myotis sodalis*), but not within a swarming buffer or within any known maternity roost buffer. However, as stated in the applicant's Environmental Report (Section 3.6.2.3.1), Indiana bats have been live-captured in summer in York County (Butchkoski 2010). Therefore, the Service recommends that any tree removal or pruning of large limbs be carried out between November 15 and March 31 in order to avoid potential adverse effects to this species during the summer roosting season. The applicant should contact the Service's Pennsylvania Field Office ahead of any tree removal or trimming activities to confirm that they will adhere to this time of year restriction.

Northern long-eared bat:

The PBAPS project area falls within the range of the northern long-eared bat (*Myotis septentrionalis*). However, the project is not located within 0.25 mile of a known northern long-eared bat hibernaculum or within 150 feet from a known, occupied maternity roost tree; therefore, any incidental take that may occur is not prohibited in accordance with the conservation rule (i.e., 4(d) rule) specific for this species. More information on the northern long-eared bat and the 4(d) rule can be found at:

<http://www.fws.gov/midwest/endangered/mammals/nleb/>.

Additionally, when tree removal occurs throughout the northern long-eared bat's range, and the project is authorized, funded, or carried out by a Federal agency, consultation under section 7 of the ESA is required. The Service completed a nationwide biological opinion that fulfills this requirement, provided the conditions of the 4(d) rule are implemented. More information about the programmatic consultation and the streamlined procedures to meet this requirement are detailed at: <http://www.fws.gov/midwest/endangered/mammals/nleb/>.

Thank you for your consideration of these comments. If you have any questions regarding this matter, please contact Richard McCorkle of my staff at 814-234-4090.

Sincerely,



Sonja Jahrsdoerfer
Project Leader

Attachment (Literature Cited)

³ <http://www.fws.gov/northeast/EcologicalServices/eagle.html>

Literature Cited

- Butchkoski, E. 2010. Pennsylvania Game Commission Factsheet for the Indiana Bat, *Myotis sodalist*, Website:
<http://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/IndianaBat.aspx>
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- URS Corporation and Normandeau Associates, Inc. 2008. 316(b) Compliance Report with Source Waterbody Information, Impingement Mortality Characterization Study, and Design and Construction Technology Plan for Peach Bottom Atomic Power Station, prepared by URS Corporation for Exelon.