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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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LaSalle County Station, Units 1 and 2
Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Subject: Response to Request for Additional Environmental Information Regarding Request to Revise Ultimate Heat Sink Temperature Limits

References:

1) Letter from D. M. Gullott (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "Request for a License Amendment to LaSalle County Station, Units 1 and 2, Technical Specification 3.7.3, 'Ultimate Heat Sink,'" dated July 12, 2012

2) Letter from D. M. Gullott (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "Response to Request for Additional Information Related to License Amendment Request to Technical Specification 3.7.3, 'Ultimate Heat Sink (UHS),'" dated October 4, 2013

3) Letter from B. Purnell (U. S. Nuclear Regulatory Commission) to M. J. Pacilio (Exelon Generation Company, LLC), "LaSalle County Station, Units 1 and 2 – Request for Additional Environmental Information Regarding Request to Revise Ultimate Heat Sink Temperature Limits (TAC Nos. ME9076 and ME9077)," dated December 16, 2014

In Reference 1, Exelon Generation Company, LLC, (EGC) requested an amendment to the Technical Specifications (TS) of Facility Operating License Nos. NPF-11 and NPF-18 for LaSalle County Station, Units 1 and 2 (LSCS). The proposed amendment would modify TS 3.7.3, "Ultimate Heat Sink (UHS)," by changing the maximum allowable temperature of the UHS from a fixed limit of 101.25 °F to allow the TS temperature limit of the cooling water supplied to the plant from the UHS to vary with the observed diurnal cycle. EGC supplemented Reference 1 with a letter dated October 4, 2013 (Reference 2).

In Reference 3, the U. S. Nuclear Regulatory Commission (NRC) requested additional environmental information to support its review of the proposed amendment. Attachments 1 and 2 provide the requested information.

The additional information provided in this submittal does not affect the finding of no significant hazards consideration that was previously provided to the NRC in Attachment 2 of Reference 2.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), a copy of this letter and its attachments are being provided to the designated State of Illinois official.

There are no regulatory commitments contained in this submittal.

Should you have any questions concerning this letter, please contact Ms. Lisa A. Simpson at (630) 657-2815.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 23rd day of January 2015.

Respectfully,

David M. Gullott
Manager – Licensing
Exelon Generation Company, LLC

Attachments:

1) Response to Request for Additional Information
2) Excerpts from LaSalle License Renewal Application Environmental Report

cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector, LaSalle County Station
Illinois Emergency Management Agency – Division of Nuclear Safety

ATTACHMENT 1
Response to Request for Additional Information

By letter to the U. S. Nuclear Regulatory Commission (NRC) dated July 12, 2012, Exelon Generation Company, LLC, (EGC) requested an amendment to the Technical Specifications (TS) of Facility Operating License Nos. NPF-11 and NPF-18 for LaSalle County Station, Units 1 and 2 (LSCS). The proposed amendment would modify TS 3.7.3, "Ultimate Heat Sink (UHS)," by changing the maximum allowable temperature of the UHS from a fixed limit of 101.25 °F to allow the TS temperature limit of the cooling water supplied to the plant from the UHS to vary with the observed diurnal cycle. In a letter dated December 16, 2014, the NRC requested additional environmental information to support its review of the proposed amendment.

NRC RAI 1:

Describe the potential changes in effluent, such as temperature, to be discharged into the cooling lake, cooling pond, and the Illinois River if the amendment is approved.

EGC Response to NRC RAI 1:

The proposed amendment would modify LSCS TS 3.7.3, "Ultimate Heat Sink (UHS)," by changing the maximum allowable temperature of the UHS from a fixed limit of 101.25 °F to allow the TS temperature limit of the cooling water supplied to the plant from the UHS to vary with the observed diurnal cycle. Approval of the proposed TS amendment could result in slight temperature increases to the cooling pond (sometimes referred to as cooling lake) during extreme weather conditions. However, LSCS will continue to administratively control cooling pond discharge to the Illinois River in accordance with the current National Pollutant Discharge Elimination System (NPDES) permit requirements. The proposed TS amendment would not result in higher temperature water being discharged to the Illinois River.

NPDES Permit No. IL0048151 authorizes releases to the LSCS cooling pond of wastewater streams as well as condenser cooling water, and the cooling pond blowdown is subject to wastewater discharge limitations specified in the NPDES permit. Accordingly, the cooling pond is defined as a wastewater "treatment works" (35 IAC 301.415), and as such it is excepted from the definition of "waters of the state" (35 IAC 301.440) as well as the definition of "waters of the United States" under the federal Clean Water Act (40 CFR 230.3(s)). As a result, the water inventory within the cooling pond is not subject to state water quality standards.

LSCS has adopted an Extreme Heat Implementation Plan (i.e., LSCS procedure EN-LA-402-0005), which provides specific procedural guidance to plant personnel. This plan recognizes that under worst-case summer weather conditions, EGC may need to operate the plant at less than its rated maximum power output or take other operational actions necessary to maintain compliance with the LSCS NPDES permit requirements for thermal discharge to the river and to protect plant equipment. EGC does not expect the proposed TS amendment to affect the ability to comply with the thermal limits of the NPDES permit.

ATTACHMENT 1
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NRC RAI 2:

Clarify whether a change to the current National Pollutant Discharge Elimination System (NPDES) permit would be required if the amendment is approved. Provide any thermal studies or other documentation to support whether a change in the current NPDES permit would be required.

EGC Response to NRC RAI 2:

As was discussed in response to NRC RAI 1, LSCS has adopted an Extreme Heat Implementation Plan to manage the effects of unusual atmospheric conditions on plant effluent temperatures. Because this plan will remain in effect, EGC does not expect the proposed TS amendment to affect the ability to comply with the thermal limits of the NPDES permit. Approval of the proposed TS amendment could result in slight cooling pond temperature increases during extreme weather conditions. However, LSCS will continue to administratively control cooling pond discharge to the Illinois River in accordance with the current NPDES permit requirements. Therefore, the proposed TS amendment would not result in higher temperature water being discharged to the Illinois River, and no revision to the current NPDES permit would be required.

NRC RAI 3:

Describe the aquatic resources, including Federally-listed and State-listed species, within the cooling lake, cooling pond, and near the discharge structure in the Illinois River. Also describe migratory bird species that use the cooling pond during their migrations.

EGC Response to NRC RAI 3:

EGC License Renewal Application (LRA), "Application for Renewed Operating Licenses," for LSCS, Units 1 and 2, was submitted to the NRC on December 9, 2014. EGC prepared an Environmental Report (ER) in conjunction with the LRA.

The sections of the LRA Environmental Report that address NRC RAI 3 are provided in the following table:

Information Requested	LRA ER Section(s)	LRA ER Page #	Notes
Aquatic resources... near the discharge structure in the Illinois River	3.7.1.5	3-53 through 3-57	Aquatic Communities – Illinois River, Marseilles Pool and LSCS Vicinity
	4.6.1.1	4-28	Aquatic Resources
Aquatic resources... within cooling lake	3.7.1.5	3-58 through 3-60	Aquatic Communities – LSCS Cooling Pond
	4.6.1.1	4-28	Aquatic Resources

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Information Requested	LRA ER Section(s)	LRA ER Page #	Notes
Federally-listed and State-listed species within the cooling pond and near discharge structure in the Illinois River	3.7.1.7 Appendix D	3-60 through 3-61 D-1 through D-15	Special Status Aquatic Species Special Status Species Correspondence
Migratory bird species that use the cooling pond during their migrations	3.7.2	3-64 through 3-65	Terrestrial and Wetland Communities

The applicable pages of the LRA Environmental Report are provided in Attachment 2.

NRC RAI 4:

Describe whether the potential for fish kills in the cooling lake, cooling pond, or the Illinois River might increase if the amendment is approved. If the potential for fish kills might increase, provide an overview of any recent fish kills, including where and when the fish kills occurred and the approximate number and species of fish that were killed.

EGC Response to NRC RAI 4:

As was discussed in response to NRC RAI 2, approval of the proposed TS amendment would not affect the ability to comply with the thermal limits of the NPDES permit, and the thermal plume area in the river would not increase. Accordingly, the potential for fish kills in the Illinois River would not increase if the proposed TS amendment is approved.

Since 2001, LSCS has had four reportable fish kills (i.e., in 2001, 2005, 2009, and 2010) in the cooling pond and one small, unreported event (i.e., approximately 100 shad) in 2002 (Reference ADAMS Accession Nos. ML012330070, ML052200481, ML092040381, and ML102371289). The largest event was in 2001, when approximately 95,000 fish were killed. As a result, the Extreme Heat Implementation Plan was developed.

As was discussed in response to NRC RAI 1, the LSCS cooling pond is defined as a wastewater treatment works. For this reason, no assessments of the potential for thermal effects on fish resources within the cooling pond (sometimes referred to as cooling lake) have been made. Nevertheless, the LSCS Extreme Heat Implementation Plan anticipates potential fish kills in the cooling pond under the same unusual atmospheric conditions that the proposed TS amendment is intended to address, and it prescribes communication with the Illinois Department of Natural Resources (IDNR). In addition, EGC and IDNR meet annually to discuss cooling pond and land management activities at LSCS. The meetings include a review of fishery management and fish stocking activities at the LSCS cooling pond. With respect to fishery management, the meeting minutes document a transition to thermally-tolerant fish species.

ATTACHMENT 2

Excerpts from LaSalle License Renewal Application Environmental Report

29 pages follow

In its most recent Sports Fish Consumption Advisory (IDPH 2013a), the Illinois Department of Public Health recommended that anglers who fish in the upper Illinois River (from its headwaters to the Marseilles Dam) restrict their ingestion/intake of four fish species (Table 3.7.1-1).

There is also a statewide methylmercury advisory (for all waters) that cautions against sensitive populations (young children and women of childbearing age) eating more than one meal per week of "predator fish" (e.g., black bass, striped bass, white bass, pike, walleye), as these piscivorous species tend to bioconcentrate mercury (IDPH 2013a).

3.7.1.5 Aquatic Communities

Illinois River

The Illinois Natural History Survey (INHS) has monitored fish populations of the Illinois River since 1957, employing the sampling method (electrofishing) that is generally regarded as the least biased and performing sampling in late summer to minimize the confounding effects of high or fluctuating river levels (Lerczak, et.al 1994; Lerczak 1996). To facilitate between-year and between-river section comparisons, the river was divided into three sections or reaches, based on the amount of "non-channel" habitat (i.e., sloughs, backwaters, and floodplain lakes) present: Upper (from RM 273 to RM 231), Middle (RM 231 to RM 80), and Lower (RM 80 to confluence with Mississippi River). The LSCS discharge is at RM 249.4, placing it in the Upper Illinois River study section. The Upper River section is characterized by a relatively narrow river valley and relatively steep gradient, and has very little backwater habitat. The Middle River section is wider and has the most backwater habitat. The Lower River was historically the widest portion of the river and had extensive backwater habitats, but has had its floodplain separated from the main river channel by levees.

Lerczak et al. (1994) (Lerczak, et.al 1994) presents results of the first 37 years (1957 to 1993) of INHS fish population monitoring, but samples were collected in only 29 of 37 years. In some years, water levels and water temperatures did not meet specified criteria and sampling was either not conducted at all or was discontinued due to rising river levels or too-low water temperatures (Lerczak, et.al 1994).

Lerczak et al. (1994) (Lerczak, et.al 1994) examined the relative abundance of centrarchids, regarded as indicators of good water quality, and carp and goldfish, regarded as indicators of poor water quality. In the Lower River, there was a slight upward trend (and considerable variability) in catch rates of centrarchids from 1962-1992 and a steady downward trend in catches of carp (Lerczak, et.al 1994). Goldfish and carp-goldfish hybrids were collected in only two years, 1974 and 1991, and in small numbers. In the Middle River, no statistically significant trends were evident with respect to centrarchids, but catches of carp and carp-goldfish hybrids showed an obvious downward trend between 1962 and 1992 (Lerczak, et.al 1994). In the Upper Illinois River, which includes the Marseilles Pool, there was a clear-cut upward trend in catches of centrarchids from 1962-1992 and a corresponding decline in catches of carp, goldfish, and carp-goldfish hybrids (Lerczak, et.al 1994).

Lerczak et al. (1994) (Lerczak, et.al 1994) noted that, independent of substantial improvements in Illinois River water quality over the thirty-plus years of INHS monitoring, there has been habitat degradation, especially in lower and middle river reaches, caused by soil erosion and sedimentation. The effect of water quality improvements on fish populations in the Upper River, in particular, was obvious. Centrarchids made up 0 to 0.68 percent of all fish collected annually over the 1962-1966 period, and 8.65 to 15.01 percent of all fish collected over the 1989-1993 period (Lerczak, et.al 1994). Carp, on the other hand, made up 11.60 to 28.66 percent of all fish

collected annually from 1962-1966 and 3.93 to 7.62 percent of fish collected from 1989-1993 (Lerczak, et.al 1994).

In addition to the shift to less pollution-tolerant groups of fish, the INHS researchers observed statistically significant decreases in external abnormalities (i.e., lesions and ectoparasites) in "water-column fishes" (species that prefer deeper water to the shallows or bottom sediments) in all river reaches, a change they attributed to "improvements in water quality...which occurred over the same time period" (Lerczak, et. al 1994). No such change was observed in sediment-dwelling fish species, possibly indicating that pollutants in sediment were more toxic or more persistent.

Lerczak (1996) (Lerczak 1996) summarized results of 39 years (1957-1995) of INHS fish population monitoring in the Illinois River, emphasizing differences between the 1960s and 1990s. In the lower Illinois River, a relatively small number of species (11) dominated catches in both the 1960s and the 1990s, but the 1990s saw an increase in desirable species (e.g., bluegill) and a corresponding decrease in pollution-tolerant species (e.g., common carp) (Lerczak 1996). In the middle and upper river reaches, species diversity increased and desirable species generally increased in abundance. Bluegill catch rate in the upper river was less the one fish per hour in the 1960s but averaged 12 fish per hour in the 1990s. Lerczak (1996) (Lerczak 1996) observed that "the most noteworthy changes have occurred in the upper river, historically the most degraded segment due to its nearness to Chicago area pollution sources."

Lerczak (Lerczak 1996) attributed these changes in fish communities to improved water quality (especially higher DO concentrations) stemming from pollution control efforts associated with the Clean Water Act and various state initiatives. While bringing improved and modernized sewage treatment and industrial waste treatment systems on line clearly reduced organic and toxic inputs to the river system, and many indicators of water quality showed substantial improvements between the 1960s and 1990s, siltation continued to be a significant problem. The 1980s and 1990s also saw the appearance of more and more invasive species, creating a whole new set of challenges for native fish species. McClelland et al., (McClelland, et al. 2012) updated the INHS Long Term Monitoring Program (1957-2009) findings in light of continuing water quality improvement and the increasing prevalence of non-native fish species in the river. While Lerczak (Lerczak, et. al 1994; Lerczak 1996) examined the fish communities of upper, middle, and lower reaches of the river, McClelland et al. (McClelland, et al. 2012) chose to group the same sampling stations into only two reaches, upper and lower. He did so based on the fact that the stream gradient is higher and the substrate rockier from the headwaters to the "Big Bend" area at Hennepin (RM 208) while the river below Hennepin is characterized by lower stream gradients, a wider flood plain, and generally softer substrates.

McClelland et al. (McClelland, et al. 2012) noted that river-wide, native fish species richness increased significantly from 1957 to 2009 (McClelland, et al. 2012). Native species richness increased more rapidly in the upper river (one new species every 3 years) than in the lower river (one new species every 5 years). Four darters, two topminnows, three dace, and one centrarchid were added to the INHS's Illinois River collections between 1985 and 2009. Native fish species abundance (catch per unit of effort) decreased from 1957 until 1976 in the lower Illinois River, and increased thereafter. Native fish abundance decreased from 1957 until 1978 in the upper river, and increased thereafter (McClelland, et al. 2012).

With regard to species assemblages, the change over the 50-plus-year period has been striking (see Table 3.7.1-2). Between 1957 and 1969, 13 fish species were routinely collected (comprised 90 percent or more of total catch), while between 1990 and 2009, 17 species were routinely collected (comprised 90 percent or more of catch). Relative abundance of desirable,

recreationally important species (e.g., channel catfish, bluegill, largemouth bass, and smallmouth bass) has increased throughout the sampled reaches of the river, while relative abundance of less desirable species (e.g., common carp and goldfish) has decreased.

McClelland et al. (McClelland, et al. 2012) attribute these changes in fish community structure in the Illinois River to rehabilitation efforts in the basin. They note that watershed improvements have allowed centrarchids in particular to flourish, especially in parts of the upper river where aquatic vegetation has returned.

Marseilles Pool and LSCS Vicinity

The Final Environmental Statement for LaSalle County Station characterized the water quality of the Marseilles Pool of the Illinois River as "characteristic of a river recovering from upstream pollution" (NRC 1978). Although Illinois River water quality had begun to improve, construction and pre-operational monitoring (1974-1976) in the vicinity of the LSCS intake and discharge showed a predominance of hardy, pollution-tolerant biota. Benthic macroinvertebrate samples consisted primarily of oligochaetes and chironomids (NRC 1978), both pollution-tolerant groups that are associated with degraded water quality. Likewise, fish samples were dominated by hardy, pollution-tolerant species such as emerald shiner, gizzard shad, carp, and bluntnose minnow. Species richness was slightly higher downstream than upstream of the LSCS intake and discharge (NRC 1978). Fish coefficients of condition (condition factors) were low, whereas parasite loads were high. The FES concluded that:

> "The low species abundance and diversity, low condition factors, and the degree of external parasitism...in this area of the Illinois River are indicative of a poor aquatic environment. Barge traffic, habitat alternation, and heavy pollution loads have contributed significantly to the poor water quality of this stretch of the river, which only supports major populations of pollution-tolerant fish." (NRC 1978)

The Illinois Natural History Survey's Long Term Monitoring Program encompasses stations along the entire length of the Illinois River, including three in the Marseilles Pool. Two of these stations --- Waupecan Island and Johnson Island --- are upstream of the LSCS intake, and one, Ballard Island, is a short distance downstream of the LSCS discharge. To support the discussion in this environmental report, the INHS provided Exelon Generation with 1993-2012 fish monitoring results for these three stations (Fritts 2013). Changes in fish populations at these monitoring locations over the 20-year period generally mirrored those seen elsewhere in the river, with recreationally important species such as bluegill and largemouth bass (Centrarchidae family) becoming relatively more abundant and less-desirable species such as carp and goldfish becoming less abundant. These trends were evident whether the monitoring location was up- or downstream of the LSCS intake and discharge, suggesting that the plant has little or no impact on fish populations in the Marseilles Pool. Figures 3.7.1-1, 3.7.1-2, and 3.7.1-3 show relative abundance of centrarchids and carp/goldfish at the three Marseilles Pool monitoring locations between 1993 and 2012.

August 2013 Marseilles Pool Sampling Results

Exelon commissioned EA Engineering, Science, and Technology (EA) to survey benthos and fish in August 2013 at several Marseilles Pool sampling stations that were used in the 1970s for LSCS baseline (pre-construction and pre-operational) surveys. Fish were collected using a boat-mounted electrofishing unit and a beach seine. Benthic macroinvertebrates were collected using Hester-Dendy (artificial substrate) samplers and Ponar grab sampler ("dredge"). Results from the limited 2013 surveys were compared to surveys conducted in the 1970s ("pre-operational") and in 1999 ("operational").

Results from the Illinois Natural History Surveys' indicate that pre-operational (1974-1978) and operational (1999) fish assemblages were generally similar, comprised of common forage species (e.g., emerald shiner, spotfin shiner, and gizzard shad), rough fish (species that are not highly regarded by recreational anglers) species (e.g., smallmouth buffalo, freshwater drum, and common carp), and game species (e.g., channel catfish, largemouth bass, and smallmouth bass) (EA 2014). The same species dominated the most recent collecting event, albeit with slightly lower species richness, but the difference can be attributed to the reduced sampling intensity in 2013 (EA 2014). No state or federally listed fish species was collected in pre-operational or operational studies (EA 2014).

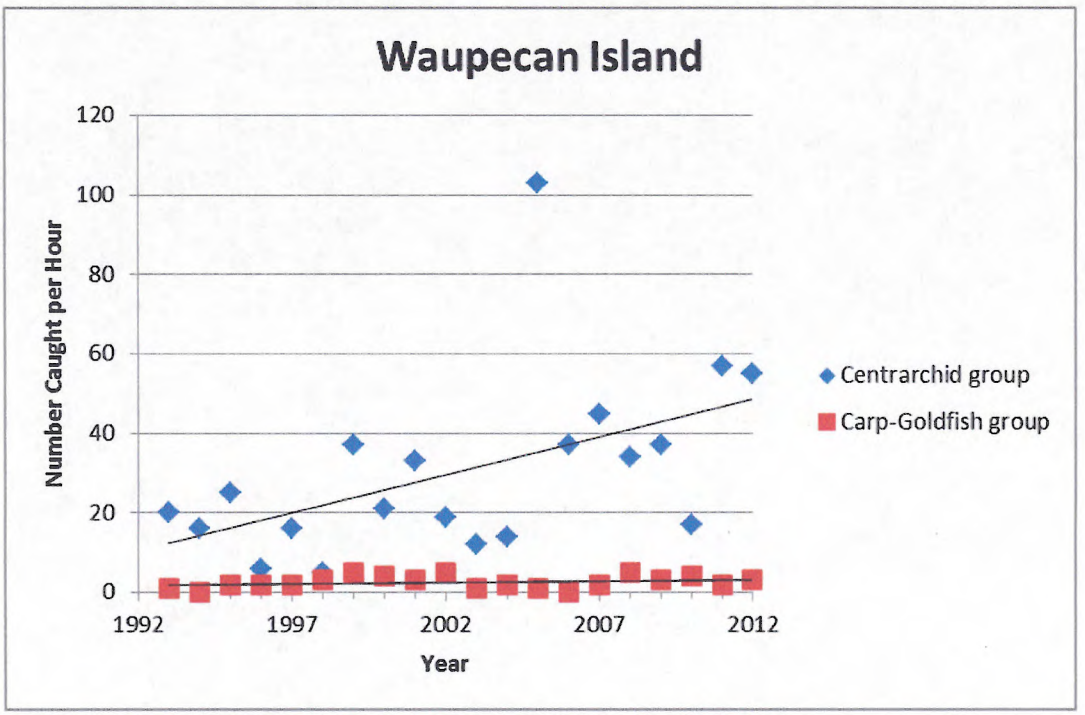

Figure 3.7-1 Waupecan Island Fish Collections, 1993-2012

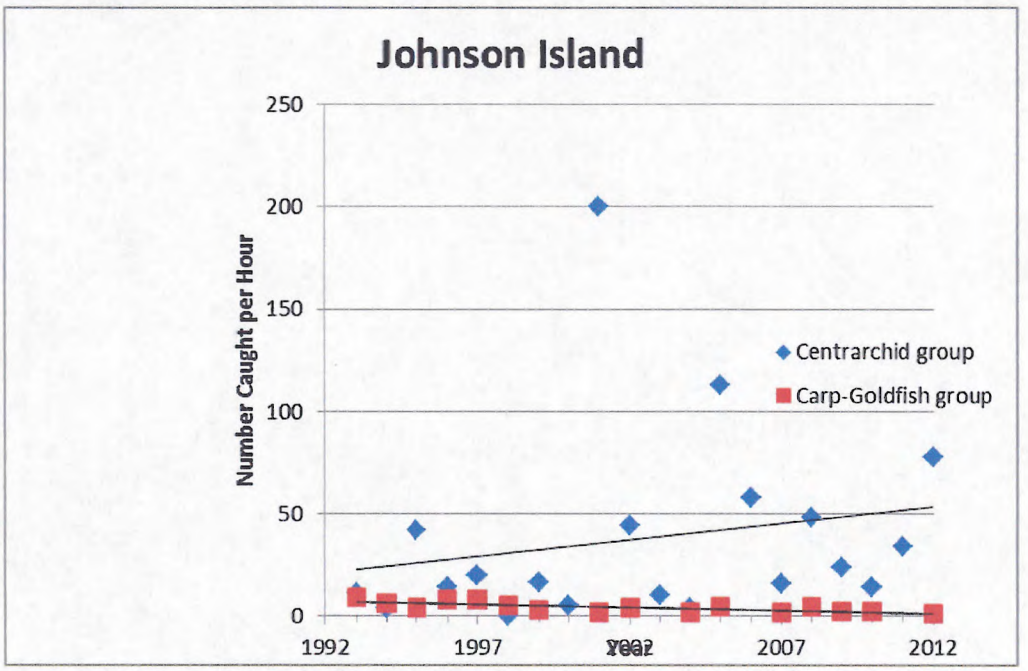

Figure 3.7-2 Johnson Island Fish Collections, 1993-2012

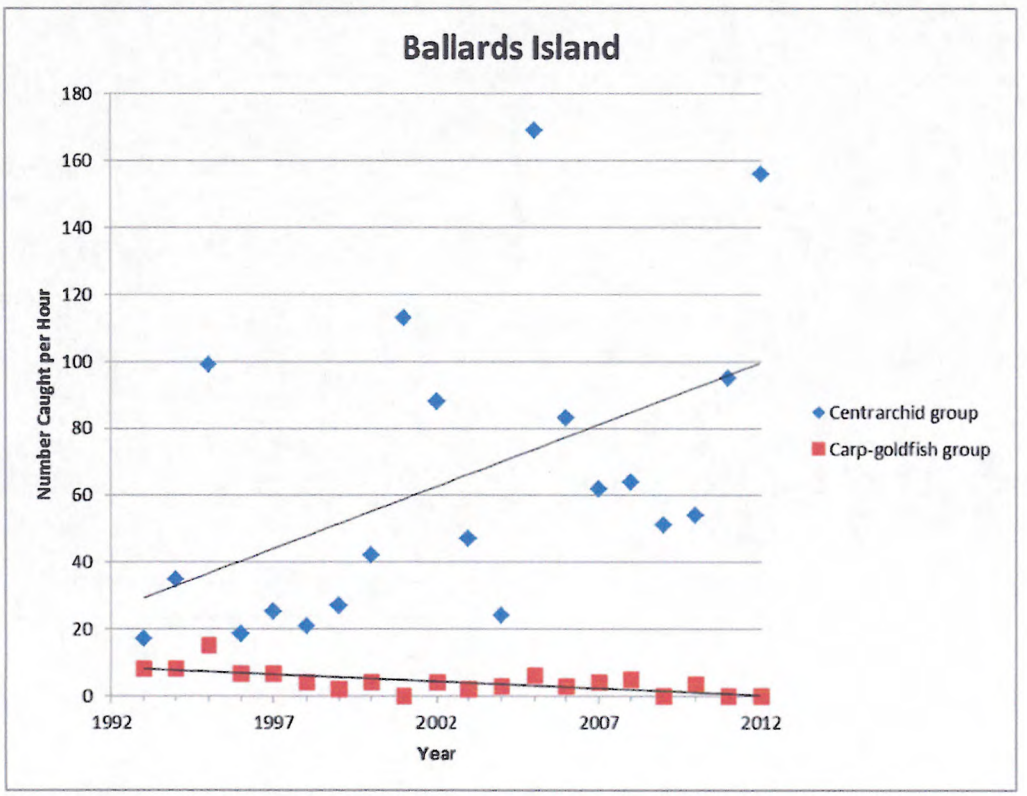

Figure 3.7-3 Ballards Island Fish Collection, 1993-2012

4.6 Ecological Resources

4.6.1 General Approach for Information and Analysis Content for All Ecological Issues

4.6.1.1 Aquatic Resources

Exelon Generation used reports and summaries published by the Illinois Natural History Survey (INHS) to provide a historical perspective and as a source to describe changes in the Illinois River since the 1950s. The INHS began systematically monitoring fish populations of the entire Illinois River in 1957, with the goal of detecting possible anthropogenic changes, and continues to do so today. Lerczak summarized the first 37 years of the INHS's Illinois River fish monitoring in a 1994 project completion report (Lerczak, et. al 1994) and a 1996 article (Lerczak 1996) offered commentary on how the increase in abundance of desirable species reflected improved water quality in the basin.

To characterize the aquatic communities of the Marseilles Pool, from which LSCS withdraws cooling pond makeup water, and to which it discharges cooling pond blowdown, Exelon Generation reviewed results of monitoring studies described in the Environmental Report - Operating Stage (ComEd 1977) and summarized in the NRC's FES for operation (NRC 1978). These included baseline (pre-construction) monitoring of plankton, benthos, and fish in 1972-1973 and construction-phase monitoring of these same groups in 1974, 1975, and 1976. These baseline and construction-phase monitoring studies extended from RM 249.7, upstream of the intake location, to RM 248.7, downstream of the discharge (blowdown) location. This reach of the river encompassed the mouth of South Kickapoo Creek, which was also surveyed.

To update this information and attempt to identify changes in fish populations following construction and operation of LSCS, Exelon Generation sought the assistance of the INHS's Illinois River Biological Station, in Havana, Illinois. The Station staff provided 20 years (1993-2012) of electrofishing data for three monitoring stations in the Marseilles Pool, two upstream (Waupecan Island, Johnson Island) and one downstream (Ballards Island) of the LSCS discharge/blowdown. Examining "normalized" trends in electrofishing catches (catch per unit of effort) at these stations made it possible for Exelon Generation to make conclusions relative to the status of important fish populations and draw inferences about potential intake and discharge impacts.

As Section 2.2.3 indicates, the LSCS cooling pond is a wastewater treatment works (35 IAC 301.415), and as such it is excepted from the definition of "waters of the state" (35 IAC 301.440) as well as the definition of "waters of the United States" under the federal Clean Water Act (40 CFR 230.3(s)). As a result, assessment of aquatic resources in the cooling pond is not required, and no studies of such effects have been performed.

4.6.1.2 Terrestrial Resources

For this environmental report, Exelon Generation used the Environmental Report, Operating License Stage (ComEd 1977) to characterize the terrestrial communities of the LSCS property in the 1970s, before the plant was built. Plant and animal inventories conducted in 2007 in support of the LaSalle County Generating Station Wildlife Management Plan (Exelon Generation 2013b) provided updated information on these communities and on initiatives Exelon Generation has undertaken to restore and enhance native tallgrass prairie on the site and habitat for grassland birds. For threatened and endangered species, Exelon Generation relied on the websites of Illinois DNR and the U.S. Fish and Wildlife Service, Midwest Region, and in particular the two agencies' county lists of special-status species. The impact

LSCS Cooling Pond

In the LSCS Final Environmental Statement for operation, the NRC staff suggested several factors (basin configuration, predicted high nutrient loading rates and high temperatures, likely introduction of undesirable fish species) that could be detrimental to the establishment of a successful fishery in the LSCS cooling pond (NRC 1978). Nevertheless, the cooling pond has developed into a highly successful recreational fishery featuring largemouth bass, white and hybrid bass, and catfish (channel and blue). Smallmouth bass, generally regarded as a "cool-water species" are often caught in spring. When water temperatures are highest, in late summer, most of the fishing effort is directed towards catfish.

The LSCS cooling pond, which is generally open to the public from mid-March until mid-October, provides anglers in north-central Illinois with opportunities to pursue a variety of sport fish, including channel catfish, blue catfish, sunfish (bluegill and redear), largemouth bass, smallmouth bass, and hybrid bass. The impoundment has been actively managed by Illinois DNR since 1986. Management activities include regular electrofishing surveys designed to determine population/age structure of important recreational species, evaluations of fish condition (length-weight relationships), assessments of forage fish abundance, periodic creel surveys to determine angler preferences and success rates, and an aggressive fish stocking program to compensate for the generally low levels of natural reproduction/recruitment in the impoundment. All fish stocked into the impoundment come from the LaSalle Fish Hatchery, which is on land leased by Illinois DNR from Exelon Generation on the southwest shore of the LSCS cooling pond (see Figure 2.2-1).

The LaSalle Fish Hatchery has been operated by IDNR since 1994 (DNR 2014). It was previously operated by Southern Illinois University–Carbondale as a research facility. The LaSalle Hatchery consists of 16 rearing ponds which total 35.5 acres of water. This hatchery currently rears six species for stocking into Illinois public waters. Both cool- and warm-water species are raised. Artificial and natural spawning methods are used. Cool-water species are stocked as either "fry" (newly hatched less than 2.5 cm [1 in] long) or "fingerlings" (2.5 cm [1 in] to 15 cm [6 in] fish), while warm water species are only stocked as fingerlings (DNR 2014).

EA Engineering, Science and Technology (2002) (EA 2002) described the evolution of the LSCS cooling pond fish community and provided an assessment of its recreational and forage fish populations (as observed in 2001). After the cooling pond was filled with water pumped from the Illinois River in 1978, it was stocked with largemouth bass and bluegill. When the LaSalle fish hatchery became operational in 1981, Southern Illinois University biologists experimented with stocking smallmouth bass, walleye, muskellunge, and hybrid striped bass. The experiment indicated that the pond was not well-suited for walleye and muskellunge and their stocking was discontinued in 1987 and 1988, respectively.

The cooling pond was opened to the public in 1986 after all stakeholders and regulatory agencies were satisfied that thermally-enriched waters of the pond could support a successful recreational fishery and did not represent a public health risk. Recreational activities including boating, sailing, and fishing were deemed acceptable, while swimming and water skiing were not. The cooling pond quickly became a popular destination for fishermen. In 1994, the emphasis at the LaSalle fish hatchery shifted from fisheries research to fisheries management, and operation of the hatchery was transferred from Southern Illinois University to IDNR.

Between 1997 and 2001, more than 800,000 fingerlings were stocked in the cooling pond, including 241,283 largemouth bass, 111,288 smallmouth bass, 138,574 blue catfish, 267,676 bluegill, 25,361 crappie, and 39,464 striped bass hybrids (EA 2002). These stockings reflected the move away from cool-water species to the warm-water species more likely to flourish in the

cooling pond. Hybrid striped bass and blue catfish were considered ideal species for the cooling pond because of their tolerance for higher water temperatures and the expectation that they would be effective in controlling shad, and gizzard shad in particular.

As of 2001, largemouth bass in the cooling pond were plentiful (based on catch per unit effort; CPUE) and in good condition (based on high relative weight values), but the scarcity of spawning and rearing habitat meant that recruitment rates were low (EA 2002). Therefore the population was being maintained by the IDNR stocking program.

Smallmouth bass numbers were lower in 2001 than in previous years, but other indicators (relative weight and Proportional Stock Density) suggested that the overall condition of fish was improving and more catchable fish and "quality" fish were present (EA 2002).

Like smallmouth bass, catch-per-unit-effort for bluegill was lower in 2001 than in previous years, but other metrics (relative weight, Proportional Stock Density, and Relative Stock Density) were indicative of a healthy population (EA 2002).

Channel catfish abundance (as indicated by catch-per-unit-effort) and Proportional Stock Density values were generally higher in 2001 than in previous years, while condition (relative weight) varied little between 1997 and 2001 (EA 2002). In January 2002, blue catfish that had been stocked as fingerlings in the fall of 1999 began to appear in catches as 4.5 to 9 kilogram (kg) (10 to 20 pound [lb]) fish.

Since 2001, LSCS has had four reportable fish kills (in 2001, 2005, 2009 and 2010) in the cooling pond, and one small, unreported (approximately 100 shad) event in 2002. The largest event was in 2001, when approximately 95,000 fish were killed. As a result the Extreme Heat Implementation Plan was developed and is used to manage the cooling pond during extreme summer temperatures.

Exelon Generation and IDNR staffs meet annually to discuss cooling pond and land management activities at three Exelon nuclear plants, one of which is LSCS. The meeting minutes constitute a review of fishery management and fish stocking activities at the LSCS cooling pond. With respect to fishery management, the minutes document the transition to thermally-tolerant fish species which provide excellent recreational fishing opportunities while also controlling shad (and to an unknown extent, the invasive freshwater clam *Corbicula*) in the cooling pond. Fish stockings in recent years reflect this management emphasis, with more than a million blue catfish, bluegill, redear sunfish, smallmouth bass, largemouth bass, and hybrid striped bass fingerlings added to the impoundment between 2008 and 2012 (Table 3.7.1-3). Smallmouth bass, normally categorized as a cool-water species, can thrive in cooling ponds provided there are thermal refuges to which they can retreat in summer and provided populations are maintained by regular stockings. Smallmouth bass in the LSCS cooling pond do not appear to be thermally stressed, and meeting minutes document that they were in good condition (body weight relative to length) in 2011 and 2012 despite unusually high water temperatures.

Annual Exelon Generation and IDNR staff meeting minutes state that fish surveys in 2011 and 2012 indicated a flourishing bluegill population, with very high catch rates in the eastern portion of the cooling pond. Although fewer large largemouth bass were observed, "good numbers" of young-of-the-year and yearling fish were collected, suggesting that the population is stable, and could expand in the future. Smallmouth bass were abundant in the eastern portion of the cooling pond, and body condition of these fish was higher than in previous years. Channel catfish catch rates were lower in 2011 and 2012, but their body condition was improved. Threadfin shad densities were lower in 2011 than in previous years, but rebounded in 2012.

Gizzard shad densities were "about the same" in 2012, but body condition was higher than in earlier years.

IDNR biologists conduct special blue catfish surveys in the fall, as the blue catfish is perhaps the most-sought-after species in the cooling pond. Anglers regularly report catching blue catfish in excess of 23 kilograms (50 pounds). A creel survey in 2007 revealed that blue catfish were extremely popular among anglers and ranked first, by weight, in harvest. An estimated 14,500 kg (32,000 lb) of blue catfish were landed by anglers in 2007, twice the weight of any other species.

3.7.1.6 Invasive/Non-native Species

Non-native species such as the common carp and goldfish have been a part of the Illinois River fish community for many years, and are generally associated with degraded water quality. Both species are hardy, tolerant of low DO and high turbidity. These were the dominant non-native species in INHS collections between 1957 and 1985 (McClelland, et al. 2012). Non-native species richness increased significantly between 1985 and 2009, however (McClelland, et al. 2012). Seven non-native taxa were added to the species list after 1985: hybrid striped bass (*Morone saxatilis* x *Morone chrysops*), grass carp (*Ctenopharyngodon idella*), bighead carp (*Hypophthalmycthys nobilis*), silver carp (*Hypophthalmycthys molitrix*), round goby (*Neogobius melanostomus*), white perch (*Morone americana*), and the white perch-yellow bass hybrid (*M. americana* x *M. mississippiensis*) (McClelland, et al. 2012). In the upper river, non-native species richness increased significantly between 1957 and 2009. Abundance of non-native fish species declined from 1957 to 2000 in both the lower and upper river, then increased significantly. Bighead carp and silver carp were first collected by the INHS in 1995 and 1998, respectively, in the LaGrange Reach, well downstream of LSCS. Since 2000, population growth of these carp in the LaGrange Reach has been exponential (McClelland, et al. 2012).

Bryozoans are a phylum of common aquatic invertebrates that exist in large sessile colonies which can cause the biofouling of underwater piping systems, including the cooling systems of power plants. In 1996 bryozoans were discovered at the lake screen house, and treated with continuous chlorination which apparently killed the colony. In 2010 the bryozoan *Plumatella reticulata* was discovered in the Unit 1 cooling water system and unidentified bryozoans were found at the river screen house and in the cooling pond (HDR Engineering 2011). Since then bryozoan colonies are routinely found at both the river intake and the cooling lake (HDR Engineering 2012, HDR Engineering 2013, HDR Engineering 2014). Bryozoans are managed with biocides.

Zebra mussels are native to the Black and Caspian Seas, and have invaded Europe and North America. They were first discovered in North America in the Great Lakes in 1988, and since then have spread throughout North America's large river systems. They occur in densities high enough to clog water intakes. Exelon Generation began monitoring for zebra mussels in 1990, and has documented zebra mussel colonization at the LSCS intake structure and in the cooling reservoir since that time (see for example HDR Engineering 2010, HDR Engineering 2011, HDR Engineering 2012, HDR Engineering 2013, HDR Engineering 2014). Zebra mussels are managed with biocides but Exelon Generation has procedures for removing them manually should it become necessary. LSCS also monitors for Corbicula, however, none have been found at either the river screenhouse or the lake.

3.7.1.7 Special Status Aquatic Species

Both the Environmental Report – Operating License Stage (ComEd 1977) and the FES for LSCS (NRC 1978) observed that the aquatic communities of the Illinois River in the vicinity of the LaSalle County Station intake and discharge structures were dominated by pollution-tolerant

species, reflecting poor water quality in this reach of the river. The FES noted that "there are no records, either old or recent, of any rare or endangered fishes in this stretch of the Illinois River" (NRC 1978).

However, the improved water quality and restoration efforts discussed earlier in this section have resulted in an increase in abundance of sensitive, pollution-intolerant species. Several darter and dace species, the blackstripe topminnow (*Fundulus notatus*) and the state-listed banded killifish (*F. diaphanus*) have appeared in INHS collections over the last 10 to 15 years (McClelland, et al. 2012). The banded killifish normally occurs in shallows of glacial lakes and in clear, sandy streams with weedy margins. Locally common in New England, Minnesota, Wisconsin, and Michigan, the species is rare in Illinois, found mostly in clear lakes in Lake and Cook counties. According to Illinois DNR records, banded killifish were collected in the Illinois River immediately upstream of its confluence with the Vermillion River between 2000 and 2010 (IDNR 2012a).

The Illinois Natural Heritage Database for LaSalle County has two state-listed mussels and three-state listed fish (IDNR 2012b), but does not provide locations. U.S. Fish and Wildlife Service's (USFWS) Midwest Region website indicates no federally listed aquatic species occur in LaSalle County (USFWS 2012).

Table 3.7.1-3 LSCS Cooling Pond Fish Stockings, 2008-2012

Species	Size Range in cm (in)	2008	2009	2010	2011	2012	Totals (annual avg)
Blue catfish	8 – 15 (3 - 6 in)	18,560	34,452	19,800	23,368	---	96,180 (19,236)
Bluegill	2.5 – 8 (1 - 3 in)	55,466	11,740	84,661	364,731	73,681	590,279 (118,056)
Redear sunfish	2.5 – 8 (1- 3 in)	34,151	---	4,830	4,830	---	43,811 (8,762)
Largemouth bass	2.5 – 15 (1 - 6 in)	66,395	51,207	50,434	30,470	84,166	282,672 (56,534)
Smallmouth bass	8 – 13 (3 - 5 in)	25,365	21,155	21,118	22,733	20,683	111,054 (22,211)
Hybrid bass	2.5 – 13 (1 - 5 in)	80,889	68,404	41,284	52,642	---	243,219 (48,644)
TOTAL		280,826	186,958	222,127	498,774	178,530	1,367,215 (273,443)

3.7.2 Terrestrial and Wetland Communities

Most of the LSCS property is used for generating facilities, support/maintenance facilities, roads and parking lots, the ISFSI, the switchyard, landscaped areas, and the cooling pond. Terrestrial communities include forest, scrub-shrub, grassland, old-fields, and wetlands.

The National Wetlands Inventory (NWI) wetlands mapper identifies the cooling pond, the intake and discharge canals, and the north and south storm water detention ponds west of the power block as diked/impounded lacustrine (lake or deep water) systems (USFWS 2013). The "diked/impounded" designation indicates that the area has "been created or modified by a man-made barrier or dam which obstructs the inflow or outflow of water" (USFWS 2013). Areas along the periphery of these water bodies have emergent vegetation and soil types that lead to a classification of man-made wetlands. The invasive common reed (*Phragmites australis*) is established in parts of the cooling pond, particularly along its western edge. In 2007 Exelon Generation began an eradication program using mechanical harvesting and aquatic-safe herbicides (Exelon Generation 2013b).

An open grassy area between the cooling pond and the power block, is bounded on the north by the discharge canal and on the south by the property boundary. This area and another, smaller area southwest of the power block, have a few scattered trees but are otherwise open and dominated by grasses. Approximately 4 ha (10 ac) in the area west of the cooling pond is actively managed as native prairie in partnership with Pheasants Forever (a habitat conservation organization) (Exelon Generation 2013b).

Almost all of the grassy area is uplands, with a few excavated isolated wetlands (USFWS 2013). These man-made wetlands are a remnant of the site's agricultural past (Exelon Generation 2013b). Three small excavated wetlands are about 1.4 km (0.9 mi) north of the discharge canal (USFWS 2013).

The makeup and blowdown pipeline corridor extends north from the cooling pond to the Illinois River within an irregular-shaped property boundary (Figure 2.2-1). This portion of the property supports upland habitats such as scrub-shrub, forest, grassland, and old-fields, and scattered wetlands. Most of the corridor is upland; common tree species in upland forests and scrub-shrub habitats include white oak (*Quercus alba*), red oak (*Q. rubra*), shagbark hickory (*Carya ovata*), sugar maple (*Acer saccharum*), hop hornbeam (*Ostrya virginiana*), hawthorn (*Crataegus spp.*), black cherry (*Prunus serotina*), and American elm (*Ulmus americana*) (ComEd 1977).

The corridor widens considerably as it approaches the Illinois River (Figure 2.2-1), and includes several wetlands. A few of the wetlands are excavated ponds (USFWS 2013). Palustrine (marsh) emergent and palustrine forested wetlands occur on the LSCS property near the river (USFWS 2013). Common tree species in these forested wetlands are American elm, black cherry, white oak, red oak, black oak (*Q. velutina*), shagbark hickory, bitternut hickory (*C. cordiformis*), hackberry (*Celtis occidentalis*), elm (*Ulmus* spp.), willow (Salix spp.), and sycamore (*Platanus occidentalis*) (ComEd 1977). The emergent wetlands are characterized by herbaceous vegetation such as cattail (*Typha* spp.) and horsetail (*Equisetum* spp.) (ComEd 1977).

Wildlife species at LSCS are typical of similar habitats in northeastern Illinois. Twenty-nine mammal species were recorded in baseline surveys conducted in the 1970s (ComEd 1977). Mammals frequently observed during the baseline surveys included the white-tailed deer (*Odocoileus virginianus*), cottontail rabbit (*Sylvilagus floridanus*), and opossum (*Didelphis virginiana*). The white-footed mouse (*Peromyscus leucopus*) and deer mouse (*P. maniculatus*) were the mammals most commonly trapped during the baseline surveys (ComEd 1977). Mammals commonly observed in recent years on site include the white-tailed deer, opossum, coyote (*Canis latrans*), beaver (*Castor canadensis*), groundhog (*Marmota monax*), and gray squirrel (*Sciurus carolinensis*) (Exelon Generation 2013b).

During baseline surveys in the 1970s, 120 bird species representing migrants and residents were recorded on or near LSCS (ComEd 1977). Common resident species included the horned lark (*Eremophila alpestris*), mourning dove (*Zenaidura macroura*), common crow (*Corvus brachyrhynchos*), robin (*Turdus migratorius*), yellow-shafted flicker (*Colaptes auratus*), Eastern meadowlark (*Sturnella magna*), and European starling (*Sturnus vulgaris*) (ComEd 1977). The most common upland game bird species were ring-necked pheasant (*Phasianus colchicus*), Northern bobwhite quail (*Colinus virginianus*), and mourning dove (ComEd 1977). The red-tailed hawk (*Buteo jamaicensis*) was the most common raptor (ComEd 1977).

The cooling pond provides habitat for waterfowl, such as mallards (*Anas platyrhynchos*) and Canada geese (*Branta canadensis*), and wading birds such as the great blue heron (*Ardea herodias*). The cooling pond also provides foraging habitat for the osprey (*Pandion haliaetus*) and migratory birds such as the white pelican (*Pelecanus erythrorhynchos*) (Exelon Generation 2013b).

The Eastern plains garter snake (*Thamnophis radix radix*) and the fox snake (*Elapha vulpina*) were the only reptiles recorded on the site during the surveys. No amphibians were recorded (ComEd 1977).

LSCS's "Wildlife at Work" program was certified by the Wildlife Habitat Council as continuing for two additional years from November 2013. The Wildlife Habitat Council is a nonprofit organization of corporations, conservation organizations, and individuals dedicated to restoring and enhancing wildlife habitat. The certification was awarded as a result of past and planned

Appendix D

Special Status Species Correspondence

LaSalle County Station Environmental Report

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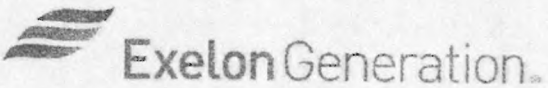

Michael P. Gallagher
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Exelon Nuclear
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610 765 5958 Office
610 765 5956 Fax
www.exeloncorp.com
mpgallagher@exeloncorp.com

March 7, 2014

Mr. Richard Nelson
U.S. Fish and Wildlife Service
Rock Island Field Office
1511 47th Avenue
Moline, Il 61265

SUBJECT: Exelon Generation Company, LLC – LaSalle County Station Units 1 and 2 License Renewal Project. Request for Information on Listed Species and Sensitive Habitats – LaSalle County

Dear Mr. Nelson:

Exelon Generation Company, LLC (Exelon) plans to apply to the U.S. Nuclear Regulatory Commission (NRC) for renewal of the operating licenses for LaSalle County Station (LaSalle) Units 1 and 2 no later than January 2015. The existing operating license for Unit 1 will expire on April 17, 2022, and the existing operating license for Unit 2 will expire on December 16, 2023. Renewed licenses would allow LaSalle Units 1 and 2 to operate until 2042 and 2043, respectively.

As part of the license renewal process, the NRC requires (10 CFR 51.53(c)(3)(ii)(E)) that the LaSalle license renewal application include an environmental report assessing the impacts from license renewal activities on species listed or proposed for listing as threatened or endangered in accordance with the Endangered Species Act (ESA) (16 USC 1531, et seq.) and on important plant and animal habitats, including critical habitats as defined by the ESA and essential fish habitat as identified under the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801. et seq.). Because no species with essential fish habitat is found in Illinois, this letter seeks input from the U.S. Fish and Wildlife Service (USFWS) regarding effects on species and habitats protected under the ESA only that are in the vicinity of LaSalle, including along the right-of-way (ROW) for the cooling water makeup and blowdown pipelines between the LaSalle cooling pond and the Illinois River.

In June 2013, the NRC revised its regulations at 10 CFR Part 51 such that no transmission line ROW associated with LaSalle requires assessment for environmental impacts from license renewal activities.

Project Features

LaSalle is located in northeastern Illinois, about 75 miles southwest of Chicago, in LaSalle County. The property is approximately 6 miles southwest of Seneca and 7 miles south-southeast of Marseilles, as shown in the attached Figure 1. The area surrounding LaSalle is relatively flat, and is rural and agricultural. Numerous wind turbines operate in the immediate vicinity.

LaSalle occupies approximately 3,875 acres, of which approximately 2,058 acres comprise the cooling pond. The generating facilities at LaSalle are on the southwest portion of the site and include the reactor building and related structures, a switchyard, administration buildings, warehouses, and other structures. The ROW for the cooling water makeup and blowdown pipelines runs for a distance of 3.5 miles north from the cooling pond to the Marseilles Pool portion of the Illinois River. An intake pumphouse and a discharge structure are on the south bank of the Marseilles Pool, approximately 1,000 feet apart.

The ROW for the makeup and blowdown pipelines crosses the eastern portion of the Marseilles State Fish and Wildlife Area, a 2,550-ac area managed by the Illinois Department of Natural Resources (DNR) for hunting and wildlife habitat. Marseilles State Fish and Wildlife Area (including the portion of the pipelines ROW that crosses it) also is used by the Illinois National Guard for training when hunting seasons are closed.

The cooling pond, which provides the LaSalle condenser with a continuous supply of cooling water, was created by constructing dikes that rise above the surrounding land. The cooling pond has an elevation of 700 feet above mean sea level at normal pool capacity. Illinois DNR leases the cooling pond, except the ultimate heat sink portion (83 acres), from Exelon and manages it for public fishing. The cooling pond serves as the water supply for an Illinois DNR fish hatchery located on land adjacent to the pond and also leased to Illinois DNR by Exelon Generation.

Cooling water blowdown from the cooling pond as well as monitored plant effluents are released to the Illinois River via the blowdown pipeline, a plunge pool, and an open, rip-rap-lined channel located downstream of the river intake pumphouse. This discharge is subject to limitations established by National Pollutant Discharge Elimination System (NPDES) Permit IL0048151.

Threatened and Endangered Species in the Project Vicinity

Bald eagles were observed in the LaSalle vicinity during the 1970s, but Exelon is not aware of bald eagle sightings in recent years. Although the USFWS removed the bald eagle from the federal list of threatened and endangered species in 2007, it is still federally protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Exelon is not aware of any other federally listed aquatic or terrestrial species being observed on the LaSalle site. The only state-listed species that Exelon is aware of being observed or recorded at LaSalle is the peregrine falcon. A pair nested on the roof of the LaSalle auxiliary building several years ago, but no nesting has been observed in recent years. Exelon personnel occasionally observe peregrine falcons flying in the vicinity of LaSalle.

The LaSalle license renewal project information was submitted to the Illinois DNR through the EcoCAT system. Attached for your review are the EcoCAT Natural Resource Review results from a query of the Illinois Natural Heritage database for LaSalle. The attached query response for LaSalle indicates that the Marseilles Illinois Natural Area Inventory (INAI), the LaSalle Lake INAI, and the Marseilles Hill Prairie INAI sites are in the vicinity of LaSalle. No protected species were identified.

Activities during the License Renewal Terms

Renewal of LaSalle operating licenses will not require new construction, land-disturbing activities, changes to plant operations, or modifications of the intake or discharge pipelines. Operation and maintenance activities during the terms of the renewed licenses are expected to

occur mostly in previously disturbed areas. In addition, Exelon adheres to regulatory requirements regarding sensitive areas that could contain threatened or endangered species and works closely with USFWS and Illinois DNR to protect these resources. Therefore, Exelon expects that continued operation and maintenance of LaSalle over the license renewal periods (i.e., an additional 20 years for each unit), including maintenance of the ROW for the cooling water makeup and blowdown pipelines, would not adversely affect any ecologically significant habitats or any species that is federally-listed or proposed for listing as threatened or endangered.

Nevertheless, Exelon is requesting your help to identify potential impacts or other issues we may have overlooked that need to be addressed in the LaSalle license renewal environmental report. We are also interested in learning of any information that is not included here and that your staff believes could help expedite the NRC's review of the LaSalle license renewal application. Hence, in closing, we would appreciate receiving a response from you detailing such issues and information for the LaSalle site and cooling water pipeline ROW. We would also welcome your confirmation of our conclusion that LaSalle license renewal activities would not adversely affect ecologically significant habitats or any species that is federally-listed or proposed for listing as threatened and endangered.

Because Exelon will incorporate a copy of your response, as well as this letter, into the LaSalle license renewal environmental report that will be submitted to the NRC as part of the LaSalle license renewal application, your response will be most helpful if it is received by April 30, 2014.

Please refer any questions regarding this submittal to Nancy Ranek, our License Renewal Environmental Lead, at (610) 765-5369. Thank you in advance for your assistance.

Sincerely,

Michael P. Gallagher

Enclosures:

Figure 1: Project Location Map
EcoCAT Natural Resources Review results for LaSalle Station

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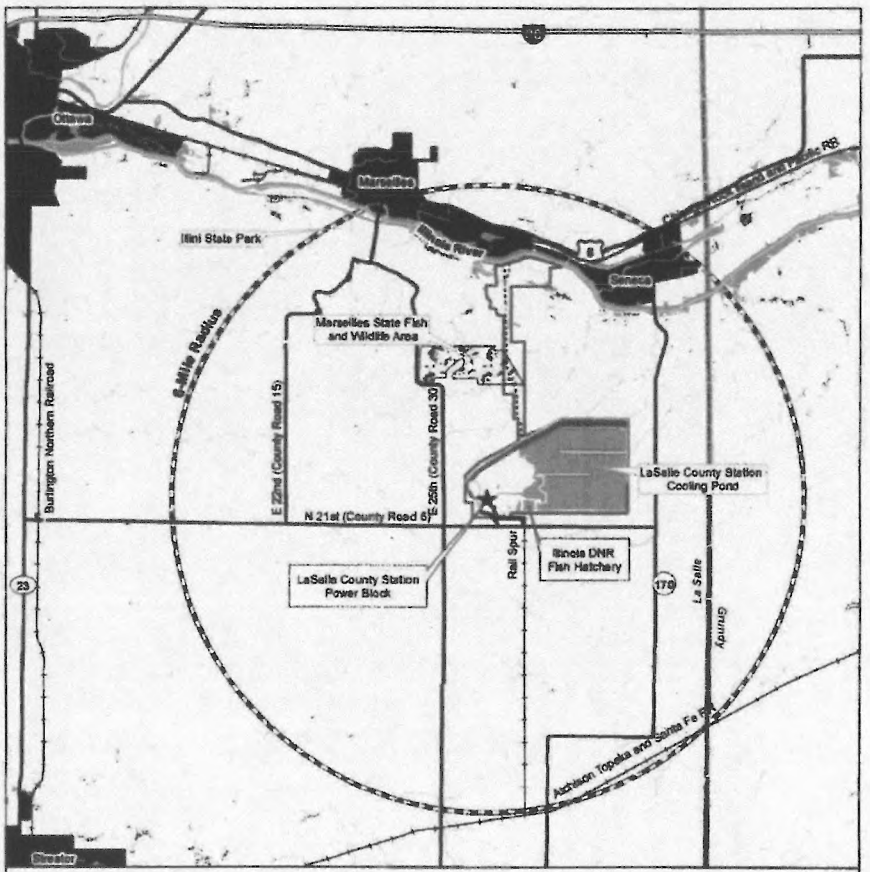

Figure 1. 6 Mile (10 km) Radius Map

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EcoCAT

Ecological Compliance Assessment Tool

Applicant:	Exelon Generation Company LLC	*IDNR Project Number:*	1404780
Contact:	Nancy L. Ranek	*Date:*	09/24/2013
Address:	200 Exelon Way Kennett Square, PA 19348		

Project: Renewal of Facility Operating Licenses by the U.S. Nuclear Regulatory Commission
Address: (NRC) for LaSalle Generating Station, Units 1 and 2
2601 North 21st Road, Marseilles

Description: Exelon Generation Company LLC seeks renewal of the NRC operating licenses for LaSalle Generating Station, Units 1 and 2, in order to provide an option for power generation capability beyond the term of the current operating licenses, as such needs may be determined by State, utility, and where authorized, Federal (other than the NRC) decision makers. License renewal will authorize no new construction or operational changes at the Station.

Natural Resource Review Results

This project was submitted for information only. It is not a consultation under Part 1075.

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Illinois River - Marseilles INAI Site
Lasalle Lake INAI Site
Marseilles Hill Prairie INAI Site

Location
The applicant is responsible for the accuracy of the location submitted for the project.

County: LaSalle

Township, Range, Section:
32N, 5E, 4
32N, 5E, 5
32N, 5E, 8
32N, 5E, 9
32N, 5E, 10
32N, 5E, 11
32N, 5E, 14
32N, 5E, 15
32N, 5E, 16
32N, 5E, 17
33N, 5E, 21
33N, 5E, 22
33N, 5E, 28
33N, 5E, 29
33N, 5E, 32
33N, 5E, 33

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IDNR Project Number: 1404780

IL Department of Natural Resources
Contact
Impact Assessment Section
217-785-5500
Division of Ecosystems & Environment

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

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Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

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Ranek, Nancy L.:(GenCo-Nuc)

Subject: FW: Request for Information on Listed Species and Sensitive Habitats -- LaSalle County

From: Duyvejonck, Jon [mailto:jon_duyvejonck@fws.gov]
Sent: Monday, August 11, 2014 9:59 AM
To: Ranek, Nancy L.:(GenCo-Nuc)
Cc: Fulvio, Albert A:(GenCo-Nuc); Hufnagel Jr, John G:(GenCo-Nuc)
Subject: Re: Request for Information on Listed Species and Sensitive Habitats -- LaSalle County

Nancy,
I have reviewed the information you provided regarding federally listed species and the potential effect of license renewal at the LaSalle Generating Station. I concur with your conclusion that the license renewal will not affect any federally listed species. Thank you.

Jon Duyvejonck
US Fish and Wildlife Service
1511 - 47th ave
Moline, IL 61265
tel. 309/757-5800, ex 207

****

On Wed, Aug 6, 2014 at 9:05 AM, Ranek, Nancy L.:(GenCo-Nuc) <Nancy.Ranek@exeloncorp.com> wrote:

Hi Jon –
Exelon Generation has reviewed information about the Northern Long eared bat, as you suggested in your email message (below) dated July 2, 2014.

I am attaching a biological evaluation covering all species potentially present at the LaSalle County Station (LSCS) that are federally listed or proposed for federal listing as threatened or endangered.
Hopefully, this document will provide the information you need about all species, including the Northern Long-eared Bat, to be able to concur with the conclusion in Exelon Generation's letter to USFWS dated March 7, 2014 concerning impacts from renewal by the NRC of the LSCS Operating License.

Thank you for your assistance in this matter.

Sincerely,
Nancy

Nancy L. Ranek
License Renewal Environmental Lead
Exelon Generation, LLC
200 Exelon Way, KSA/2-E
Kennett Square, PA 19348
Phone: 610-765-5369

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Fax: 610-765-5658
Email: nancy.ranek@exeloncorp.com

****

From: Duyvejonck, Jon [mailto:jon_duyvejonck@fws.gov]

Sent: Wednesday, July 02, 2014 9:34 AM
To: Ranek, Nancy L.:(GenCo-Nuc)
Subject: Re: Request for Information on Listed Species and Sensitive Habitats -- LaSalle County

Nancy,

I reviewed your letter concerning the re-licensing of the LaSalle Nuclear Plant. There has been one recent addition to the federally listed species known to occur in the plant vicinity. That is the Northern Long eared bat. It is not officially listed yet, only proposed. However, it should be considered as listed in your review. That way ,if and when it is listed, you will not have to re-do any consultation. You may wish to visit our web site: http://www.fws.gov/midwest/endangered/section7/index.html to learn more about the Northern Long eared bat. Its habitat is similar enough to the Indiana bat that you can more or less do an assessment for both at the same time.

After all that, we can concur with your letter of March 7, 2014 that the relicensing of the operating permit for the La Salle Plant will not adversely affect any federally listed species. Any further questions, please contact me.

Jon Duyvejonck
US Fish and Wildlife Service
1511 - 47th ave
Moline, IL 61265
tel. 309/757-5800, ex 207

2

Michael P. Gallagher
Vice President, License Renewal
Exelon Nuclear
200 Exelon Way
Kennett Square, PA 19348
610 765 5958 Office
610 765 5956 Fax
www.exeloncorp.com
michaelp.gallagher@exeloncorp.com

March 7, 2014

Mr. Todd Rettig
Division Manager
Office of Realty and Environmental Planning
Illinois Department of Natural Resources
1 Natural Resources Way, 2" Floor
Springfield, Illinois 62702-1271

SUBJECT: Exelon Generation Company, LLC – LaSalle County Station Units 1 and 2 License Renewal Project. Request for Information on Listed Species and Sensitive Habitats – LaSalle County

Dear Mr. Rettig:

Exelon Generation Company, LLC (Exelon) plans to apply to the U.S. Nuclear Regulatory Commission (NRC) for renewal of the operating licenses for LaSalle County Station (LaSalle) Units 1 and 2 no later than January 2015. The existing operating license for Unit 1 will expire on April 17, 2022, and the existing operating license for Unit 2 will expire on December 16, 2023. Renewed licenses would allow LaSalle Units 1 and 2 to operate until 2042 and 2043, respectively.

As part of the license renewal process, the NRC requires (10 CFR 51.53(c)(3)(ii)(E)) that the LaSalle license renewal application include an environmental report assessing the impacts from license renewal activities on species listed or proposed for listing as threatened or endangered in accordance with the Endangered Species Act (ESA) (16 USC 1531, et seq.) and on important plant and animal habitats, including critical habitats as defined by the ESA and essential fish habitat as identified under the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801. et seq.). Because no species with essential fish habitat is found in Illinois, this letter seeks input from the Illinois Department of Natural Resources (DNR) regarding effects on species and habitats protected under the ESA only that are in the vicinity of LaSalle, including along the right-of-way (ROW) for the cooling water makeup and blowdown pipelines between the LaSalle cooling pond and the Illinois River.

In June 2013, the NRC revised its regulations at 10 CFR Part 51 such that no transmission line ROW associated with LaSalle requires assessment for environmental impacts from license renewal activities.

Project Features

LaSalle is located in northeastern Illinois, about 75 miles southwest of Chicago, in LaSalle County. The property is approximately 6 miles southwest of Seneca and 7 miles south-southeast of Marseilles, as shown in the attached Figure 1. The area surrounding LaSalle is relatively flat, and is rural and agricultural. Numerous wind turbines operate in the immediate vicinity.

LaSalle occupies approximately 3,875 acres, of which approximately 2,058 acres comprise the cooling pond. The generating facilities at LaSalle are on the southwest portion of the site and include the reactor building and related structures, a switchyard, administration buildings, warehouses, and other structures. The ROW for the cooling water makeup and blowdown pipelines runs for a distance of 3.5 miles north from the cooling pond to the Marseilles Pool portion of the Illinois River. An intake pumphouse and a discharge structure are on the south bank of the Marseilles Pool, approximately 1,000 feet apart.

The ROW for the makeup and blowdown pipelines crosses the eastern portion of the Marseilles State Fish and Wildlife Area, a 2,550-ac area managed by the Illinois DNR for hunting and wildlife habitat. Marseilles State Fish and Wildlife Area (including the portion of the pipelines ROW that crosses it) also is used by the Illinois National Guard for training when hunting seasons are closed.

The cooling pond, which provides the LaSalle condenser with a continuous supply of cooling water, was created by constructing dikes that rise above the surrounding land. The cooling pond has an elevation of 700 feet above mean sea level at normal pool capacity. Illinois DNR leases the cooling pond, except the ultimate heat sink portion (83 acres), from Exelon and manages it for public fishing. The cooling pond serves as the water supply for an Illinois DNR fish hatchery located on land adjacent to the pond and also leased to Illinois DNR by Exelon Generation.

Cooling water blowdown from the cooling pond as well as monitored plant effluents are released to the Illinois River via the blowdown pipeline, a plunge pool, and an open, rip-rap-lined channel located downstream of the river intake pumphouse. This discharge is subject to limitations established by National Pollutant Discharge Elimination System (NPDES) Permit IL0048151.

Threatened and Endangered Species in the Project Vicinity

Bald eagles were observed in the LaSalle vicinity during the 1970s, but Exelon is not aware of bald eagle sightings in recent years. Although the USFWS removed the bald eagle from the federal list of threatened and endangered species in 2007, it is still federally protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Exelon is not aware of any other federally listed aquatic or terrestrial species being observed on the LaSalle site. The only state-listed species that Exelon is aware of being observed or recorded at LaSalle is the peregrine falcon. A pair nested on the roof of the LaSalle auxiliary building several years ago, but no nesting has been observed in recent years. Exelon personnel occasionally observe peregrine falcons flying in the vicinity of LaSalle.

The LaSalle license renewal project information was submitted to the Illinois DNR through the EcoCAT system. Attached for your review are the EcoCAT Natural Resource Review results from a query of the Illinois Natural Heritage database for LaSalle. The attached query response for LaSalle indicates that the Marseilles Illinois Natural Area Inventory (INAI), the LaSalle Lake INAI, and the Marseilles Hill Prairie INAI sites are in the vicinity of LaSalle. No protected species were identified.

Activities during the License Renewal Terms

Renewal of LaSalle operating licenses will not require new construction, land-disturbing activities, changes to plant operations, or modifications of the intake or discharge pipelines.

Operation and maintenance activities during the terms of the renewed licenses are expected to occur mostly in previously disturbed areas. In addition, Exelon adheres to regulatory requirements regarding sensitive areas that could contain threatened or endangered species and works closely with USFWS and Illinois DNR to protect these resources. Therefore, Exelon expects that continued operation and maintenance of LaSalle over the license renewal periods (i.e., an additional 20 years for each unit), including maintenance of the ROW for the cooling water makeup and blowdown pipelines, would not adversely affect any ecologically significant habitats or any species that is federally-listed or proposed for listing as threatened or endangered.

Nevertheless, Exelon is requesting your help to identify potential impacts or other issues we may have overlooked that need to be addressed in the LaSalle license renewal environmental report. We are also interested in learning of any information that is not included here and that your staff believes could help expedite the NRC's review of the LaSalle license renewal application. Hence, in closing, we would appreciate receiving a response from you detailing such issues and information for the LaSalle site and cooling water pipeline ROW. We would also welcome your confirmation of our conclusion that LaSalle license renewal activities would not adversely affect ecologically significant habitats or any species that is federally-listed or proposed for listing as threatened and endangered.

Because Exelon will incorporate a copy of your response, as well as this letter, into the LaSalle license renewal environmental report that will be submitted to the NRC as part of the LaSalle license renewal application, your response will be most helpful if it is received by April 30, 2014.

Please refer any questions regarding this submittal to Nancy Ranek, our License Renewal Environmental Lead, at (610) 765-5369. Thank you in advance for your assistance.

Sincerely,

Michael P. Gallagher

Enclosures:

Figure 1: Project Location Map
EcoCAT Natural Resources Review results for LaSalle Station

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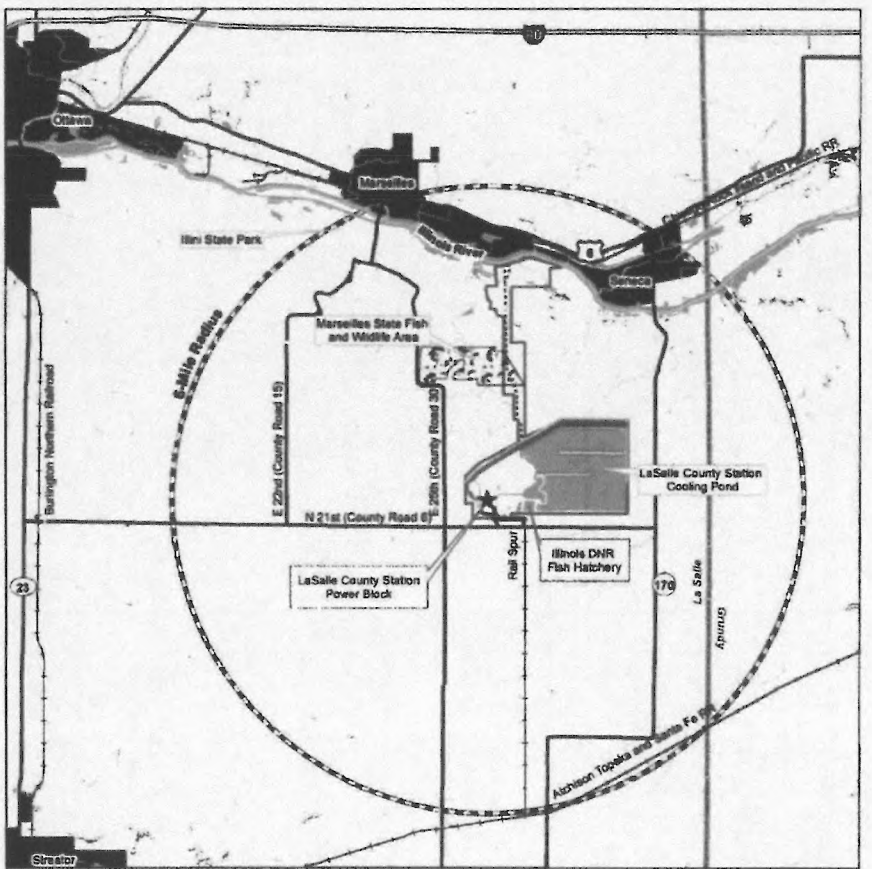

Figure 1. 6 Mile (10 km) Radius Map

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EcoCAT

Applicant:	Exelon Generation Company LLC	*IDNR Project Number:*	1404780
Contact:	Nancy L. Ranek	*Date:*	09/24/2013
Address:	200 Exelon Way Kennett Square, PA 19348		

Project: Renewal of Facility Operating Licenses by the U.S. Nuclear Regulatory Commission
Address: (NRC) for LaSalle Generating Station, Units 1 and 2
2601 North 21st Road, Marseilles

Description: Exelon Generation Company LLC seeks renewal of the NRC operating licenses for LaSalle Generating Station, Units 1 and 2, in order to provide an option for power generation capability beyond the term of the current operating licenses, as such needs may be determined by State, utility, and where authorized, Federal (other than the NRC) decision makers. License renewal will authorize no new construction or operational changes at the Station.

Natural Resource Review Results

This project was submitted for information only. It is not a consultation under Part 1075.

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Illinois River - Marseilles INAI Site
Lasalle Lake INAI Site
Marseilles Hill Prairie INAI Site

Location
The applicant is responsible for the accuracy of the location submitted for the project.

County: LaSalle

Township, Range, Section:
32N, 5E, 4
32N, 5E, 5
32N, 5E, 8
32N, 5E, 9
32N, 5E, 10
32N, 5E, 11
32N, 5E, 14
32N, 5E, 15
32N, 5E, 16
32N, 5E, 17
33N, 5E, 21
33N, 5E, 22
33N, 5E, 28
33N, 5E, 29
33N, 5E, 32
33N, 5E, 33

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IDNR Project Number: 1404780

IL Department of Natural Resources
Contact
Impact Assessment Section
217-785-5500
Division of Ecosystems & Environment

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

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EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

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Illinois Department of
Natural Resources
One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

Pat Quinn, Governor
Marc Miller, Director

May 22, 2014

MPG 6.3.14

Mr. Michael P. Gallagher
Vice President, License Renewal
Exelon Nuclear
200 Exelon Way
Kennett Square, PA 19348

Re: Renewal of Facility Operating Licenses by the U.S. Nuclear Regulatory Commission (NRC) for LaSalle Generating Station, Units 1 and 2 - Correspondence dated March 7, 2014
County: LaSalle

Dear Mr. Gallagher:

This letter is in reference to your request for information on listed threatened and endangered species relative to your license renewal correspondence dated March 7, 2014.

The Department has records of several state-listed species that were observed just downstream of your discharge point on the Illinois River. These include the state-endangered Blacknose Shiner (*Notropis heterolepis)* and Greater Redhorse (*Moxostoma valenciennesi*), and the state-threatened River Redhorse (*Moxostoma carinatum*) and Banded Killifish (*Fundulus diaphanous*). These species were all observed within the Illinois River – Marseilles INAI site, which extends approximately seven miles upstream and downstream of your discharge structure and intake pumphouse.

Since you have indicated there will be no new construction, land-disturbing activities, changes to plant operations, or modifications of the intake or discharge piplelines, no further comment by the Department is necessary at this time.

Thank you for the opportunity to provide this clarification. Please contact me if you need additional information.

Cordially,

Sheldon R. Fairfield
Impact Assessment Section
Division of Ecosystems & Environment
Phone: (217) 782-0031
Sheldon.Fairfield@illinois.gov