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

May 30, 2012

Daniel Morris
Acting Regional Administrator
National Marine Fisheries Service
Northeast Regional Office
55 Great Republic Drive
Gloucester, MA 01930-2276

SUBJECT: REQUEST FOR LIST OF FEDERAL PROTECTED SPECIES WITHIN THE AREA UNDER EVALUATION FOR THE LIMERICK GENERATING STATION, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION REVIEW

Dear Mr. Morris:

The U.S. Nuclear Regulatory Commission (NRC or the staff) is reviewing an application to renew the operating licenses for Limerick Generating Station, Units 1 and 2 (Limerick). Limerick is located in Limerick Township of Montgomery County, PA, approximately 35 miles upriver from Philadelphia and is operated by Exelon Generation Company, LLC (Exelon). The application for renewal was submitted by Exelon in a letter dated June 22, 2011, pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54).

The NRC has established that, as part of the staff's review of any nuclear power plant license renewal action, a site-specific Supplemental Environmental Impact Statement (SEIS) to its "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," NUREG-1437, will be prepared under the provisions of 10 CFR Part 51, the NRC's regulation that implements the National Environmental Policy Act of 1969 (NEPA). The SEIS includes an analysis of pertinent environmental issues, including endangered or threatened species and impacts to fish and wildlife. This letter is being submitted under the provisions of the Endangered Species Act of 1973, as amended, and the Fish and Wildlife Coordination Act of 1934, as amended.

The Limerick plant site contains a total of 645 acres, including 491 acres in Montgomery County and 154 acres in Chester County. The proposed action includes the use and continued maintenance of existing plant facilities and transmission lines. See Enclosures 1 – 5 for figures of the facilities and transmission lines. Exelon states that it has no plans for refurbishment or replacement activities to support renewal of the operating licenses.

Limerick is located about 2 miles southeast of the Borough of Pottstown, the nearest population center. Other nearby population centers are the City of Reading (19 miles northwest), the Borough of Phoenixville (9 miles southeast), the Municipality of Norristown (11 miles southeast), and the City of Philadelphia (21 miles southeast). These centers and the Limerick site are located along the Schuylkill River. The river flows southeast to its union with the Delaware River.

The site is described in the license renewal application (LRA) as:

> ...gently rolling countryside, traversed by numerous valleys containing small creeks or streams that empty into the Schuylkill River. Two parallel streams, Possum Hollow Run and Brooke Evans Creek, cut through the LGS [Limerick] plant site, running southwest into the Schuylkill River. Just upstream and to the north of the LGS plant site, Sanatoga Creek flows into the Schuylkill River. Further upstream and to the northwest of the LGS plant site, Sprogels Run flows into the Schuylkill River.

The facilities consist of properties such as the reactor enclosures, turbine enclosures, cooling towers, electrical substations, independent spent fuel storage installation, Schuylkill River Pumphouse, and spray pond. Additional facilities are the cooling tower blowdown discharge line and associated structures, which are submerged immediately downriver from the Schuylkill River Pumphouse.

The Limerick water systems that interface with the environment include the cooling water system and the groundwater supply system. The cooling water system for the plant is a closed system consisting of the makeup water supply system, which is common to both units; the circulating water systems for each unit; and the cooling tower blowdown system, also common to both units. The groundwater supply system includes two wells that are used at the main plant site, one for supplying domestic water and the other serving as a backup supply of fire emergency water.

The Limerick makeup water supply system is used to supply additional water to the circulating water system and other water systems when needed. The makeup water supply system draws water from the Schuylkill River through the Schuylkill Pumphouse as its primary source of water. During periods of low river flow, Limerick secondarily relies on water from Perkiomen Creek. Withdrawing water from Perkiomen Creek often requires augmentation of flow via an intrabasin transfer of water from the Delaware River. A series of pumping stations delivers Delaware River water from the Point Pleasant Pumping Station via pipeline to the Bradshaw Reservoir, which is then delivered via pipeline to the East Branch Perkiomen Creek. Water ultimately flows from the East Branch Perkiomen Creek to the Perkiomen Creek. See Enclosure 6 for a figure of the Limerick water supply system and associated facilities.

Limerick also uses two additional upstream water sources, the Wadesville Mine Pool and Merrill Creek Reservoir, to directly augment Schuylkill River flow. Delaware River Basin Commission approved the use of these sources in 2002 as a demonstration project in order to compensate for the withdrawal of cooling water from the Schuylkill River and to evaluate the feasibility of continuing withdrawals from the river even under low flow conditions. Flow augmentation with these sources began in 2003 and has included Delaware River Basin Commission oversight. The Wadesville Mine Pool is located approximately 70 mi (112 km) northwest of Limerick in Pennsylvania's anthracite coal region. The mine pool is comprised of extensive and flooded underground mine workings some 700 ft (210 m) deep, storing an estimate 3.6 billion gal (13.6 billion m^3) of water. The mine pool is unique, as compared to other coal workings that contribute to acid mine drainage, in that the water percolating through the workings has a neutral pH. Additionally, releases from the Still Creek Reservoir, located northeast of the Wadesville Mine Pool, are involved in the flow-augmentation demonstration project. This reservoir was previously approved by Delaware River Basin Commission for emergency

releases under a contract between Exelon and its owner and operator to augment low flows in the Schuylkill River when the Delaware River diversion system is unavailable.

Exelon's use of makeup water is subject to conditions and limitations established by the Delaware River Basin Commission. Most of the makeup water needed by the plant (about 75 percent) is to replace water lost due to cooling towers evaporation. The remainder is non-consumptive blowdown to keep the circulating system chemistry at appropriate levels, and is returned to the Schuylkill River.

The circulating water system functions to supply cooling water to remove waste heat from the the turbines of the Limerick units and dissipate it to the environment. The circulating water system for each unit consists of one cooling tower, three main condensers, and four circulating water pumps.

The Limerick transmission system is comprised of the transmission lines and associated structures from the three main power transformers of Limerick, Unit 1, to the Limerick 230-kV Substation, and the three main power transformers of Limerick, Unit 2, to the Limerick 500-kV Substation; both substations are located on the plant site. The system also includes the substations, transmission lines, and associated structures to connect Limerick to the regional electricity grid, including:

- two 230-kV lines, designated 220-60 and 220-61, connecting the Limerick 230-kV Substation to the Cromby Substation located at Exelon Generation's Cromby Generating Station;
- one 230-kV line, designated 220-62, connecting the Cromby Substation to the North Wales Substation and the regional electricity grid;
- one 230-kV line connecting the Cromby Substation to the Plymouth Meeting Substation and the regional electricity grid, consisting of:
    - one segment, designated 220-63, connecting the Cromby Substation to the Barbadoes Substation; and
    - one segment, designated 220-64, connecting the Barbadoes Substation to the Plymouth Meeting Substation; and
- one 500-kV line, designated 5031, connecting the Limerick 500-kV Substation to the Whitpain Substation and the regional electricity grid.

Additionally, the transmission system includes the rights-of-way (ROWs) for the transmission lines. These ROWs were either pre-existing at the time Limerick was built (i.e., the lines are being shared with other linear features that were already in place) or were added in conjunction with construction. The transmission system is basically the same as originally constructed. See Enclosure 5 for an overview of the transmission line ROW routes, which traverse Montgomery County and Chester County.

The four offsite 230-kV lines exclusively serve Limerick, Unit 1, and the one offsite 500-kV line exclusively serves Limerick Unit 2. Exelon states in the LRA, "[e]ven though these lines were constructed solely to serve the Limerick units, it is anticipated that some or all of these lines

would continue to be used for transmitting electricity produced by other generating sources even if the Limerick operating licenses are not renewed."

PECO, the energy delivery subsidiary of Exelon Corporation serving retail customers in southeastern Pennsylvania, owns in fee the offsite substations and a portion of the transmission line ROWs associated with the transmission system. A significant portion of the transmission system is located over or under highways, streets, other public places, or property owned by others, for which PECO has permits, grants, easements, or licenses.

There are public passageway properties that cut through the Limerick plant site that are excluded from consideration. These include two Consolidated Rail Corporation ROWs and the Schuylkill River, including one island in the river channel (Limerick Island).

To ensure compliance with Section 7 of the Endangered Species Act, the NRC requests information on Federally listed, proposed, and candidate species and critical habitat that may be in the vicinity of Limerick, its associated infrastructure for the makeup water supply system, and its associated transmission line ROWs. In addition, please provide any information you consider appropriate under the provisions of the Fish and Wildlife Coordination Act.

The Limerick LRA is available on the internet at http://www.nrc.gov/reactors/operating/licensing/renewal/applications/limerick.html. If you have any questions or require additional information, please contact Ms. Michelle Moser, Aquatic Biologist by phone at 301-415-6509 or by e-mail at Michelle.Moser@nrc.gov or Ms. Leslie Perkins, Environmental Project Manager by phone at 301-415-2375 or by e-mail at Leslie.Perkins@nrc.gov.

Sincerely,

Jeremy J. Susco, Acting Chief
Environmental Guidance and
Review Branch
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures:
As stated

cc w/encls: Listserv

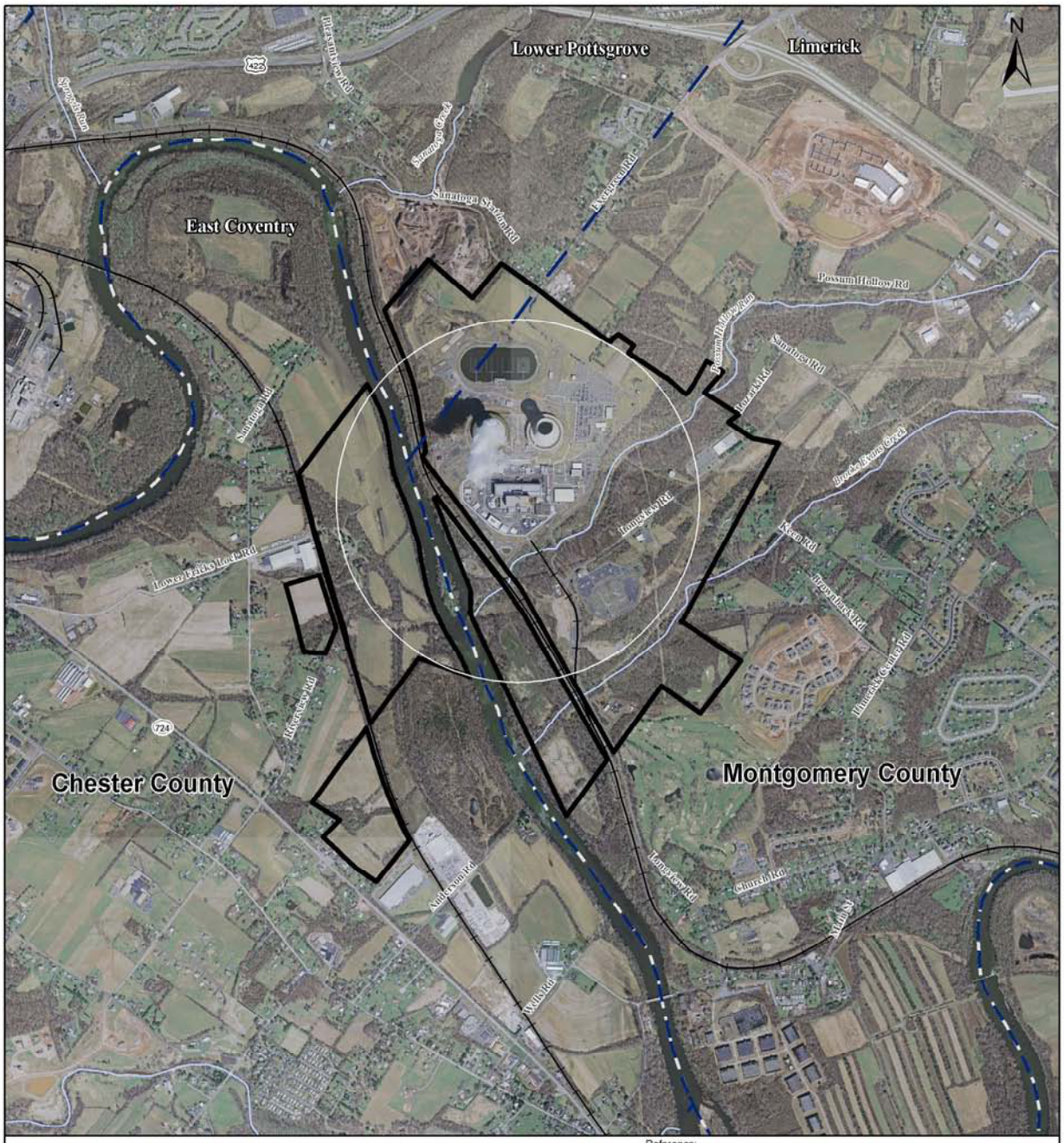


Figure 2.1-1 LGS Plant Site Boundary
Exelon Generation
Limerick Generating Station
Limerick Township, Montgomery County, PA

Enclosure 1

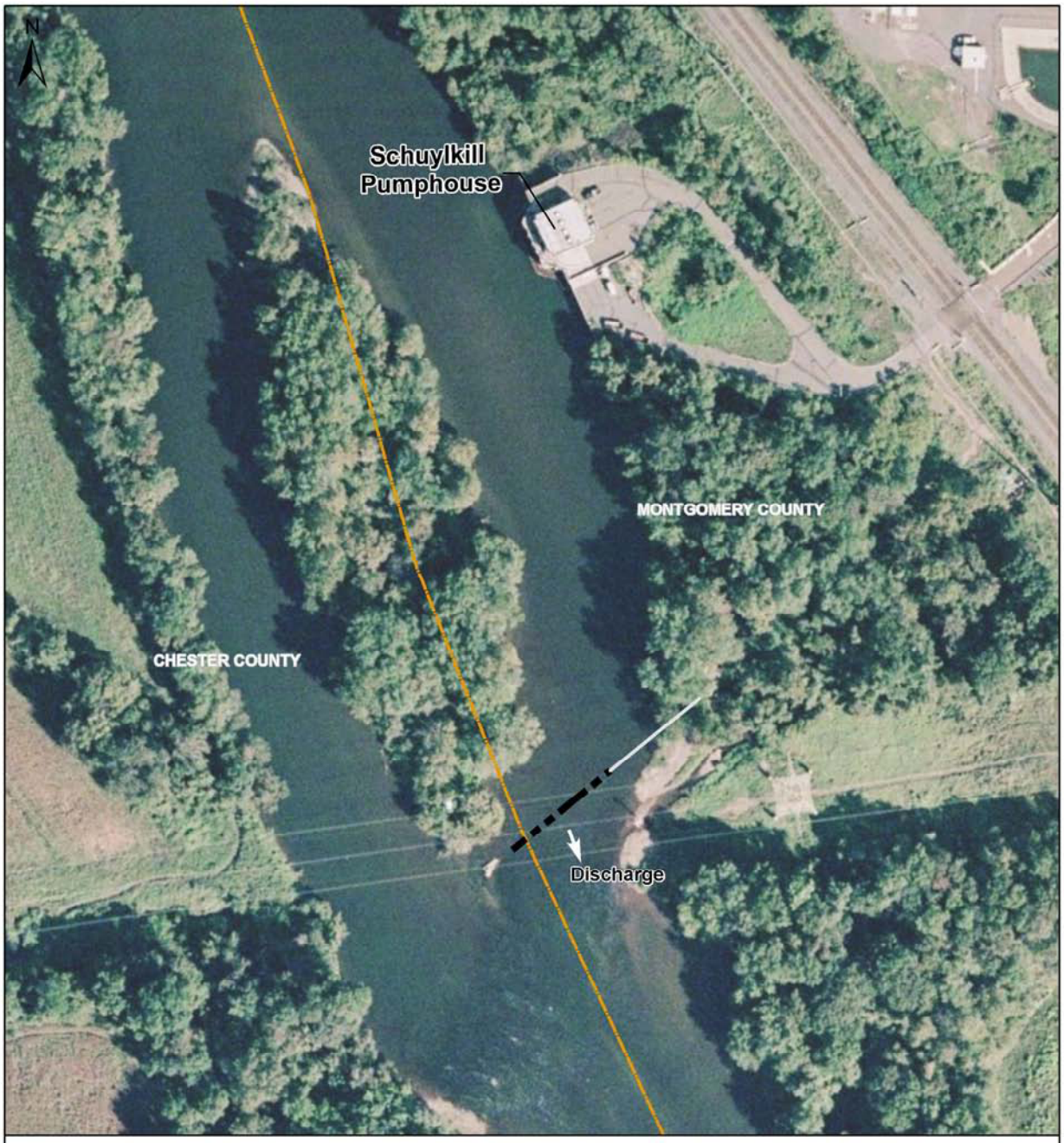


Figure 3.1-4 Cooling Tower Blowdown Diffuser Location
Exelon Generation
Limerick Generating Station
Limerick Township, Montgomery County, PA

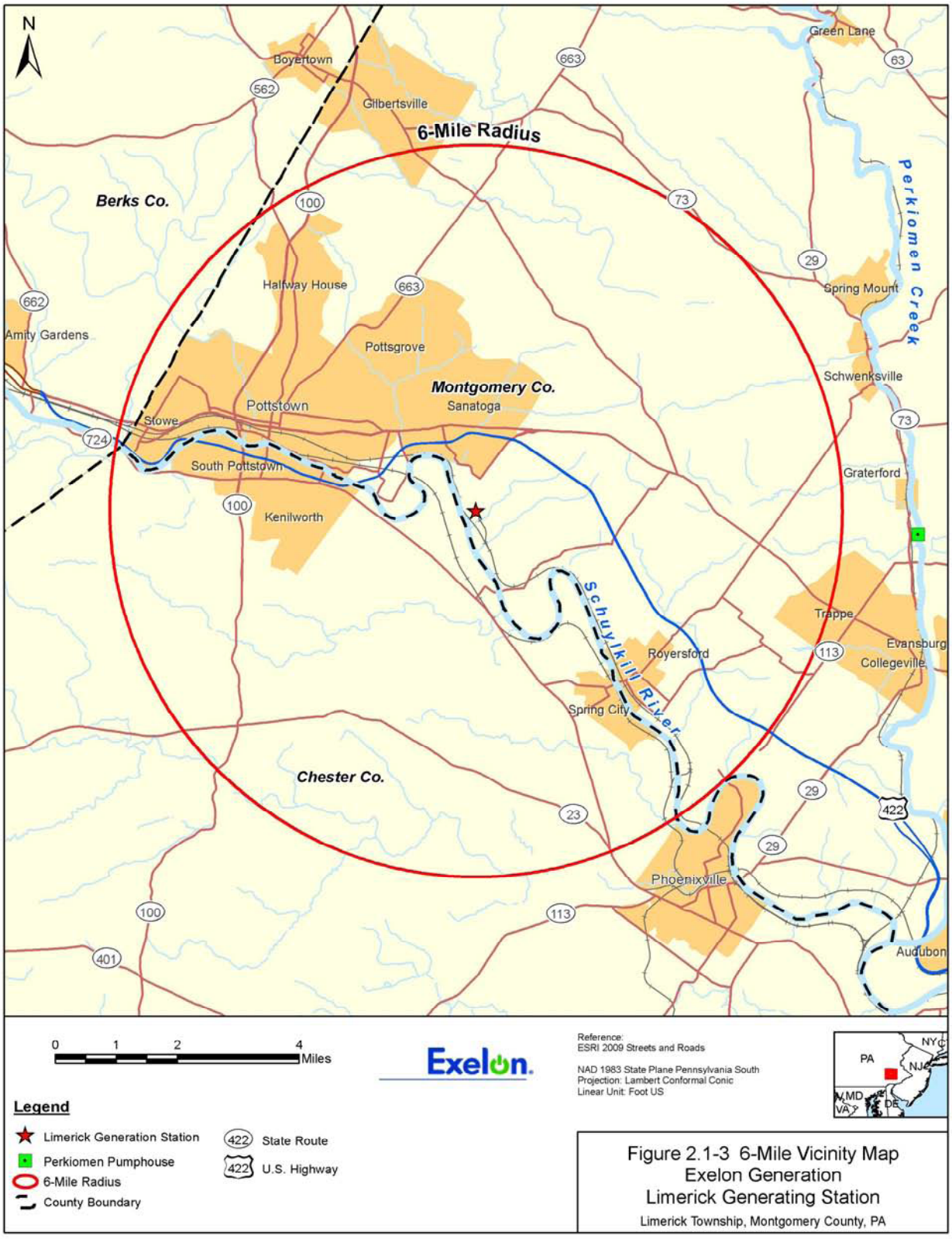
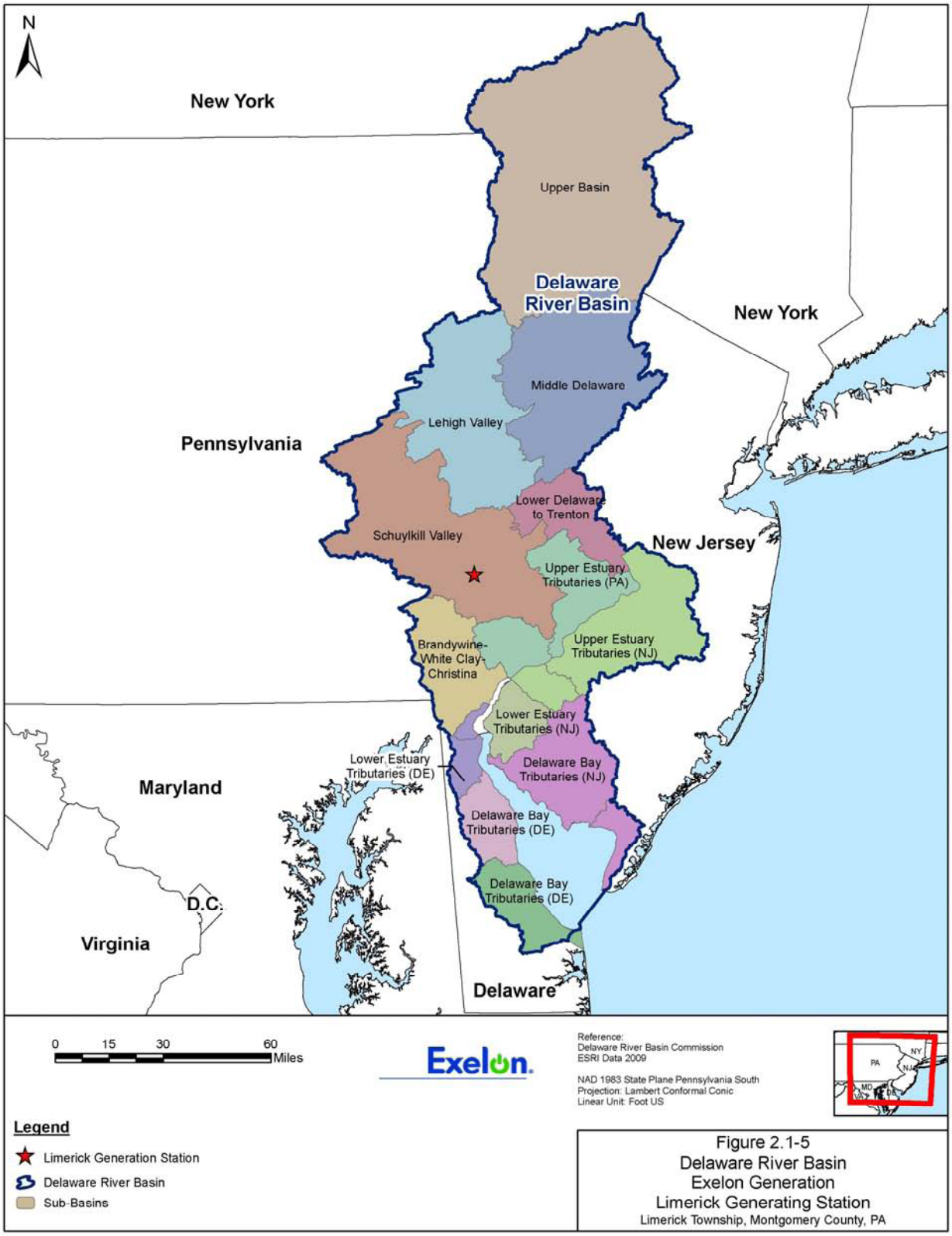


Figure 2.1-3 6-Mile Vicinity Map
Exelon Generation
Limerick Generating Station
Limerick Township, Montgomery County, PA


N
New York
Upper Basin
Delaware River Basin
New York
Middle Delaware
Lehigh Valley
Pennsylvania
Lower Delaware to Trenton
Schuylkill Valley
New Jersey
Upper Estuary Tributaries (PA)
Upper Estuary Tributaries (NJ)
Brandywine-White Clay-Christina
Lower Estuary Tributaries (NJ)
Lower Estuary Tributaries (DE)
Delaware Bay Tributaries (NJ)
Maryland
Delaware Bay Tributaries (DE)
Delaware Bay Tributaries (DE)
D.C.
Virginia
Delaware
0 15 30 60 Miles
Exelon
Reference:
Delaware River Basin Commission
ESRI Data 2009
NAD 1983 State Plane Pennsylvania South
Projection: Lambert Conformal Conic
Linear Unit: Foot US
NY
PA
NJ
MD
DE
VA
Legend
Limerick Generation Station
Delaware River Basin
Sub-Basins
Figure 2.1-5
Delaware River Basin
Exelon Generation
Limerick Generating Station
Limerick Township, Montgomery County, PA

Enclosure 4

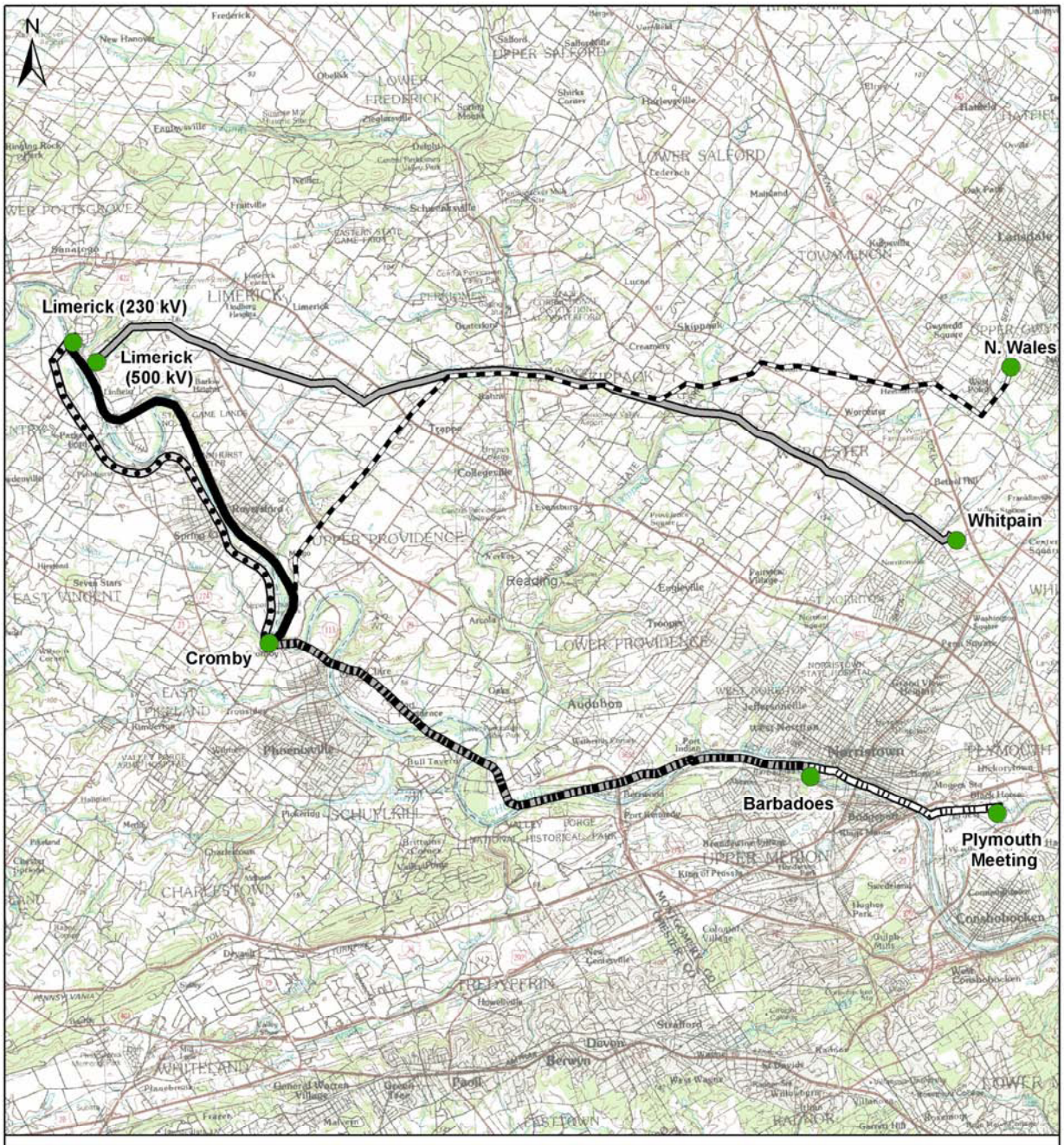
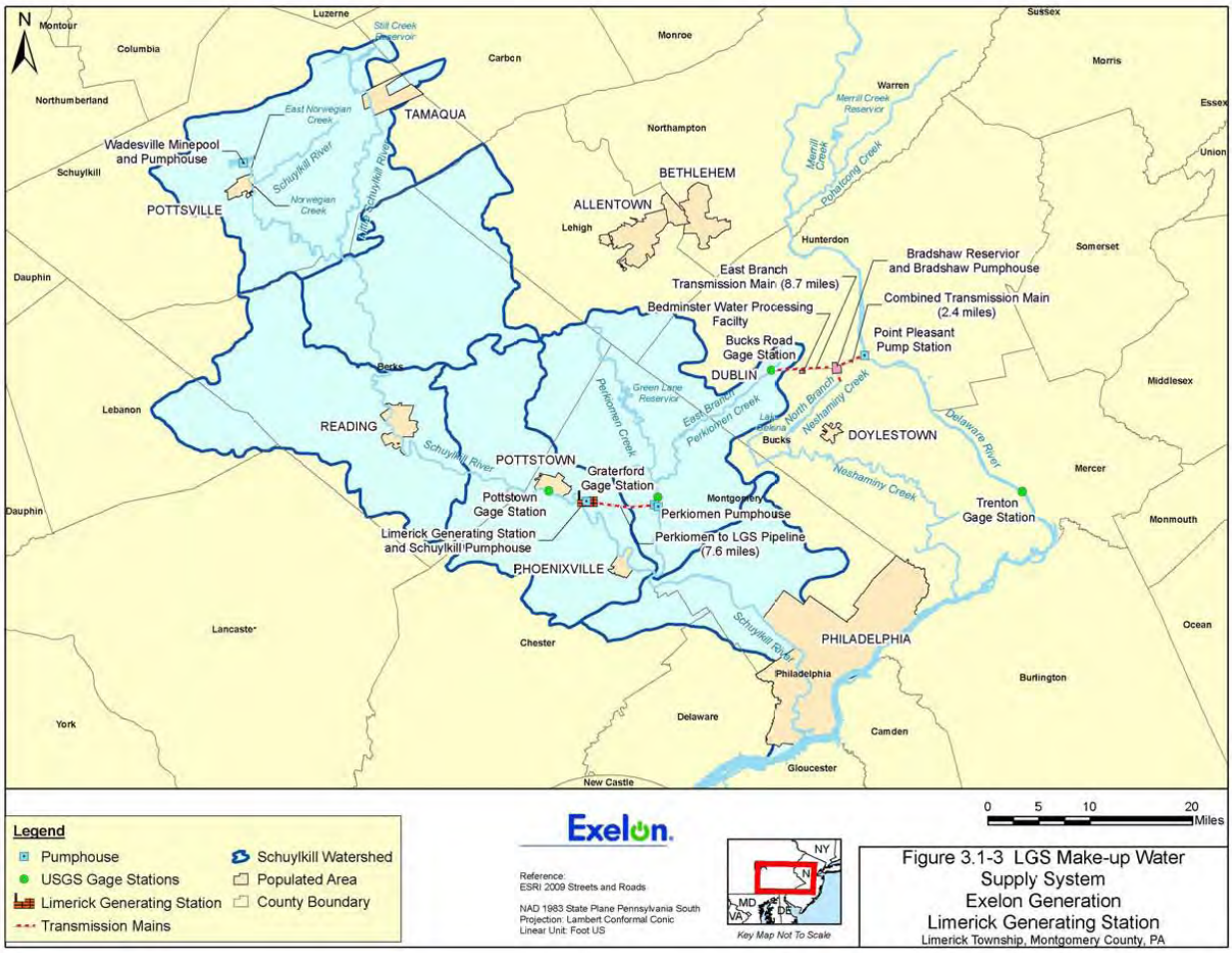


Figure 2.1-6 LGS Transmission Line Route Map
Exelon Generation
Limerick Generating Station

Montgomery & Chester Counties, PA


N
Montour
Columbia
Northumberland
Schuylkill
Dauphin
Lebanon
Lancaster
York
Luzerne
Still Creek Reservoir
Carbon
TAMAQUA
East Norwegian Creek
Wadesville Minepool and Pumphouse
POTTSVILLE
Schuylkill River
Norwegian Creek
Little Schuylkill River
Berks
READING
Monroe
Northampton
BETHLEHEM
ALLENTOWN
Lehigh
Warren
Merrill Creek Reservoir
Merrill Creek
Pohatcong Creek
Hunterdon
Sussex
Morris
Essex
Union
Somerset
Middlesex
Mercer
Monmouth
Ocean
Burlington
Camden
Gloucester
Bradshaw Reservior and Bradshaw Pumphouse
East Branch Transmission Main (8.7 miles)
Combined Transmission Main (2.4 miles)
Bedminster Water Processing Facility
Point Pleasant Pump Station
Bucks Road Gage Station
DUBLIN
Green Lane Reservoir
Perkiomen Creek
East Branch Perkiomen Creek
Lake Nockamixon
North Branch Neshaminy Creek
Bucks
DOYLESTOWN
Delaware River
Neshaminy Creek
Trenton Gage Station
POTTSTOWN
Graterford Gage Station
Pottstown Gage Station
Montgomery
Perkiomen Pumphouse
Perkiomen to LGS Pipeline (7.6 miles)
Limerick Generating Station and Schuylkill Pumphouse
PHOENIXVILLE
Chester
Delaware
Philadelphia
PHILADELPHIA
Schuylkill River
Legend
Pumphouse
USGS Gage Stations
Limerick Generating Station
Transmission Mains
Schuylkill Watershed
Populated Area
County Boundary
Exelon.
Reference:
ESRI 2009 Streets and Roads
NAD 1983 State Plane Pennsylvania South
Projection: Lambert Conformal Conic
Linear Unit: Foot US
NY
PA
MD
VA
DE
Key Map Not To Scale
0 5 10 20
Miles
Figure 3.1-3 LGS Make-up Water Supply System
Exelon Generation
Limerick Generating Station
Limerick Township, Montgomery County, PA

ENCLOSURE 6

would continue to be used for transmitting electricity produced by other generating sources even if the Limerick operating licenses are not renewed."

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Sincerely,
/RA/
Jeremy J. Susco, Acting Chief
Environmental Guidance and
Review Branch
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures:
As stated

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See next page
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Letter to D. Morris from J. Susco dated May 30, 2012

SUBJECT: REQUEST FOR LIST OF FEDERAL PROTECTED SPECIES WITHIN THE AREA UNDER EVALUATION FOR THE LIMERICK GENERATING STATION, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION REVIEW

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L Perkins

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RidsNrrDlrRsrg Resource
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DScrenci, RI
NSheehan, RI