



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001**

**RECORD OF DECISION  
U.S. NUCLEAR REGULATORY COMMISSION  
DOCKET NOS. 50-456 AND 50-457  
LICENSE RENEWAL APPLICATION FOR  
BRAIDWOOD STATION, UNITS 1 AND 2**

**BACKGROUND:**

The U.S. Nuclear Regulatory Commission (NRC or Commission) received an application, dated May 29, 2013, from Exelon Generation Company, LLC (Exelon), filed pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (AEA), and Title 10 of the *Code of Federal Regulation* (CFR) Parts 51 and 54, to renew the operating licenses for the Braidwood Station, Units 1 and 2 (Braidwood). Renewal of the license would authorize the applicant to operate Braidwood for an additional 20 year period beyond that specified in the respective current operating licenses.

Braidwood is a two-unit, nuclear-powered steam electric generating facility located in Will County, Illinois that began commercial operation in July 1988 (Unit 1) and October 1988 (Unit 2). The nuclear reactor for each unit is a Westinghouse pressurized-water reactor (PWR), producing a reactor core rated thermal power of 3,586 megawatts thermal. The nuclear steam supply system at Braidwood is a four-loop Westinghouse PWR. The reactor core heats water, which is pumped to four steam generators where the heat boils the water on the shell-side into steam that is routed to the turbines. The steam turns the turbines, which are connected to the electrical generator. The Unit 1 steam generators were replaced in 1998. The Unit 2 steam generators have not been replaced. Braidwood uses a closed-cycle cooling system that includes an artificial cooling pond for heat dissipation. In this type of closed-cycle system, the cooling pond serves as the primary source of water to cool plant condensers and other system components as well as the primary receiving body for excess heat, which is dissipated through mixing and evaporation. Water that is not lost to evaporation is either recirculated through the system as cooling water or discharged as blowdown (i.e., water that is periodically removed from the cooling pond to avoid the buildup of dissolved solids and other impurities that may degrade plant performance) to a secondary receiving water body. Water lost to evaporation or discharged as blowdown must be replaced; this water is referred to as makeup water.

Section 102 of the National Environmental Policy Act of 1969, as amended (NEPA), directs that a detailed statement be prepared for major Federal actions significantly affecting the quality of the human environment. By Commission policy, the NRC prepares an environmental impact statement (EIS) for all LRAs, regardless of the action's environmental impact significance (10 CFR 51.20(b)(2)). The NRC's major Federal action is to decide whether to renew the Braidwood operating licenses for an additional 20 years. The NRC published NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants" (GEIS), in accordance with 10 CFR 51.95(c). The GEIS documents the results of a systematic approach to evaluate the environmental consequences of renewing the operating licenses of nuclear power plants for an additional 20 years.

The GEIS serves to facilitate NRC's environmental review process by identifying and evaluating environmental impacts that are considered generic (Category 1) issues common to all nuclear power plants. The NRC addresses plant-specific (Category 2) issues in a supplemental environmental impact statement (SEIS) to the GEIS. Generic (Category 1) issues will be reconsidered in a SEIS only if there is new and significant information that would change the conclusions in the GEIS.

A standard of significance was established for each NEPA issue evaluated in the GEIS or a SEIS based on the Council on Environmental Quality (CEQ) terminology for "significantly" (see 40 CFR 1508.27). Since the significance and severity of an impact can vary with the setting of the proposed action, both "context" and "intensity," as defined in CEQ regulations 40 CFR 1508.27, were considered. Context is the geographic, biophysical, and social context in which the effects will occur. In the case of license renewal, the context is the environment surrounding the nuclear power plant. Intensity refers to the severity of the impact in whatever context it occurs. Based on this, the NRC established three levels of significance for potential impacts are SMALL, MODERATE, and LARGE, as defined below.

SMALL: Environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource.

MODERATE: Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.

LARGE: Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

The NRC accepted Exelon's application, which included an Environmental Report (ER), and published a *Federal Register* notice on July 24, 2013. (78 FR 44603). Consistent with 10 CFR Part 51, on July 31, 2013, the NRC published a notice (78 FR 46379) of intent to prepare an environmental impact statement (EIS) and to conduct the scoping process. The NRC staff held two public scoping meetings on August 21, 2013, in Will County, Illinois. The comments received during the scoping period are presented in their entirety in "Environmental Impact Statement Scoping Process, Summary Report, Braidwood Station, Units 1 and 2, Will County," published in 2014 (ADAMS Accession No. ML13337A503). In order to independently verify information provided in the ER, the NRC staff conducted a site audit at Braidwood in November 2013. During the site audit, the staff met with plant personnel, reviewed specific documentation, toured the facility, and met with interested Federal, State, and local agencies. A summary of that site audit and the attendees is contained in the Audit Summary Report, published in December 2013 (ADAMS Accession No. ML13318A238).

The NRC issued a draft site-specific SEIS for the Braidwood license renewal for public comment on March 18, 2015 (ADAMS Accession No. ML14351A455). The U.S. Environmental Protection Agency published a Notice of Availability of the filing of the draft SEIS on March 27, 2015 (Federal Register/Vol. 80, No. 59), thus commencing the 45-day comment period on the draft SEIS. This allowed members of the public and Federal and State agencies an opportunity to comment on the NRC's environmental review. On April 21, 2015, the NRC conducted two public meetings in Braidwood, Illinois, to describe the draft results of the environmental review, respond to questions, and accept public comments. The NRC issued the final SEIS for the Braidwood license renewal on November 12, 2015 (ADAMS Accession No. ML15314A814).

The final SEIS documents NRC's conclusions regarding the potential impacts of Braidwood's license renewal for all plant-specific (Category 2) issues identified in the GEIS. All comments

received during the scoping period and the draft SEIS comment period are addressed in Appendix A of the SEIS. The NRC staff did not identify any new and significant information related to Category 1 issues that would call into question the conclusions reached in the GEIS on these generic issues. These conclusions are supported by the NRC staff's review of the applicant's ER and other documentation relevant to Exelon's activities at Braidwood, consideration of comments received during scoping and the public comment period on the draft SEIS, consultation with Federal, State, and local agencies, and the environmental site audit conducted by NRC staff.

Pursuant to 10 CFR 51.102(b) and 51.103(a)(1)-(5), the NRC staff has prepared this record of decision (ROD) to document its action on the Braidwood LRA. In accordance with 10 CFR 51.103(c), this ROD incorporates by reference the material contained in the final SEIS.

#### DECISION:

The NRC decides to approve an LRA based on whether the applicant has demonstrated that the environmental and safety requirements in the agency's regulations will be met during the period of extended operation. The results of the NRC's safety review of the Braidwood LRA are documented in the NRC's safety evaluation report (ADAMS Accession No. ML15182A051). By letter dated September 21, 2015, the Advisory Committee of Reactor Safeguards (ACRS) notified the Commission of its recommendation to approve the application for renewal of Braidwood's operating license (ADAMS Accession No. ML15264A955).

This ROD and the final SEIS, which are incorporated by reference herein, document the NRC's decision for the environmental review that the adverse environmental impacts of license renewal for Braidwood are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable. See 10 CFR 51.103(a)(5). Under its renewed licenses, Exelon is authorized to continue operating Braidwood, Units 1 and 2, for an additional 20 years beyond the expiration of the current operating licenses, as requested in the LRA.

#### PURPOSE AND NEED:

As identified in Section 1.2, "Purpose and Need for the Proposed Action," of the final SEIS, the purpose and need for the proposed action (issuance of renewed licenses) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by energy-planning decisionmakers, such as State, utility, and, where authorized, Federal agencies (other than NRC). This definition of purpose and need reflects the Commission's recognition that, unless there are findings in the safety review required by the AEA or findings in the NEPA environmental analysis that would lead the NRC to reject a LRA, the NRC does not have a role in the energy-planning decisions as to whether a particular nuclear power plant should continue to operate.

A renewed license is just one of a number of conditions that licensees must meet to operate its nuclear plant during the license renewal term. State regulators, system operators, the licensee (Exelon), and other agencies ultimately decide whether Braidwood will continue to operate based on factors such as the need for power or other factors within the State's jurisdiction or owner's control. Economic considerations play a primary role in this decision.

## NRC EVALUATION OF ALTERNATIVES:

In license renewal environmental reviews, the NRC considers the environmental consequences of the proposed action, the no-action alternative (i.e., not renewing the operating license), and the environmental consequences of various alternatives for replacing the nuclear power plant's generating capacity. Section 102(2)(C)(iii) of NEPA and NRC regulations require the consideration of alternatives to the proposed action in the EIS. In this case, the proposed action is issuing renewed licenses for the continued operation of Braidwood, which would allow the plant to operate for 20 years beyond the current expiration dates of its licenses. Chapter 2 of the SEIS, "Alternatives Including the Proposed Action," presents alternatives to the proposed action (license renewal) that were considered in detail and those alternatives that were eliminated from detailed study. Chapter 4 of the SEIS, "Environmental Consequences and Mitigating Actions," compares the impacts of renewing the Braidwood operating licenses and continued plant operations to the environmental impacts of alternatives. The evaluation considered environmental impacts of each alternative across the following impact areas: land use and visual resources, air quality and noise, geologic environment, surface water use and quality, groundwater use and quality, terrestrial ecology, aquatic ecology, special status species and habitats, historic and cultural resources, socioeconomics, human health, environmental justice, and waste management.

In evaluating alternatives to license renewal, the NRC considered energy technologies in commercial operation, as well as technologies not in commercial operation but likely to become commercially available by the time the current Braidwood operating licenses expire. The current operating licenses for Braidwood, Units 1 and 2, will expire on October 17, 2026, and December 18, 2027, respectively, and, therefore, reasonable power alternatives must be available (i.e., constructed, permitted, and connected to the grid) by the time the current Braidwood licenses expire to be considered in this evaluation.

The NRC staff initially considered 17 alternatives; 12 of these were eliminated from detailed study because of existing technical, resource availability, or commercial limitations. These limitations are likely to continue when the Braidwood operating licenses expire, rendering these alternatives not feasible or commercially viable. The no-action alternative (i.e., not renewing the Braidwood operating licenses) was also considered. Alternatives considered, but eliminated from detailed study were as follows:

- energy conservation and energy efficiency,
- solar power,
- wind power,
- biomass power,
- hydroelectric power,
- wave and ocean energy,
- fuel cells,
- delayed retirement,
- geothermal power,
- municipal solid waste,
- petroleum, and
- supercritical pulverized coal.

The basis for the elimination of each alternative is explained in Chapter 2 of the final SEIS.

The five remaining alternatives were analyzed in detail in the final SEIS. Replacement power alternatives were:

- new nuclear alternative
- integrated gasification combined cycle (IGCC) coal alternative
- natural gas combined-cycle (NGCC) alternative
- combination alternative (NGCC, wind, solar)
- purchased power alternative

Impacts of each replacement power alternative are summarized in Table 2-2 of the final SEIS.

#### ALTERNATIVE EVALUATION:

##### *i. No-Action Alternative*

Under the no-action alternative, the NRC would not renew the Braidwood operating licenses and the licenses would expire at the end of the current license term. The environmental consequences of this alternative are the impacts from the termination of nuclear power plant operations and the impacts of a range of energy sources that might be used if a nuclear power plant operating license were not renewed Braidwood would then cease operations at or before the end of the current license term. After shut down, the licensee would begin the decommissioning process in accordance with 10 CFR 50.82.

Assuming that there is a need for the electric power generated by Braidwood, the no-action alternative would create a situation where energy planning decisionmakers (not NRC) would have to choose an alternative to replace the electric power previously provided by Braidwood. These alternatives could include energy conservation, purchased power, or some combination of measures to offset the loss and replace the electric power previously provided by Braidwood. The environmental review includes a comparison of the environmental impacts of license renewal with impacts of the range of energy sources that may be chosen in the case of not renewing the Braidwood operating licenses.

##### *ii. Alternative Energy Sources*

This section summarizes the impact analysis of five replacement power alternatives considered in detail in the final SEIS.

#### New Nuclear

For the new nuclear alternative, the NRC staff assumes that two new nuclear reactors would be installed on an existing nuclear or coal power plant site, allowing for the maximum use of existing ancillary facilities at those locations, such as support buildings and transmission infrastructure. In 1987, Illinois enacted a moratorium preventing the construction of new nuclear power plants within the State. Until the moratorium is lifted, a new nuclear alternative would require siting elsewhere in the region of influence (ROI) within the States of Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, or Wisconsin. For the purposes of this analysis, the NRC relied on the Vogtle Electric Generating Plant (Vogtle), Units 3 and 4 combined operating license (COL) EIS for technological parameters for the new nuclear alternative because the Vogtle, Units 3 and 4 COL considers two new nuclear reactor units with similar output as Braidwood and is representative of the reactors that could be constructed in the ROI before

Braidwood's licenses expire. As such, the NRC staff assumed two Westinghouse AP1000 reactors with a net electrical output of 2,240 megawatts electrical (MWe) would replace Braidwood's current reactors for this alternative. The NRC staff estimated that 324 acres (ac) (131 hectares (ha)) of land would be required on a long-term basis for permanent facilities, and an additional 232 ac (94 ha) would be disturbed for temporary facilities, a laydown area, and storage of dredge material.

### IGCC

For the IGCC alternative, the NRC staff considered four IGCC units, each with a net capacity of 618 MWe. Various coal sources are available to coal-fired power plants in the ROI. For the purpose of this evaluation, the NRC staff assumes that the IGCC alternative would burn a subbituminous coal, based on the type of coal used in electric plants in Illinois. The IGCC units would reduce sulfur dioxide, nitrogen oxides, mercury, and particulate emissions by removing constituents from the syngas. In addition, the units would be designed with the potential to add carbon capture systems at a later date. The IGCC alternative would be located at an existing site (such as an existing power plant site) to maximize availability of infrastructure and reduce other environmental impacts. Depending on the specific site location, there might be a need to construct new intake and discharge facilities and a new cooling system. The IGCC alternative would use about the same amount of water as Braidwood. The NRC staff assumes the cooling system would use a closed-cycle system with mechanical draft cooling towers. This system would withdraw 25 million gallons per day (mgd) (95 million liters per day (Lpd)) of water and consume 20 mgd (76 million Lpd). Onsite visible structures could include the boilers, exhaust stacks, intake/discharge structures, mechanical draft cooling towers, transmission lines, and an electrical switchyard. The site would require approximately 2,000 ac (800 ha) for the major permanent facilities and 1,000 ac (450 ha) per year for mining. Construction materials would be delivered via rail spur, truck, or barge, or all three depending on the specific site location. Modifications may be required to deliver such materials; modifications could include new rail lines or access roads.

### NGCC

For the NGCC alternative, the NRC staff considered five NGCC units, each with a net capacity of 560 MWe. The NRC staff assumes that each plant configuration consists of two combustion turbine generators, two heat recovery steam generators, and one steam turbine generator with mechanical draft cooling towers for heat rejection. To minimize the plant's nitrogen oxide emissions, the power plant incorporates a selective catalytic reduction system. This 2,800 MWe NGCC plant would consume 124 billion cubic feet (3,500 million cubic meters (m<sup>3</sup>)) of natural gas annually, assuming an average heat content of 1,021 British thermal units per cubic foot. Natural gas would be extracted from the ground through wells, then treated to remove impurities and blended to meet pipeline gas standards before being piped through the regional pipeline system to the plant site. This NGCC alternative would produce relatively little waste, primarily in the form of spent catalysts used for control of nitrogen oxide emissions. The NGCC alternative would be located at an existing power plant site to maximize availability of infrastructure and reduce other environmental impacts. Depending on the specific site location, there might be a need to construct new intake and discharge facilities and a new cooling system. This system would withdraw 17 mgd of water (64 million Lpd) and consume 13 mgd (49 million Lpd). The NRC staff assumes the cooling system would use a closed-cycle system with mechanical-draft cooling towers. Onsite visible structures could include the cooling towers, exhaust stacks, intake/discharge structures, transmission lines, natural gas pipelines, and an electrical

switchyard. The site would require approximately 94 ac (38 ha) for the plant, including pipelines, and 10,080 ac (4,079 ha) for gas extraction and collection. Construction materials would be delivered via rail spur, truck, or barge, or all three depending on the specific site location.

#### Combination (NGCC, wind, solar)

For the combination alternative (NGCC, wind, solar), the NRC staff assumed that one new NGCC unit of the type previously described would be constructed and installed at an existing power plant site with a total net capacity of approximately 360 MWe. The appearance of an NGCC unit would be similar to that of the full NGCC alternative although only one unit would be constructed. The NRC staff assumed that the NGCC portion of this alternative, which is assumed to be located at an existing power plant site, would use existing electrical switchyards, substations, and transmission lines. Depending on the existing site conditions, it is possible that intake and discharge structures of the existing cooling system could continue in service, but would be connected to a new closed-cycle cooling system. Cooling water would be 15% of that required for NGCC alternative. For the purposes of this analysis, the NRC staff assumes that the NGCC portion of the combination would use mechanical draft cooling towers. Land use would remain the same as for the NGCC alternative at 94 ac (38 ha).

For the wind portion of the combination alternative, the NRC staff assumed that the wind-generated power from this combination alternative would come from land-based wind farms which would be located in the ROI within the States of Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, or Wisconsin. The NRC staff assumed a capacity factor of 30 percent, resulting in an estimated total net capacity of 1,813 MWe. Wind turbines must be well-separated from each other to avoid interferences to wind flowing through the wind farm, resulting in wind farms requiring substantial amounts of land. Wind turbines may require as much as 1 to 3 ac (0.4 to 1.2 ha) of land for each turbine. Based on the size of the turbines and amount of land required between each turbine, approximately 3,376 turbines and 3,376 to 10,127 ac (1,366 to 4,098 ha) would be required for the wind portion of the combination alternative. Wind energy systems do not require water for cooling purposes, but a small amount of water is needed for turbine maintenance and for potable water for the workforce.

For the solar portion of the combination alternative, the NRC staff assumes solar photovoltaic facilities with a capacity factor of 19 percent and would require approximately 7,397 ac (2,993 ha) to support an installed net capacity of 227 MWe. In this analysis, the NRC staff does not speculate on the number and size of individual solar facilities, nor their locations within the ROI. Solar photovoltaic systems do not require water for cooling purposes, but a small amount of water is needed to clean the panels and for potable water for the workforce.

#### Purchase Power

Purchased power would likely come from the most common types of electricity generation within the ROI: coal, natural gas, nuclear, and wind. Purchased power may require new transmission lines (which may require new construction). Purchased power also may rely on older and less-efficient power plants operating at higher capacities than they currently operate or new facilities that would be constructed. During operations, impacts from nuclear, coal-fired, and natural gas-fired plants, wind, and solar energy projects would be similar to those described under the new nuclear, coal, natural gas, and combination alternatives.

*iii. Summary*

The environmental impacts of license renewal and alternatives to license renewal, including other methods of power generation, and not renewing the Braidwood operating licenses (the no-action alternative) were evaluated in the final SEIS. The NRC staff concluded that the continued operation of Braidwood during the license renewal term would have SMALL environmental impacts for all resource areas except for aquatic resources which is SMALL to MODERATE. The NRC staff also concluded that the environmental impacts of renewal of the operating license for Braidwood would be smaller than those of replacement power alternatives. In addition, the staff concluded that, under the no-action alternative, the act of shutting down Braidwood would have SMALL impacts. A summary of the environmental impacts associated with the license renewal and alternatives, by resource areas, is provided in the table below.

**Summary of Environmental Impacts of Proposed Action and Alternatives**

<b>Alternative</b>	<b>Air Quality</b>	<b>Noise</b>	<b>Groundwater and Surface Water Resources</b>	<b>Aquatic Resources</b>	<b>Terrestrial Resources</b>	<b>Human Health</b>	<b>Environmental Justice</b>	<b>Land Use</b>	<b>Visual Resources</b>	<b>Socioeconomics</b>	<b>Transportation</b>	<b>Historic and Cultural Resources</b>	<b>Waste Management</b>
Braidwood License Renewal	SMALL	SMALL	SMALL	SMALL to MODERATE	SMALL	SMALL	SEE NOTE <sup>(b)</sup>	SMALL	SMALL	SMALL	SMALL	NA <sup>(a)</sup>	SMALL
New nuclear at an existing site	SMALL	SMALL	SMALL to MODERATE	SMALL	SMALL to MODERATE	SMALL	SEE NOTE <sup>(b)</sup>	SMALL	SMALL to MODERATE	SMALL to LARGE	SMALL to LARGE	SMALL	SMALL
NGCC at an existing site	MODERATE	SMALL	SMALL	SMALL to MODERATE	SMALL to MODERATE	SMALL	SEE NOTE <sup>(b)</sup>	SMALL	SMALL to MODERATE	SMALL to LARGE	SMALL to LARGE	SMALL	SMALL
IGCC at an existing site	MODERATE	SMALL to MODERATE	SMALL	SMALL to MODERATE	MODERATE	SMALL	SEE NOTE <sup>(b)</sup>	SMALL to MODERATE	SMALL to MODERATE	SMALL to LARGE	SMALL to LARGE	SMALL	SMALL to MODERATE
Combination alternative (NGCC, Wind, and Solar)	SMALL to MODERATE	SMALL to MODERATE	SMALL	SMALL	SMALL to MODERATE	SMALL	SEE NOTE <sup>(b)</sup>	SMALL to MODERATE	SMALL to LARGE	SMALL	SMALL to MODERATE	SMALL to LARGE	SMALL
Purchased power alternative	SMALL to MODERATE	SMALL to MODERATE	SMALL	SMALL	SMALL	SMALL	SEE NOTE <sup>(b)</sup>	SMALL	SMALL	SMALL to LARGE	SMALL to LARGE	SMALL to LARGE	SMALL to MODERATE
No-action alternative	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SEE NOTE <sup>(b)</sup>	SMALL to MODERATE	SMALL	SMALL to LARGE	SMALL	SMALL to LARGE	SMALL

<sup>(a)</sup>The NRC staff concludes that there would be no adverse effect on historic and cultural resources for license renewal alternatives.

<sup>(b)</sup>Except for No-Action alternative, there are no disproportionately high and adverse human health and environmental effects on minority and low-income populations. The No-Action alternative could disproportionately affect minority and low-income populations.

### MITIGATION MEASURES:

The NRC has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the proposed action (license renewal). Continued operation of Braidwood would have SMALL environmental impacts in all resources areas except aquatic which was SMALL to MODERATE. While the NRC is not requiring any mitigation measures for the continued operation of Braidwood, the National Pollutant Discharge Elimination System (NPDES) permits do impose effluent limitations and monitoring requirements as well as best management practices to ensure that the impacts to water quality and aquatic life are minimal. Mitigation of adverse impacts associated with the issue has been considered in the analysis, and it has been determined that additional plant-specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation. The NRC is not imposing any license conditions involving mitigation measures. Additionally, the NRC is not requiring any new environmental monitoring programs outside what is required for the NPDES permits.

### CONSULTATIONS:

Along with its NEPA review, the final SEIS for Braidwood, included a biological assessment of species and habitats protected under the Endangered Species Act of 1973, as amended (ESA). In the final SEIS, the NRC staff determined that the proposed license renewal would have no effect on seven threatened and endangered animals and plants, a proposed threatened species and a candidate species. The NRC staff also determined that the proposed license renewal may affect, but is not likely to adversely affect the endangered sheepsnout mussel. All of these species are under the jurisdiction of the U.S. Fish and Wildlife Service (FWS).

In a comment letter dated May 8, 2015, (ADAMS Accession No. ML15131A004), the FWS noted that after NRC published the draft SEIS, the status of northern long-eared bat had changed from proposed to threaten. In September 2015, after NRC published the draft SEIS and after FWS's comment letter, the FWS proposed the eastern massasauga rattlesnake as a threatened species. The final SEIS incorporates the changed status of these two species. The May 8, 2015 FWS also stated that "[i]f no tree clearing is proposed as part of the proposed action, the applicant should make a "no effect" determination for northern long-eared bat. By letter dated to the FWS and the NRC staff, Exelon stated that it does not expect tree clearing to be a recurring activity at the Braidwood site. However, Exelon stated that if tree clearing were to be needed, work orders for tree clearing will "include guidance to minimize effects on northern long-eared bats, such as restricting tree removal activities to months when bats would not be present" and Exelon would inform both the NRC and the FWS. Based on this additional information, the NRC staff changed its finding from "may, but not likely to adversely affect" in the draft SEIS to "no effect" in the final SEIS.

The May 8, 2015 FWS letter also stated that FWS could not concur with the NRC's finding that the project would not adversely affect sheepsnout mussel due to a lack of recent survey information in the project area and because other potential hosts for the species were not considered as part of the impact determination. NRC updated the information on host species for sheepsnout in the final SEIS. On September 29, 2015 (ADAMS Accession No. ML15274A093), Exelon sent the FWS and NRC a final mussel survey report, providing information on the distribution of mussels in the Illinois River near Braidwood in fall 2015.

By letter dated October 20, 2015 (ADAMS Accession No. ML15299A013), the FWS concurred with NRC's determinations and concluded the informal consultation. The FWS stated that its concurrence with NRC's "no effect" determination for northern long-eared bat is contingent upon no tree-clearing activity being associated with the license renewal. With the conclusion of consultation, the NRC considers its obligations under ESA section 7 for the proposed license renewal of Braidwood to be fulfilled.

DETERMINATION:

Based on the NRC staff's independent review, analysis, and evaluation contained in the license renewal final SEIS; careful consideration of all the identified social, economic, and environmental factors, as well as input received from other agencies, organizations and the public; and the consideration of mitigation measures outlined above, the NRC has determined that the standards for the issuance of a renewed operating license, as described in 10 CFR 54.29 have been met and the requirements of Section 102 of NEPA have been satisfied.

APPROVED BY:

*/RA/*

Christopher G. Miller, Director  
Division of License Renewal  
Office of Nuclear Reactor Regulation

By letter dated October 20, 2015 (ADAMS Accession No. ML15299A013) the FWS concurred with NRC's determinations and concluded the informal consultation. The FWS stated its concurrence with NRC's "no effect" determination for northern long-eared bat is contingent on no tree-clearing activity being associated with the license renewal. With the conclusion of consultation, the NRC considers its obligations under ESA section 7 for the proposed license renewal of Braidwood to be fulfilled

DETERMINATION:

Based on the NRC staff's independent review, analysis, and evaluation contained in the license renewal final SEIS; careful consideration of all the identified social, economic, and environmental factors, as well as input received from other agencies, organizations and the public; and the consideration of mitigation measures outlined above, the NRC has determined that the standards for the issuance of a renewed operating license, as described in 10 CFR 54.29 have been met and the requirements of Section 102 of NEPA have been satisfied.

APPROVED BY:

*/RA/*

Christopher G. Miller, Director  
Division of License Renewal  
Office of Nuclear Reactor Regulation

ADAMS Accession No.: ML15322A317

\*concurred via email

<b>OFFICE</b>	LA:RPB2:DLR	PM"RPB2:DLR	BC:RPB2:DLR	BC:RERB:DLR
<b>NAME</b>	IBetts	RBaum	JDanna	DWrona
<b>DATE</b>	12/ 1 /2015	11/30/2015	12/10/2015	12/7/2015
<b>OFFICE</b>	PM:RPB1:DLR	BC:RPB1:DLR	OGC	D:DLR
<b>NAME</b>	LJames	YDiaz-Sanabria (LJames for)	MYoung	CMiller
<b>DATE</b>	1/7/2016	1/7/2016	01/04/2016	1/27/2016

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