DELAWARE RIVERKEEPER NETWORK

April 13, 2018

Re: proposed Hope Creek-Silver Run transmission line

District Engineer
U.S. Army Corps of Engineers, Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

To Whom It May Concern,

The proposed Hope Creek-Silver Run transmission line will lead to a host of long-term environmental impacts to ESA-listed species, Critical Habitat for the Atlantic Sturgeon, aquatic habitats for resident and migratory aquatic species, and tidal wetlands. Moreover, the environmental impacts from high-voltage submarine transmission lines have just begun to be studied thoroughly, with early indications for important but poorly circumscribed impacts to such critical species as sturgeon, sharks, and Anguillid eels.

As described in the Army Corps public notice dated 3/19/2018:

> "The applicant proposes to construct (1) a 230-kilovolt (kV) alternating current (AC) electric transmission line connecting the new Silver Run Substation and PSE&G Hope Creek Substation expansion and (2) the new Silver Run Substation, which would interconnect the proposed Hope Creek-Silver Run transmission line with two Delmarva Power and Light (DP&L) 230-kV overhead lines. The existing and proposed facilities are part of the electrical grid managed by the Pennsylvania New Jersey Maryland Interconnection, LLC (PJM), which ensures reliable electric service more than 65 million people across the eastern U.S. The proposed project is located between the proposed Silver Run Substation at 471 Silver Run Road, Middletown, Delaware 19709 in Appoquinimink Hundred, New Castle County, Delaware, and the Public Service Enterprise Group (PSE&G) Hope Creek Substation expansion on Artificial Island in Lower Alloways Creek Township, Salem County, New Jersey."

There are four ESA-listed species under the US Fish & Wildlife oversight are potentially implicated, including: bog turtle (Delaware), red knot (New Jersey), sensitive joint vetch (New Jersey), and swamp pink (New Jersey). According to an email received from the Corps, the Corps has "determined

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that the proposed project will have no effect on these species, as suitable habitat is not present within the action area. The USFWS New Jersey Field Office has reviewed the public notice and commented that the Service has no objection to issuance of a Department of the Army permit for the project, provided that the applicant abides by the National Bald Eagle Management Guidelines available on their office's website. No comments have been received from the USFWS Chesapeake Bay Field Office.

There are six ESA-listed species under NMFS jurisdiction that could be implicated including: Atlantic sturgeon (all five distinct population segments), shortnose sturgeon, green sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle. In addition, the project would impact designated critical habitat for the New York Bight distinct population segment of Atlantic sturgeon. In response to our inquiry, we have learned that the US Army Corps has "determined that the proposed project may affect, but is not likely to adversely affect these species and critical habitat." Informal consultation with NMFS has been initiated and the Corps is seeking concurrence with their assessment. Species such as the federally endangered Atlantic sturgeon – of which there are less than 300 spawning adults left of the Delaware River's genetically unique population – can ill afford additional harm to their populations, spawning capabilities or juvenile survival. To so quickly discount potential impacts to the sturgeon without due consideration to the emerging research on significant impacts is irresponsible. Furthermore, this project could impact not just the Delaware River population but all 5 distinct populations segments of sturgeon which are listed as endangered with one listed as threatened. We believe the Army Corps has not given appropriate consideration to the potential impacts to the River's sturgeon.

Sturgeon are known to use electroreception for foraging and/or other activities, and numerous studies indicate distinct sensitivity by sturgeon species to the electric and magnetic fields generated by high-voltage transmission lines.[1] The long-term and cumulative impacts of these activities on a critically endangered population have yet to be studied, and the impacts are difficult to predict based on the limited research available to date. Such uncertain but significant impacts warrant careful study prior to any permitting action, and we recommend the Army Corps delay permitting decisions for this project until such time that the impacts to Atlantic sturgeon, as well as shortnose sturgeon, foraging and behavior can be carefully studied. Should permits be issued with these significant risks unassessed, then the Army Corps should condition any such permits on detailed monitoring of Atlantic sturgeon, shortnose sturgeon, and other ESA-listed species' behavior in the vicinity of the submarine transmission lines, as well as adaptive management of their operation, including the possibility of seasonal restriction for use of the transmission lines during critical periods (e.g., spawning, staging, early life stage foraging).

The crossing of the Delaware River will require dredging, filling, pilings, allision structures, and other permanent harms to the River ecosystem. While much of the crossing is through underground injection, there is still a fairly significant amount of river dredging that will be required near the shoreline, an ecologically important element of the Delaware River system.

[1] see Normandeau et al 2011. "Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species" U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09. also Bevelhimer et al. 2015. "Effects of Electromagnetic Fields on Behavior of Largemouth Bass and Pallid Sturgeon in an Experimental Pond Setting." Oak Ridge National Lab, Report #ORNL/TM-2015/580.

For the trenched shore landing near the eastern shore of the Delaware River, the applicant proposes to excavate trenches for seven cables in a total of approximately 28,000 square feet of the Delaware River using an excavator. Construction activities may temporarily disturb up to 0.67 of an acre of non-federally regulated, mapped coastal wetlands along the shore of the Delaware River adjacent to the Hope Creek Nuclear Generating Station; however, these impacts would be temporary as the area would be restored upon completion of construction. Each trench would be excavated between the New Jersey cable termination point on land, which would be located approximately 300 feet landward of the high tide line and a point approximately 50 feet riverward of the shoreline riprap. Each trench would be approximately 40 feet wide at the top of the trench. During trench excavation, temporary shoring (e.g., sheet piles or trench boxes) may be used if the weak soils anticipated in the area are not conducive to maintaining stable trench side slopes. A cable would then be laid in each trench, and the entire trench would be backfilled to pre-construction contours, with any shoring removed after cable installation. Concrete mats may be placed over the cables in areas where additional protection is needed, e.g., beneath the large riprap currently along the shoreline. Excavated sediments from below the mean high water line would be loaded on a barge or stored in uplands, and either held for reuse as backfill or spread within Silver Run Electric's easement area in uplands. Following cable installation, approximately 4,500 cubic yards of excavated sediments or clean sand/gravel, would be redeposited/deposited in the trenches and used as cover for the submarine cables. Silt curtains will be used as practicable during active excavation and backfill to protect water quality.

Over 10,000 square feet of important subtidal habitat near the western portion of the Delaware River will be permanently altered for the transition structure. Water quality, habitat, currents, and sediment transport will all be altered by this structure, with unknown long-term impacts from its installation.

The impact to tidal wetlands within Delaware likewise are significant and permanent, altering the critical functions of these remaining coastal buffers. Such tidal wetlands serve critical functions for human and ecological communities, buffering upland areas from increasingly severe storms and the growing impacts from sea level rise. These ecosystems are highly productive, and serve as critical nursery grounds for a host of important invertebrate and vertebrate species. And continued human alteration of these wetlands, especially through artificial structures and fixed infrastructure, destabilizes the function and resilience of these wetlands to perform their critical services.

It is likewise concerning that this project would continue to advance a dangerous energy source and divert resources from pursuing clean energy options that are truly needed to support our present and future energy needs.

We recommend that the U.S. Army Corps of Engineers deny permits for the Hope Creek-Silver Run transmission line based on numerous and significant environmental impacts, particularly to ESA-listed species and Critical Habitat.

More broadly, the Army Corps is poised to authorize another project with significant but uncertain impacts for Atlantic sturgeon and other critical resources in the Delaware Estuary without the requisite knowledge and evaluation of the impacts from the many activities it authorizes. Yet instead of conditioning each of these actions on careful study with adaptive management built into the continued operation of each project, these permits typically are issues without any opportunity to fill

the knowledge voids and improve decision-making in the future. The Army Corps likewise fails to proactively conduct research or fund studies about the Delaware Estuary that would improve decision-making, reduce risks to the ecosystem, and thus invest in sustainable human use of the Delaware Estuary. We therefore recommend that the Army Corps condition this permit on the detailed monitoring of its impact to the estuary, particularly of the impacts from electromagnetic fields on key resources such as Atlantic sturgeon. We further recommend that the Army Corps reduce or eliminate future uncertainty by investing in critical research within the Delaware Estuary of key species, critical habitats, and important ecosystem functions which can and will be adversely affected by project authorized by the Army Corps permits.

Respectfully,

Maya K. van Rossum
the Delaware Riverkeeper

cc:
National Marine Fisheries Service
US Fish & Wildlife Service