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Docket: NRC-2013-0169

Notice of Intent to Prepare an Environmental Impact Statement

Comment On: NRC-2013-0169-0014

Exelon Generation Company, LLC; Braidwood Station, Units 1 and 2; Draft Supplemental Generic Environmental Impact Statement

Document: NRC-2013-0169-DRAFT-0013

Comment on FR Doc # 2015-06878

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3/25/2015
80FR 15827
(2)

General Comment

Comments from IDNR on the Braidwood Station, Supplemental Generic Rnvironmental Impact Statement

Attachments

Braidwood license Renewal, EIS, IDNR Comments

SUNSI Review Complete**Template = ADM - 013****E-RIDS= ADM-03****Add=**

R. Baum (rgb1)



Illinois Department of Natural Resources

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Bruce Rauner, Governor

Wayne A. Rosenthal, Director

May 12, 2015

Cindy Bladey, Chief
Rules, Announcements, and Directives Branch (RADB)
Office of Administration
Mail Stop: OWFN-12-H08
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**RE: Braidwood Station License Renewal
Generic Environmental Impact Statement
Docket ID: NRC-2013-0169**

Dear Ms. Bladey:

The Illinois Department of Natural Resources (Department) has reviewed the above-mentioned Document regarding the license renewal of the Braidwood Station owned by Exelon Generation Company, LLC.

The Department is concerned about impingement and entrainment of state-listed species, which can occur when makeup water is drawn from the Kankakee River into the cooling pond or from the cooling pond into the Braidwood station. The Department has no record of Incidental Take Authorization (ITA) being granted to the Braidwood facility for state-listed species suffering mortality as a result of impingement and entrainment. Currently, Exelon Generation Company, LLC, may be at risk of penalties under the *Illinois Endangered Species Protection Act* [520 ILCS 10/11]. The document clearly indicates that "take" has and likely is still occurring for the state-endangered pallid shiner (*Hybopsis amnis*) and state-threatened river redhorse (*Moxostoma carinatum*), and likely for other state-listed species as described in the following comments:

Fishes

Three impingement studies have been conducted at the Kankakee River intake: Commonwealth Edison Company conducted a study during 1980 through 1981, EA Engineering during 1988 through 1989, and again during 1991. Based on these studies, the state-endangered pallid shiner and state-threatened river redhorse were being impinged at the Kankakee River intake. Impingement (and possibly entrainment) is likely ongoing based on recent records near the Kankakee River intake for pallid shiner (2013) and river redhorse (2014).

Larvae of pallid shiner and river redhorse may also be entrained. The Department notes from page 4-56 that entrained pallid shiner larvae may have been collected, but misidentified as cyprinids. It is unclear from the document if river redhorse larvae are being entrained.

Mentioned on page 4-47 is:

"However, in its Kankakee River Area Assessment, the IDNR (1998) indicates that the pallid shiner is "on the verge of extinction" in Illinois and that the Kankakee River population is the only large population remaining in the state. Based on this information, any losses of pallid shiner to impingement at Braidwood could result in a decreased ability for the Illinois population to survive and reproduce."

Further, page 4-48 explains potential impacts to the river redhorse as:

"If the [river redhorse] species' status changes during the proposed license renewal term, impingement at Braidwood could contribute more significantly to endangering the Illinois population's continued existence."

Catostomids (sucker family, including redhorse spp.) appear to have decreased alarmingly from the 1980's to present in monitoring samples taken in the vicinity of the Braidwood intake and discharge (pages 3-58 & 3-62). The Department has not observed a similar decline in other parts of the Kankakee River. The Braidwood station came online in the late 1980's and the decline in catostomids could be correlated to impingement, entrainment, and thermal discharge from the facility. The Department recommends this issue be investigated further and mitigation measures adopted if correlations exist to the facilities operations.

No entrainment or impingement studies have been conducted at the cooling pond intake (page 4-40). Older records exist in the cooling pond for pallid shiner (1989) and river redhorse (1999). However, according to the Department's Fisheries Division, these species have not been collected during routine samples of the cooling pond in recent years. These species may have been impinged or entrained in the past and some risk may still exist as individuals are entrained from the Kankakee River intake and established in the cooling pond.

Older records for western sand darter (1992, *Ammocrypta clarum*) also exist in the project area. An ITA was secured for this species in 2009 when Braidwood installed a discharge diffuser in the Kankakee River. Some risk of mortality may exist for this species as a result of entrainment and impingement. Exelon Generation Company, LLC. should evaluate potential impacts to the western sand darter and consider ITA. The Department recommends Exelon Generation Company, LLC. apply for ITA for the pallid shiner and river redhorse for the reasons stated above. Please direct all matters pertaining to ITA to Jenny Skufca (Jenny.Skufca@illinois.gov) with the Department's Office of Resource Conservation.

Additionally, the catadromous American eel (*Anguilla rostrata*) was recently approved by the Illinois Endangered Species Protection Board to be added as a state-threatened species. This change will take affect once published in the Illinois Register. This species is known to be vulnerable to impingement and entrainment. Exelon Generation Company, LLC. should evaluate potential impacts to this species and consider ITA.

Mussels

Recent records exist in the Kankakee River near the intake for the state and federally-endangered sheepsnose mussel (2008, *Plethobasus cyphus*), as well as state-threatened black sandshell

(2010, *Ligumia recta*), spike (2008, *Elliptio dilatata*), and purple wartyback (2010, *Cyclonaias tuberculata*). The Department notes that ITA was granted to Exelon Generation Company, LLC. for these four mussel species in 2009 for the construction of the discharge diffuser in the Kankakee River.

The only known host for sheepnose glochidia is the sauger (*Stizostedion canadense*). Glochidia hosts for the black sandhell include bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), sauger, and white crappie (*Pomoxis annularis*). Glochidia hosts for the spike mussel include gizzard shad (*Dorosoma cepedianum*), flathead catfish (*Pylodictis olivaris*), white crappie, black crappie (*P. nigromaculatus*), and yellow perch (*Perca flavescens*). Glochidia hosts for the purple wartyback include channel catfish (*Ictalurus punctatus*), yellow bullhead (*Ameiurus natalis*), flathead catfish, and black bullhead (*A. melas*).

When comparing the glochidia hosts information to data collected from all three impingement studies (pages 4-40 through 4-50), fishes which serve as glochidia host to black sandshell, spike, and purple wartyback mussels were known to be impinged at the Kankakee River intake. These fishes were also collected in Kankakee River monitoring samples from 2009 through 2013 (pages 3-59 through 3-61). Therefore, individuals of these mussel species are likely being taken as a result of host mortality. It appears no saugers were collected in previous impingement studies or the recent Kankakee River samples. However, due to records of this mussel species in the vicinity, the host fish must also be present and subject to certain impingement risks. The Department recommends Exelon Generation Company, LLC. apply for ITA for the sheepnose, black sandshell, spike, and purple wartyback mussels for the reasons stated above.

Mentioned on page 3-65 is:

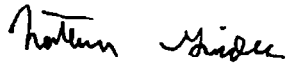
"[Mussel] species abundance, however, appears to be lower in the vicinity of Braidwood than in other regions of the Kankakee River... HDR (2008) indicates that the lower species abundance near Braidwood is likely the result of unsuitable or marginal habitat."

The Department is concerned that the lower mussel species abundance, as mentioned above, may be directly correlated to the operation of the Braidwood facility. The Department recommends this issue be investigated further and mitigation measures adopted if correlations exist to the facilities operations.

Amphibians

Recent records also occur near the Kankakee River intake for the state-threatened mudpuppy (2012, *Necturus maculosus*). It unclear if this species is subject to impingement and entrainment risks at the Kankakee River intake. Exelon Generation Company, LLC. should evaluate potential impacts to this species and consider ITA.

The Department looks forward to further coordination on this issue. Please contact me if you have any questions regarding this review.

A handwritten signature in black ink, appearing to read "Nathan Grider".

Nathan Grider
Impact Assessment Section
217-785-5500

cc: Jenny Skufca – IDNR, ORC
Shawn Cirton – USFWS
Elizabeth Poole - USEPA