Pao-Tsin Kuo, Acting Director
Division of License Renewal
Office of Nuclear Reactor Regulation
US Nuclear Regulatory Commission
MS T-11 F1
Washington, DC 20555-0001

Re: Hope Creek Extended Power Uprate (TAC No. MC3002)

Dear Mr. Kuo,

This is in response to your letter dated December 8, 2006 regarding an application submitted by PSEG Nuclear, LLC (PSEG) for an amendment to the operating license for the extended power uprate of Hope Creek Generating Station (HCGS). HCGS is a single-unit nuclear plant located in Lower Alloways Creek Township, New Jersey. HCGS is adjacent to the Salem Nuclear Generating Station. Pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended, the Nuclear Regulatory Commission (NRC) has requested information on the presence of any protected, proposed or candidate species and critical habitat under the jurisdiction of NOAA's National Marine Fisheries Service (NMFS) that may be in the vicinity of HCGS.

Federally endangered shortnose sturgeon (*Acipenser brevirostrum*) are known to occur in the Delaware River from the lower bay upstream to at least Lambertville, New Jersey. Tagging studies by O'Herron et al. (1993) found that the most heavily used portion of the river appears to be between river mile 118 below Burlington Island and river mile 137 at the Trenton Rapids. While actual spawning has not been documented in this area, the concentrated use of the Scudders Falls region in the spring by large numbers of mature male and female shortnose sturgeon indicate that this is a major spawning area (O'Herron et al. 1993). After spawning, shortnose sturgeon move rapidly downstream to the Philadelphia area.

Historically, sturgeon were relatively rare below Philadelphia due to poor water quality. In the past decade, the water quality in the Philadelphia area has improved leading to an increased use of the lower river by shortnose sturgeon. After adult sturgeon migrate to the area around Philadelphia, many adults return upriver to between river mile 127 and 134 within a few weeks, while others gradually move to the same area over the course of the summer (O'Herron 1993). Water temperatures falling to about 8°C, typically in late November, is thought to trigger prespawning adult sturgeon to return to the overwintering grounds around Duck Island and Newbold Island. From November through March, prespawning adult sturgeon overwinter in dense sedentary aggregations in the upper tidal reaches of the Delaware between river mile 118 and 131. The areas around Duck Island and Newbold Island seem to be regions of intense

overwintering concentrations. However, unlike sturgeon in other river systems, shortnose sturgeon in the Delaware do not appear to remain as stationary during overwintering periods. Overwintering fish have been found to be generally active, appearing at the surface and even breaching through the skim ice (O'Herron 1993). Due to the relatively active nature of these fish, the use of the river during the winter is difficult to predict. The overwintering location of juvenile and non-spawning adult shortnose sturgeon is not known but believed to be on the freshwater side of the oligohaline/fresh water interface (O'Herron 1990). In the Delaware River, the oligohaline/freshwater interface occurs in the area between Wilmington, Delaware and Marcus Hook, Pennsylvania.

While the area above Philadelphia is of primary importance to shortnose sturgeon in the Delaware River, shortnose sturgeon are present below Philadelphia. Brundage and Meadows (1982) have reported incidental captures in commercial gillnets in the lower Delaware. During a study focusing on Atlantic sturgeon, Shirey et al. (1999) captured 9 shortnose sturgeon in 1998. During the June through September study period, Atlantic and shortnose sturgeon were found to use the area on the west side of the shipping channel between Deep Water Point, New Jersey and the Delaware-Pennsylvania line. The most frequently utilized areas within this section were off the northern and southern ends of Cherry Island Flats in the vicinity of the Marcus Hook Bar. Shortnose sturgeon have also been documented below Philadelphia as recently as the summer of 2003 and spring 2004.

Several species of listed sea turtles occur in Delaware Bay during the warmer months. The sea turtles in northeastern nearshore waters are typically small juveniles with the most abundant being the federally threatened loggerhead (*Caretta caretta*) followed by the federally endangered Kemp's ridley (*Lepidochelys kempi*). Loggerheads and Kemp's ridleys have been documented in waters as cold as 11°C, but generally migrate northward when water temperatures exceed 16°C. Sea turtles are typically present in Delaware Bay from May 1 – November 15, with the majority of sea turtles in the area from late May to early November. Concentrations of the federally endangered leatherbacks (*Dermochelys coriacea*) have been observed during the summer off New Jersey and Delaware. While leatherbacks are predominantly pelagic, they may occur close to shore, especially when pursuing their preferred jellyfish prey. Green sea turtles *(Chelonia mydas)* may also occur in New Jersey and Delaware waters in warmer months. Hawksbill sea turtles (*Eretmochelys imbricata*) may also be found in these waters, although these instances would be rare.

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are also present in the Delaware River and surrounding coastal waters. Atlantic sturgeon are considered a Candidate Species as NMFS has initiated a status review for this species to determine if listing as threatened or endangered under the ESA is warranted. If it is determined that listing is warranted, a final rule listing the species could be published within a year from the date of publication of the listing determination or proposed rule.

A consultation assessing the impacts of the operation of HCGS and Salem Nuclear Generating Station on NMFS listed species originally occurred in 1980. Consultation has been reinitiated several times with the most recent consultation being concluded in 1998. As no sea turtles or shortnose sturgeon have been reported at HCGS since it become operational in 1986, NMFS

concluded in those consultations that the continued operation of HCGS would not affect these species.

As provided in 50 CFR §402.16, reinitiation of consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of taking specified in the incidental take statement is exceeded; (2) new information reveals effects of the action that may not have been previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to listed species; or (4) a new species is listed or critical habitat designated that may be affected by the identified action.

Without a complete description of what changes in operation are currently being proposed for HCGS it is difficult to determine if the currently proposed action will result in effects to listed species that have not already been considered. As such, NMFS recommends that NRC provide NMFS with a complete project description and assessment of impacts on listed species. At that time NMFS will be able to determine if the reinitiation of consultation is required. Should you have any questions regarding these comments or about the Section 7 process in general, please contact Julie Crocker of my staff at (978)281-9300 x6530. My staff looks forward to working cooperatively with the NRC and PSEG during the relicensing process.

Sincerely,

Mary A. Colligan
Assistant Regional Administrator for
Protected Resources

Cc: Greene, F/NER4
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File Code: Sec 7 NRC Salem and Hope Creek Generating Stations

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