

United States Department of the Interior

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David Wrona
United States Nuclear Regulatory Commission
Mail Stop: 3WFN, 06A44M
Washington, DC 20555-0001

Dear Mr. Wrona:

As requested, the Department of the Interior (Department) has reviewed the Draft Supplement to the Generic Environmental Impact Statement (DSEIS) for the proposed license renewal of Braidwood Station, Units 1 and 2, in Braidwood, Illinois. With respect to those portions of the DSEIS for which the Department or its bureaus have jurisdiction or special expertise, the Department offers the following comments and recommendations for your consideration:

Section 3.8 - Federally Protected Species and Habitats
3.8.2 - Federally Protected Species and Habitats Considered

The DSEIS lists the northern long-eared bat (*Myotis septentrionalis*) as a proposed species. The northern long-eared bat is now listed as threatened under the Endangered Species Act (ESA). This change should be reflected in the Final SEIS.

The DSEIS describes that the sauger (*Sander canadense*) is the only known fish host for sheepsnose mussel (*Plethobasus cyphus*) glochidia. This should be changed to: "the sauger is the only known natural host for the sheepsnose." According to the 2012 Federal Register Final Rule (77 FR 14914): "little is known regarding host fish of the sheepsnose. Until recently the only cited host for this species came from a 1914 report that found glochidia naturally attached to sauger (*Sander canadense*) in the wild. No confirmation of successful transformation was recorded in this early report (Surber 1913, p. 110; Wilson 1914, pp. 338-340). However, recent laboratory studies at the Genoa National Fish Hatchery, the University of Minnesota, and Ohio State University have successfully transformed sheepsnose glochidia on fathead minnow (*Pimephales promelas*), creek chub (*Semotilus atromaculatus*), central stoneroller (*Campostoma anomalum*), and brook stickleback (*Culaea inconstans*) (Watters et al. 2005, pp. 11-12; Brady

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2008, pers. comm.; Watters 2008, pers. comm.). Although these are identified as suitable hosts in laboratory studies, natural interactions between the aforementioned fishes and the sheepsnose seem rare and infrequent due to habitat preferences. Fish that frequent medium to large rivers near mussel beds, like the sauger, may act as hosts in the natural environment.” Additionally, the Genoa National Fish Hatchery has identified the golden shiner (*Notemigonus crysoleucas*) as another host fish of the sheepsnose in laboratory studies and has propagated the sheepsnose and raised the golden shiner for possible reintroduction of the sheepsnose in its natural habitat. This section of the Final SEIS should be changed to reflect other potential hosts for the sheepsnose.

Section 4.7

4.7.1 Proposed Action

This section discusses impingement and entrainment of aquatic organisms. The DSEIS concludes that: “No noticeable changes in the mussel community have occurred since Braidwood began operating. Thus, impingement and entrainment of mussel glochidia through impingement of host fish appears to have a SMALL impact on the mussel community in the vicinity of Braidwood.” The DSEIS notes that the sauger has not been collected as part of past impingement studies. The DSEIS also notes that the golden shiner and fathead minnow have been collected as part of past impingement studies. The Final SEIS should account for the possibility of the sheepsnose using the golden shiner or fathead minnow as host species.

4.8 - Special Status Species and Habitats

4.8.1 - Special Status Species and Habitats Impacts of License Renewal (Proposed Action)

The U.S. Nuclear Regulatory Commission (NRC) used the DSEIS to fulfill its obligation to prepare a biological assessment under section 7 of the ESA. The NRC concluded that the proposed action would have no effect on the following species: snuffbox mussel (*Epioblasma triquetra*), Hine's emerald dragonfly (*Somatochlora hineana*), eastern prairie fringed orchid (*Platanthera leucophaea*), lakeside daisy (*Hymenopsis herbacea*), leafy-prairie clover (*Dalea foliosa*), and Mead's milkweed (*Asclepias meadii*). Effect determinations were not made for the two candidate species: rattlesnake-master borer moth (*Papaipema eryngii*) and the eastern massasauga (*Sistrurus catenatus*); however, determinations should be made in the Final SEIS. Based on the information provided in the DSEIS, we conclude that the project is expected to have no effect on these species.

We do not concur with NRC's determination of “may affect, not likely to adversely affect” for the endangered sheepsnose (*Plethobasus cyphus*). At this time we cannot concur that the project would not adversely affect the sheepsnose mussel, due to the lack of recent survey information in the project area and because other potential host species (i.e., golden shiner and fathead minnow) were not considered as part of the impact analysis for the sheepsnose. In order for the Department to assess potential impacts to the sheepsnose, we recommend that mussel surveys be conducted to assess current presence and status of the endangered mussel in the project area. Mussel surveys should be coordinated with the U.S. Fish and Wildlife Service's (Service) Chicago Illinois Field Office. The mussel survey report should be submitted to the Service for their review.

The DSEIS states that: “Sheepsnose larvae are indirectly susceptible to impingement and

entrainment of host fish, and the only known host species for sheepsnose is sauger. Juvenile and adult sauger were not reported in surveys of the Kankakee River near the Braidwood intake or impingement collections in 1988 and 1989, and eggs and larvae were not reported from samples in the river or from entrainment collections in the same years (EA Engineering 1990). Monitoring studies of fish in the Kankakee River near Braidwood in the last 5 years also has not reported sauger in the collections (e.g., HDR 2009, 2013, 2014). Assuming that the results reflect future conditions, the indirect effect of impingement and entrainment on sheepsnose host species from now until 20 years beyond the expiration of Braidwood's present operating licenses is likely to be insignificant. Some unionid species may have one host species, and others more than one, and future studies may identify additional sheepsnose host species that might modify this conclusion.

Sheepsnose are also susceptible from direct and indirect effects (through host fish species) of Braidwood's effluent due to temperature and current alterations and to chemical contaminants. The IEPA, not the NRC, regulates the discharge through its Illinois NPDES permitting program to insure protection of aquatic species, and Braidwood must have an Illinois NPDES permit to operate. In view of these observations, the NRC staff concludes that snuffbox may occur near Braidwood but that the continued operation of Braidwood **may, but is not likely to, adversely affect** the species."

Mussel surveys for the Braidwood Station were most recently conducted in 2009 by Ecological Specialists, Inc. (ESI). Initial surveys were conducted by HDR Engineering (HDR) in 2008 (when a fresh dead sheepsnose was collected in the Kankakee River in the vicinity of the Braidwood discharge diffuser). Due to the lack of recent survey information in the project area, we cannot concur with the applicant's effect determination of "may affect, not likely to adversely affect." We recommend that mussel surveys be conducted in the areas covered by the past HDR and ESI studies to determine if the sheepsnose may be adversely affected by the proposed project. The NRC should also supplement its impact analysis for the sheepsnose to include the golden shiner and fathead minnow as potential natural host species.

The NRC concluded that the project "may affect, but is not likely to adversely affect" the northern long-eared bat. The DSEIS indicates that: "Over the duration of the proposed license renewal term, Exelon (2013c) reports no plans for landscape-altering activities, such as those that might adversely affect northern long-ear bats." If no tree clearing is proposed as part of the proposed action, the applicant should make a "no effect" determination for the species. If tree clearing is proposed, Exelon should quantify the amount of tree clearing and provide that information to the Service. Recent mist-net surveys have captured the northern long-eared bat in close proximity to the Braidwood Station.

Thank you for the opportunity to provide comments. This letter provides comment under the authority of, and in accordance with, the provisions of the National Environmental Policy Act of 1969 (83 Stat. 852, as amended P.L. 91-190, 42 U.S.C. 4321 et seq.), the Fish and Wildlife Coordination Act of 1956 (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.), and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d).

The Department looks forward to continued coordination with the NRC and the Applicant to ensure that project impacts to resources of concern to the Department are adequately addressed. For matters related to fish and wildlife resources and federally listed threatened and endangered species, please continue to coordinate with Mr. Shawn Cirton, U.S. Fish and Wildlife Service, 1250 South Grove Ave., Suite 103, Barrington, Illinois 60010, phone (847) 381-2253, extension 19, fax (847) 381-2285.

We appreciate the opportunity to provide these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Lindy Nelson", with a long horizontal flourish extending to the right.

Lindy Nelson
Regional Environmental Officer

cc: Shawn Cirton, FWS