



Permit No.: 23148

Expiration Date: July 31, 2030

Annual Reports Due: Within 90 days of January 1st;

Monthly Reports Due: Within one month of the end of the monthly reporting period

PERMIT TO INCIDENTALLY TAKE ENDANGERED/THREATENED SPECIES

I. AUTHORIZATION

Exelon Generating Company, LLC, is hereby authorized to incidentally take the endangered and threatened sturgeon specified below while conducting facility operations at or near 1 Industrial Highway Eddystone, Delaware County, Pennsylvania in the manner specified in the Permit Holder's June 21, 2019 application and supporting documents and communications, subject to the provisions of Section 10(a)1(B) of the Endangered Species Act of 1973 (ESA) (16 U.S.C. §§ 1531-1543), the National Marine Fisheries Service (NMFS) regulations governing listed species permits (50 CFR Parts 222 and 223), and the conditions hereinafter set forth.

II. ABSTRACT

On June 28, 2018, Exelon Generating Company, LLC, applied for an incidental take permit (ITP) for ESA-listed sturgeon (shortnose sturgeon and Atlantic sturgeon New York Bight Distinct Population Segment (NYB DPS)) associated with otherwise lawful operation of Eddystone Generating Station. After discussions with NMFS, Exelon submitted an updated application on December 21, 2018. Based on review of the updated application, NMFS and Exelon held further discussions regarding what information to incorporate in the Conservation Plan. On June 21, 2019, Exelon submitted a revised application. This revised application included the Conservation Plan and analytical methods for estimating potential takes, based on previous feedback and coordination with our office. At that time, the application was considered adequate and complete. On July 16, 2019, NMFS published a notice of receipt (NOR) of the Exelon application for the Eddystone facility in the *Federal Register* (84 FR 33924). The comment period ended on August 15, 2019. No comments were received. An additional notice was published in the *Federal Register* (84 FR 65970) on December 2, 2019 to allow other agencies and the public the opportunity to review and comment on the draft Environmental Assessment. The comment period closed on January 2, 2020. No substantive comments were received. On May 26, 2020, Exelon submitted revised take requests, at NMFS request, based on Eddystone's operations in 2019. These take numbers take into consideration the implementation of the operational measures identified in **IV. Conditions of the Permit** to minimize take.

Exelon Generating Company, LLC, owns Eddystone Generating Station (the facility), which is a natural gas/fuel oil-fired electric power generating facility that operates as a peaking plant, (i.e., typically running at higher levels of generation capacity during the summer and winter periods). The facility is located in the Borough of Eddystone, Delaware County, Pennsylvania, less than 10 miles downriver of Philadelphia. The facility presently consists of two natural gas/fuel oil-fired electric generating units that are steam-electric generators. Cooling water for each unit is withdrawn from the Delaware River through a cooling water intake structure (CWIS), which is

located along the west shore of the River, directly in front of the station. The operation of the CWIS is the primary aspect of the facility operations under consideration for this ITP for Eddystone due to the potential impacts to ESA-listed sturgeon. Exelon conducted entrainment sampling at Eddystone in 2005-2006, 2016, and 2017. One Atlantic sturgeon yolk-sac larva was collected in May 2017. Thus, Exelon determined it was necessary to apply for an ITP in accordance with the requirements under Section 10(a)(1)(B) of the ESA for the take of ESA-listed shortnose sturgeon and Atlantic sturgeon (NYB DPS) due to the operation of the CWIS and vessel activity associated with fuel delivery to the station.

Conservation Plan

Section 10 of the ESA specifies that no ITP may be issued unless an applicant submits an adequate conservation plan. The conservation plan prepared by Exelon Generating Company, LLC, describes measures designed to monitor, minimize, and mitigate, to the maximum extent practicable, the incidental take of shortnose and Atlantic (New York Bight DPS) sturgeon. The goals of the Conservation Plan are to avoid and minimize take, and to aid in the conservation of shortnose and Atlantic (New York Bight DPS) sturgeon in the Delaware River by supporting two initiatives: to build on the existing knowledge of cohorts spawning in the Delaware River; and, to improve knowledge of shortnose and Atlantic sturgeon spatial and temporal use of the freshwater tidal portion of the Delaware River. The required minimization, mitigation and monitoring measures to avoid or minimize impacts to sturgeon are listed in **IV. Conditions of the Permit**.

Continued monitoring related to the take of sturgeon will be ongoing and funding provided through the facility's annual operating budget.

III. INCIDENTAL TAKE AUTHORIZATION

Listed Species Affected:

Endangered

shortnose sturgeon

Atlantic sturgeon (New York Bight Distinct Population Segment)

Acipenser brevirostrum

Acipenser oxyrinchus

NMFS authorizes the following lethal incidental takes:

New York Bight DPS Atlantic sturgeon

Vessel Strike: 1 over 10 years (sub-adults/adults)

Entrainment: 27,000 larvae (2 age-1 equivalents) per year

Impingement: 5 per year (YOY/sub-adults)

Total: 1 sub-adult/adult, 270,000 larvae, and 50 YOY/sub-adults over 10 years

Shortnose sturgeon

Impingement: 5 per year (YOY/sub-adults)

Total: 50 YOY/sub-adults over 10 years

Take must be incidental to otherwise lawful activities described in the ITP application and Conservation Plan, and as conditioned herein. Takes may only occur in conjunction with the operation of the CWIS, the monitoring requirements of this ITP, and fuel deliveries from vessels. Takes above the levels specified herein are not authorized by this ITP. This ITP covers

incidental lethal take from the date of issuance through July 31, 2030.

IV. CONDITIONS OF PERMIT

The incidental take of ESA-listed shortnose and Atlantic (NYB DPS) sturgeon is authorized during activities as described in the application and supporting documents and communications subject to the provisions of the conservation plan and the conditions specified in this permit.

A. Duration of Permit

This permit covers incidental take of sturgeon associated with the Eddystone Generating Station from the date of issuance through July 31, 2030.

B. Conditions to Monitor, Minimize, and Mitigate Impacts to Listed Species

1. Entrainment Monitoring

Eddystone will collect entrainment samples during the 17-week period of potential entrainment of Atlantic sturgeon (April through July). On each day of entrainment sampling, samples will be collected over a 24-hour period. The schedule for entrainment sampling is:

- 2 days¹ per week during each week in which Eddystone runs circulating water pumps for two or more days,
- 1 day per week during each week in which Eddystone runs circulating water pumps for one day only, and
- No sampling during each week in which Eddystone does not run circulating water pumps on any days.

Entrainment sampling will be conducted by an experienced biological consulting firm. On each day of sampling, four entrainment samples will be collected at approximately six-hour intervals, resulting in a collection representative of a full 24-hour day. Samples will be collected behind the traveling screens of the operating unit using a permanently mounted sample pipe. A 4-inch pump will pump water from the sample pipe into a 500-micrometer plankton net suspended in a large tank of water. Target sample volume will be 100 m³. Approximately half of the sample volume will be collected from a depth of 32 feet below mean low water (MLW) (i.e., approximately 3 feet above the bottom of the intake forebay), and approximately half of the sample will be collected from a depth of approximately 22.5 feet below MLW. At the end of each sampling period, the net will be washed down so the contents collect in the cod end. The contents of the cod end will be strained through a 500-micrometer sieve, and the material collected on the sieve will be transferred to a labeled sample jar and preserved with formalin.

Preserved samples will be shipped to the contractor's ichthyoplankton laboratory under proper Chain of Custody. The field staff will include a Chain of Custody document with each shipment that includes the collection date, collection time, and identification number for each sample in a shipment as well as the total

¹ A day is equal to 24 hours of operation where a full monitoring cycle can take place.

number of samples in the shipment. Upon receipt of the shipment, laboratory staff will verify that all shipped samples were received, and will sign and date the Chain of Custody document. Samples will be sorted by trained technicians and any Atlantic sturgeon larvae will be identified and counted.

Entrainment monitoring will be conducted for three years following issuance of the ITP. If after three years of monitoring Atlantic sturgeon eggs, larvae or juveniles are collected at a rate significantly above that considered in the ITP, annual monitoring will continue and Exelon will work with NMFS to re-evaluate the relevant provisions of the ITP. Sampling protocols will follow those of the prior three years, but the take numbers may be adjusted and additional conservation measures may be required

2. Impingement Monitoring

For impingement, Eddystone will collect impingement samples year-round at the Station. Impingement of shortnose and Atlantic sturgeon will be recorded on each day of impingement sampling. Each day of impingement sampling will consist of enumeration all sturgeon collected in the traveling screen wash water collection basket over a 24-hour period. The schedule for impingement sampling is:

- 1 day per week during each week in which Eddystone runs circulating water pumps for one or more days, and
- No sampling during each week in which Eddystone does not run circulating water pumps on any days.

An experienced biological consulting firm will conduct impingement sampling once per week for every week when the circulating water pumps are in operation throughout the year. On each day of sampling, a single 24-hour sample will be collected. Prior to initiation of sampling, the screens, screenhouse, and sluiceways will be flushed of fish and debris by operating the screens continuously for one full rotation. Additionally, contents of the screen-wash dumpster will be flattened and a layer of plastic sheeting will be put down to separate fish collected during the 24-hour sampling period from previously collected fish and debris. At the end of each sampling period, all fish on top of the layer of plastic sheeting will be separated from the debris, and any shortnose or Atlantic sturgeon will be identified and assessed to determine live/dead status.

If a live shortnose or Atlantic sturgeon is collected in an impingement sample, the following handling procedures will be followed:

- 1) The personnel handling the sturgeon will put on the appropriate protective equipment as expeditiously as possible while ensuring personnel safety.
- 2) The live sturgeon will be placed in a tub filled with ambient river water of a sufficient depth to cover the fish.
- 3) The following information will be collected while giving priority to sturgeon survival over data collection: fork length (cm); photographs of the dorsal, ventral, and lateral sides of the sturgeon; and documentation of any external tags or markings.

- 4) The sturgeon will be returned to the river as quickly and gently as possible.

For dead shortnose and Atlantic sturgeon, the following procedures will be followed:

- 1) The fish will be measured and fork length and total length (cm) will be recorded; photographs of the dorsal, ventral, and lateral sides of the sturgeon will be taken; and external tags or markings will be documented.
- 2) The dead sturgeon will be retained by the monitoring crew and stored frozen until its disposition is discussed with NMFS.

3. Vessel Deliveries

In order to monitor for take, Exelon will submit an annual report to NMFS documenting the date, duration, and number of one-way vessel trips to and from Eddystone. In the event that the number of vessel trips exceeds the greatest annual number used to estimate take in this application (i.e., ten one-way trips), Exelon will submit the report within 30 days of the completion of the eleventh trip.

4. Avoidance and Minimization Measures

Exelon will only operate Eddystone's circulating water pumps:

- 1) when the Station is generating electricity, which includes 2 days for ramp-up (which includes 36 hours to address contingencies) and 10 days for ramp-down; and
- 2) for incidental maintenance or testing (generally once per month) (referred to collectively as "Essential Station Operations"); or as required by a governmental agency or other entity with jurisdiction to require operations.

Exelon will also limit operations to one circulating water pump per unit when possible. In addition, Exelon will rely on the river water pumps to provide cooling water for other critical Station operations outside of Essential Station Operations.

Exelon will make all reasonable efforts to schedule fuel oil deliveries outside of the March 15-July 15 time period. For oil deliveries scheduled between March 15 and July 15, the monitoring plan described above ((3) Vessel Deliveries) will be implemented.

C. Reporting Requirements

1. *Take Reports.* All sturgeon incidental takes during Eddystone Generating Station operational activities must be reported to the Chief, Endangered Species Conservation Division, Office of Protected Resources, NMFS, via email (angela.somma@noaa.gov) within 24 hours of their occurrence or confirmed identification. Reports of incidental take should include the date of the take, the condition of the sturgeon, the species (if known), and any other pertinent details of the circumstances of the taking. Additionally, Exelon will submit a report within 30 days of the completion of an eleventh Vessel trip and any additional trips after that.

2. *Monthly Reports.*

Exelon will prepare and submit monthly monitoring reports for April through July for entrainment sampling and these reports will include:

- 1) the volume of cooling water withdrawn on each day of the month;
- 2) the days on which entrainment sampling was scheduled, any reasons sampling did not occur as scheduled, and the days on which sampling was actually conducted;
- 3) the volume of water sampled and the number and life stage of Atlantic sturgeon collected (if any) for each entrainment sample; and
- 4) a narrative describing any issues encountered that interfered with implementation of the Conservation plan.

Additionally, Exelon will prepare and submit monthly monitoring reports for impingement sampling year round, these reports will include:

- 1) the volume of cooling water withdrawn on each day of the month;
- 2) the days on which impingement sampling was conducted;
- 3) the volume of water sampled and the number of shortnose or Atlantic sturgeon collected, if any, along with any additional information collected, as described in the handling procedures above;
- 4) a narrative describing any issues encountered that interfered with implementation of the Conservation plan.

3. *Annual Reports.*

An annual report must be submitted to:

Angela Somma
Chief, Endangered Species Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, Maryland 20910
(angela.somma@noaa.gov)

with a copy to:

Celeste Stout
Endangered Species Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, Maryland 20910
(celeste.stout@noaa.gov)

Within ninety (90) days following the end of each permit year. The annual report must include:

- 1) an estimate of annual take of Atlantic sturgeon (age-one equivalents and estimated larval take numbers) due to entrainment, with a 95% confidence limit, computed using the methods described in Appendix A of the conservation plan;
- 2) an estimate of annual take of shortnose and Atlantic sturgeon due to impingement;
- 3) an annual data set compiled from the data provided in the monthly monitoring reports;
- 4) the date, duration, and number of one-way vessel trips to and from Eddystone; and
- 5) a narrative describing any issues encountered during the year that interfered with implementation of the conservation plan including a description of any corrective actions taken or any proposed issue resolution.

4. *Final Report.*

The Permit Holder must submit a final report within one hundred eighty (180) days of the expiration of this Permit summarizing the total take that occurred under the permit and the circumstances surrounding it. Reports must be submitted to the individuals indicated above.

D. General Permit Conditions

1. NMFS may suspend or revoke the permit that it issued for cause in accordance with applicable laws and regulations (See 5 U.S.C. § 558; 50 C.F.R. § 222.306; 15 C.F.R. § 904.). Such suspension or revocation may apply to an entire permit, or only to specified Covered Species, Permit Areas, or covered activities.
2. The Permit Holder may not transfer or assign this permit to any other person(s), as person is defined in Section 3(12) of the ESA. This permit is not in force or effective if transferred or assigned to any other person.
3. Upon request by the Director of OPR, the Permit Holder must permit any employee(s) of NMFS, or any other person(s) duly designated by the Director, to inspect the Permit Holder's records and facilities if such records and facilities pertain to activities for which a take of ESA-listed species is authorized by this permit, relate to ESA-listed species covered by this permit, or pertain to the Director's responsibilities under the ESA.
4. The provisions of this permit may be amended upon reasonable notice by the Director of OPR, in accordance with applicable law.
5. In the event any ESA-listed species not authorized by this or another incidental take permit is killed, injured, or collected during the course of activities in the restricted area, the Permit Holder must notify the NMFS OPR Chief of the Endangered Species Conservation Division as soon as possible, but not later than two days after the event. If the individual is killed, it must be retained for scientific analysis. The Permit

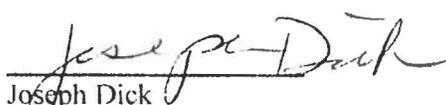
Holder must then submit a written report to the Chief of the Endangered Species Division describing the circumstances of the unauthorized take. Pending review of these circumstances, NMFS may suspend or amend this permit.

6. The Permit Holder is responsible for the activities of any individual who is operating under the authority of this permit. Such activities include capturing, handling, releasing, transporting, maintaining, and caring for any animal authorized to be taken by this permit.
7. Under the terms of the ESA regulations, a violation of any of the terms and conditions of this permit will subject the Permit Holder, and/or any individual who is operating under the authority of this permit, to penalties as provided for in the ESA.
8. NMFS OPR will annually review this permit and determine whether it needs to be suspended or amended. Yearly evaluation of this permit by NMFS OPR will include re-analyses of all data and a re-assessment of the take levels.
9. 50 CFR Section 222.23(d)(8) provides for a reasonable fee to be charged to cover the costs of issuance of permits under the ESA. The fee for this permit has been waived.
10. The Permit Holder is required to adequately fund the Conservation Plan. Upon request by NMFS OPR, the Permittee shall provide documentation that the Conservation Plan is receiving adequate funding. If NMFS OPR reasonably believes that the Conservation Plan is not being inadequately funded, then NMFS OPR may require the Permit Holder to produce an annual budget for the Conservation Plan, which will be subject to review and approval by NMFS OPR.
11. The Permit Holder shall strictly adhere to the Conservation Plan the conditions of this Permit. If the Permit Holder is not implementing or adhering to the Conservation Plan or the conditions of this Permit, then the take authorization provided by this Permit shall not apply.
12. This permit does not relieve the Permittee from compliance with other applicable foreign, state, local, or other federal law.

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Donna S. Wieting
Director
Office of Protected Resources
National Marine Fisheries Service

Date



Joseph Dick
General Manager
Mid-Atlantic Peaking Division
Exelon Generation Company, LLC

7-2-2020
Date