

## LimerickNPEm Resource

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**From:** Regner, Lisa  
**Sent:** Wednesday, October 12, 2011 3:38 PM  
**To:** 'Nancy.Ranek@exeloncorp.com'; Chris Wilson (Exelon)  
**Cc:** Balsam, Briana; Hickey, Eva E; Folk, Kevin; Leigh, Kimberly D; Larson, Emily; Moser, Michelle; Rautzen, William; Regner, Lisa; Rikhoff, Jeffrey; Stuyvenberg, Andrew; Travers, Allison; Wrona, David; Imboden, Andy  
**Subject:** DRAFT LGS Audit Plan Rev2.docx  
**Attachments:** DRAFT LGS Audit Plan Rev2.docx

Nancy, Chris,  
Here is the DRAFT Audit Plan. Please let me know if you have questions.  
Lisa

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**From:** Regner, Lisa

**Created By:** Lisa.Regner@nrc.gov

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Mr. Michael P. Gallagher  
Vice President License Renewal Projects  
Exelon Generation Company, LLC  
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Kennett Square, PA 19348

SUBJECT: ENVIRONMENTAL SITE AUDIT REGARDING LIMERICK GENERATING  
STATION, UNITS 1 AND 2 (TAC NOS. ME6557 AND ME6558)

Dear Mr. Gallagher:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing Exelon Generation Company, LLC's license renewal application for Limerick Generating Station, Units 1 and 2 (LGS). The environmental site audit will be conducted at LGS during the week of November 7, 2011, by NRC and Pacific Northwest National Laboratory staff. The environmental audit activities will be conducted in accordance with the enclosed environmental audit plan.

To develop the Supplemental Environmental Impact Statement, the NRC staff requests the information described in the enclosed environmental audit needs list be made available, to the extent possible, during the environmental site audit. A draft schedule of tours and meetings for the audit is also enclosed. The NRC staff informally transmitted this information to your staff (Nancy Ranek), via e-mail on October 7, 2011.

If you have any questions, please contact me by telephone at 301-415-1906 or by e-mail at [Lisa.Regner@nrc.gov](mailto:Lisa.Regner@nrc.gov).

Sincerely,

Lisa M. Regner, Senior Project Manager  
Projects Branch 2  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures:

1. Regulatory Environmental Audit Plan
2. Environmental Audit Needs List
3. Environmental Audit Draft Schedule

cc w/encls: See next page

Mr. Michael P. Gallagher  
Vice President License Renewal Projects  
Exelon Generation Company, LLC  
200 Exelon Way  
Kennett Square, PA 19348

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Sincerely,

Lisa M. Regner, Senior Project Manager  
Projects Branch 2  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

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4. Regulatory Environmental Audit Plan
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cc w/encls: See next page

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NAME	LRegner	IKing	DWrona	LRegner (signature)
DATE	10/ /2011	10/ /2011	10/ /2011	10/ /2011

OFFICIAL AGENCY RECORD

Letter to M. Gallagher from L. Regner dated October xx, 2011

**DISTRIBUTION:**

**SUBJECT:** ENVIRONMENTAL SITE AUDIT REGARDING LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. ME6557 AND ME6558)

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DScrenci, RI  
NMcNamara, RI

## **LICENSE RENEWAL ENVIRONMENTAL AUDIT PLAN LIMERICK GENERATING STATION**

### **1. Background**

By letter dated June 22, 2011, Exelon Generation Company, LLC (Exelon or applicant) submitted to the U.S. Nuclear Regulatory Commission (NRC or staff) an application to renew the Limerick Generating Station, Units 1 and 2 (LGS) operating licenses NPF-39 and NPF-85. The staff is reviewing the information contained in the environmental report (ER) of the license renewal application (LRA) per Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54).

During the staff's review, an environmental audit is conducted at the LGS site. This audit is conducted with the intent to gain understanding, to verify information, and to identify information that will require docketing to support the basis of the licensing or regulatory decision. Specifically, the NRC staff will identify pertinent environmental data, review the facility and area, and obtain clarifications regarding information provided in the ER.

Per NRC guidance, the NRC staff prepares a regulatory audit plan that provides a clear overview of audit activities and scope, team assignments, and schedule.

### **2. Environmental Audit Bases**

License renewal requirements are specified in 10 CFR Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." Licensees are required by 10 CFR 54.23 to submit an ER that complies with the requirements in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," as part of the LRA. Review guidance for the staff is provided in NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Supplement 1 – Operating License Renewal."

NRC staff is required to prepare a site-specific supplement to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants." During the scoping process required in 10 CFR Part 51, NRC staff is required to define the proposed action, identify significant issues which must be studied in depth, and to identify those issues that can be eliminated from further study.

### **3. Environmental Audit Scope**

The scope of this environmental audit for the LGS license renewal is to identify those issues which are significant and those issues which can be eliminated from further study and to identify the environmental resources that must be adequately described and evaluated in the site-specific supplemental Environmental Impact Statement (EIS). Audit team members will focus on reviewing the documents and requested information listed in the LGS Environmental Audit Needs List (Enclosure 2) and discussing the information with plant personnel subject matter experts.

#### 4. Information and Other Material Necessary for the Environmental Audit

As described in the Site Audit Needs List (Enclosure 2).

#### 5. Tentative Team Assignments Area of Review Assigned Auditor

The environmental audit team members and their specific discipline assignments are shown in Table 1. Those members of the team who are contractors from Pacific Northwest National Laboratory will have PNNL after their name.

**Table 1 Environmental Audit Team Members and Resource Assignments**

<b>Discipline</b>	<b>Team Members</b>
Environmental Project Manager	Lisa Regner, NRC
Aquatic	Michelle Moser, NRC Ann Miracle, PNNL
Terrestrial	Briana Balsam, NRC Jim Becker, PNNL
Radiological	William Rautzen, NRC
Hydrology	Kevin Folk, NRC Lance Vail, PNNL
Air/Meteorology	Andrew Stuyvenberg*, NRC Jeremy Rishel, PNNL
Socioeconomic	Jeffrey Rikhoff, NRC Emily Larson, NRC
Land Use	Jeffrey Rikhoff, NRC Anderson, PNNL
Cultural Resources	Allison Travers, NRC Emily Larson, NRC Tara O'Neil, PNNL
Waste Management	William Rautzen, NRC Eva Hickey, PNNL
* May not be participating in environmental site audit.	

#### 6. Logistics

The environmental audit will be conducted at LGS from November 7 - 10, 2011. An entrance meeting will be held with plant management at the beginning of the audit. An exit meeting will be held at the end of this audit.

## **7. Special Requests**

The staff requests the applicant make available the information identified on the Environmental Audit Needs List. Plant staff who are subject matter experts in the disciplines listed on the Environmental Site Audit Needs List should be available for interviews and to provide tours which have been identified on the Environmental Audit Draft Schedule (Enclosure 3).

## **8. Deliverables**

A report should be issued by the NRC staff to the applicant within 90 days from the end of the environmental audit.

DRAFT

**LIMERICK GENERATING STATION, UNITS 1 AND 2  
LICENSE RENEWAL ENVIRONMENTAL SITE AUDIT NEEDS LIST**

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed Appendix E, the Environmental Report (ER), of the Limerick Generating Station, Units 1 and 2 (LGS) license renewal application (LRA) and has found that it meets the requirements of 10 CFR 51.45.

Please make the following available to staff during the environmental site audit.

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
<b>AQ</b>			<b>Aquatic Ecology</b>	
AQ-1	2.2.3	ESRP/S1 2.3, 2.2.3, 2.2.5	<p>Several historic and recent monitoring studies are cited for the Schuylkill River, Perkiomen Creek, and East Branch Perkiomen Creek. Provide staff or contractors that are knowledgeable on these studies, and provide the following references:</p> <ul style="list-style-type: none"> <li>• NAI (Normandeau Associates, Inc.). 2010a. East Branch Perkiomen Creek Aquatic Biology Assessment XIII, 2008 Monitoring Period. Prepared for Exelon Nuclear, Limerick Generating Station. May.</li> <li>• NAI (Normandeau Associates, Inc.). 2010b. East Branch Perkiomen Creek Aquatic Biology Assessment XIV, 2009 Monitoring Period. Prepared for Exelon Nuclear, Limerick Generating Station. July.</li> <li>• NAI (Normandeau Associates, Inc.). 2010c. Fish and Benthic Macroinvertebrate Community Composition in the Schuylkill River in the Vicinity of Limerick Generating Station During 2009. February 2010.</li> <li>• NAI (Normandeau Associates, Inc.). 2010d. Letter from Normandeau Associates, Inc. to Exelon Nuclear via email. Zebra mussel/Asiatic</li> </ul>	Michelle Moser (NRC) / Ann Miracle (PNNL)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
			<p>clam Survey. November.</p> <ul style="list-style-type: none"> <li>• PECO (Philadelphia Electric Company). 1984. Environmental Report – Operating License Stage. Limerick Generating Station Units 1&amp;2. 5 vols.</li> <li>• RMC (RMC Environmental Services). 1984. Progress Report, Non-Radiological Environmental Monitoring for Limerick Generating Station 1979-1983. Prepared for Philadelphia Electric Company. October.</li> <li>• RMC (RMC Environmental Services). 1985. Progress Report, Non-Radiological Environmental Monitoring for Limerick Generating Station 1984. Prepared for Philadelphia Electric Company. December.</li> <li>• RMC (RMC Environmental Services). 1986. Progress Report, Non-Radiological Environmental Monitoring for Limerick Generating Station 1985. Prepared for Philadelphia Electric Company. September.</li> <li>• RMC (RMC Environmental Services). 1987. Progress Report, Non-Radiological Environmental Monitoring for Limerick Generating Station 1986. Prepared for Philadelphia Electric Company. November.</li> <li>• RMC (RMC Environmental Services). 1988. Progress Report, Non-Radiological Environmental Monitoring for Limerick Generating Station 1987. Prepared for Philadelphia Electric Company. September.</li> <li>• RMC (RMC Environmental Services). 1989. Progress Report, Non-Radiological Environmental Monitoring for Limerick Generating Station 1988. Prepared for Philadelphia Electric Company. December.</li> </ul>	
AQ-2	2.2.3	ESRP/S1 2.2.5, 4.1.2 – 4.1.4, 4.8	Describe any aquatic surveys conducted at the Bradshaw Reservoir, the Wadesville Mine Pool and discharge channel, Bedminster Water Processing Facility, and the Still Creek Reservoir.	Michelle Moser (NRC) / Ann Miracle

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
				(PNNL)
AQ-3	3.1.2.1	ESRP/S1 2.2.5, 4.1.2 – 4.1.4, 4.8	Describe the frequency that water is withdrawn from the Schuylkill River compared to other sources.	Michelle Moser (NRC) / Ann Miracle (PNNL)
AQ-4	3.1.2.2	ESRP/S1 2.2.5, 4.1.2 – 4.1.4, 4.8	Describe the average and maximum intake velocity at the Schuylkill Pumphouse.	Michelle Moser (NRC) / Ann Miracle (PNNL)
AQ-5	3.1.2.2	ESRP/S1 2.2.5, 4.1.2 – 4.1.4, 4.8	Describe the intake velocity, traveling screens, and any other operational procedures or structural designs that limit impingement and entrainment at the Point Pleasant Pumping Station on the Delaware River or at the pumping stations on the Bradshaw Reservoir, Still Creek Reservoir, or Wadesville Mine Pool.	Michelle Moser (NRC) / Ann Miracle (PNNL)
AQ-6	4.2 and 4.3	ESRP/S1 2.2.5, 4.1.2 – 4.1.4, 4.8	Describe any impingement or entrainment studies conducted at the Schuylkill or Perkiomen Pumphouse or at the intakes on the Delaware River or the East Branch Perkiomen Creek.	Michelle Moser (NRC) / Ann Miracle (PNNL)
AQ-7	4.4	ESRP/S1 2.2.5, 4.1.2 – 4.1.4, 4.8	Describe any studies examining the extent of a thermal plume as a result of discharges to the Schuylkill River.	Michelle Moser (NRC) / Ann Miracle (PNNL)
AQ-8	2.5,	ESRP/S1	Provide staff or contractors that are knowledgeable regarding the	Michelle

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
	Appendix C	2.2.5, 4.1.2 – 4.1.4, 4.8	Pennsylvania Natural Diversity Index (PNDI) search to discuss the three species of concern identified in that search for LGS license renewal. Discuss the potential location of these species on the LGS site and at the Bradshaw Reservoir and Pumphouse, as discussed on Page 2-44 of the ER.	Moser (NRC) / Ann Miracle (PNNL)
<b>CR</b>			<b>Cultural Resources</b>	
CR-1	2.10	ESRP/S1 2.2.1 – 2.2.8 NEPA NHPA	Provide pre- and post-construction aerial photographs, if available.	Allison Travers (NRC) / Tara O'Neil (PNNL)
CR-2	2.10	ESRP/S1 2.2.1 – 2.2.8 and 4.4.5 NEPA NHPA	Provide the references called out in Section 2.10 of the Environmental Report (ER) for the archaeological surveys and the architectural and historical analysis of the Fricks Lock Historic District.	Allison Travers (NRC) / Tara O'Neil (PNNL)
CR-3	2.10	ESRP/S1 2.2.1 – 2.2.8 and 4.4.5 NEPA NHPA	Provide all correspondence received from the PA State Historic Preservation Office (SHPO) regarding finding of effect determinations referenced in Section 2.10 of the ER.	Allison Travers (NRC) / Tara O'Neil (PNNL)
CR-4	2.10	ESRP/S1 2.2.1 – 2.2.8 and 4.4.5 NEPA NHPA	Page 2-77 of the ER describes the online database search (CRGIS) for resources located in Montgomery and Chester Counties as well resources within a 6 mile radius of LGS. List and describe the type of cultural resources that occur on the LGS site as a result of the CRGIS query.	Allison Travers (NRC) / Tara O'Neil (PNNL)
CR-5	2.10 4.19	ESRP/S1	Describe the process to identify Tribes and interested parties to consult with	Allison

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
		2.2.1 – 2.2.8 and 4.4.5 NEPA NHPA	regarding the potential impacts to cultural resources as a result of the license renewal project.	Travers (NRC) / Tara O’Neil (PNNL)
CR-6	2.10 4.19 Attachment D	ESRP/S1 2.2.1 – 2.2.8 and 4.4.5 NEPA NHPA	Provide copies of all consultation letters with SHPO, Tribes, and interested parties as well as response letters and comments received from the SHPO, Tribes, and interested parties as a result of the license renewal project that may have been produced since the ER submittal to NRC and/or that are not included in the ER.	Allison Travers (NRC) / Tara O’Neil (PNNL)
CR-7	2.10 4.19	ESRP/S1 2.2.1 – 2.2.8 and 4.4.5 NEPA NHPA	Provide a copy of the following: ER Page 2-77 “Exelon Generation has specific procedures, including a cultural resource management plan for protecting cultural resources, including the Fricks Locks Historic District and the Schuylkill Navigation Company (Girard) Canal, from activities related to operation and maintenance of the LGS.	Allison Travers (NRC) / Tara O’Neil (PNNL)
CR-8	2.10 4.19	ESRP/S1 2.2.1 – 2.2.8 and 4.4.5 NEPA NHPA	Provide a figure (map) with the area of potential effect that Exelon Generation defined for informal consultation with the PA SHPO with key structures/features of the LGS.	Allison Travers (NRC) / Tara O’Neil (PNNL)
<b>EJ &amp; S</b>			<b>Environmental Justice &amp; Socioeconomics</b>	
EJ-1			Provide information about any observed subsistence consumption behavior patterns—specifically fish and wildlife consumption—by minority and low-income populations in the vicinity of LGS. This subsistence consumption behavior could consist of hunting, fishing, and trapping of game animals and any other general food gathering activities (e.g., collecting nuts, berries, and	Jeff Rikhoff (NRC)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
			other plant material) conducted by minority and low-income individuals in the vicinity of LGS.	
EJ-2			Provide information about current or past wildlife sampling and testing of game animals such as deer, squirrel, turkey, pheasant, duck, fish and other game birds and animals that may have been conducted in the vicinity of LGS. Wildlife sampling and testing may have been conducted before, during, and after plant construction and in the early days of plant operation, but was discontinued after determining that tissue samples consistently showed no significant or measurable radiological impact on the environment from plant operations.	Jeff Rikhoff (NRC)
S-1	2.7	ESRP/S1 2.2.8	In addition to property tax payment information presented in Section 2.7 of the ER, describe any other major annual support payments, one-time payments, and other forms of non-tax compensation (if any) provided to local organizations, communities, and jurisdictions (e.g., county, municipality, townships, villages, incorporated places, and school districts) on behalf of LGS.	Jeff Rikhoff (NRC)
S-2	2.7	ESRP/S1 2.2.8	Provide information about any changes in assessed property value or any other recent or anticipated payment adjustments that could result in notable increases or decreases in tax or other payments.	Jeff Rikhoff (NRC)
S-3	2.7	ESRP/S1 2.2.8	Table 2.7-1 "LGS Property Tax Payments, 2006 – 2010" notes that "Montgomery County numbers include Payments in Lieu of Taxes (PILOT)." Section 2.7 of the ER does not mention PILOT payments. Provide information about PILOT payments and the status of any negotiated agreements with local taxing jurisdictions.	Jeff Rikhoff (NRC)
S-4	2.1.1	ESRP/S1 2.1.1	Data on the height of the tallest (visible from offsite locations) structures at LGS and general information on the visibility of plant facilities from various	Jeff Rikhoff (NRC)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
			offsite locations.	
S-5	2.1.1	ESRP/S1 2.1.1	Provide possible noise emissions from the site that could be a nuisance in the vicinity of LGS. Also, provide information if complaints have been received at LGS concerning noise from operations heard offsite.	Jeff Rikhoff (NRC)
<b>HP</b>			<b>Health Physics and Waste</b>	
HP-1			Provide information on any abnormal, unusual spills, and leaks of radioactive material that occurred onsite that are applicable to the criteria in 10 CFR 50.75(g) and NEI 07-07, "Industry Ground Water Protection Initiative – Final Guidance Document."	Bill Rautzen (NRC) / Eva Hickey (PNNL)
HP-2			Provide information on handling, processing, storage, and disposal of low-level radioactive waste including any on-site disposals.	Bill Rautzen (NRC) / Eva Hickey (PNNL)
HP-3			Provide information on the generation, handling, processing, storage, and disposal of mixed waste.	Bill Rautzen (NRC) / Eva Hickey (PNNL)
HP-4			Provide information on the radiological groundwater protection program (RGPP).	Bill Rautzen (NRC) / Eva Hickey (PNNL)
<b>HWQ-GW</b>			<b>Hydrology and Water Quality - Groundwater</b>	
HWQ-	2.3.2 /	ESRP/S1	For all four site supply wells, please provide the last 5-years of monthly	Kevin Folk

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
GW-1	3.1.2.4 4.5	2.2.2 / 4.5.1	records for site groundwater production with outage periods identified.	(NRC) / Lance Vail (PNNL)
HWQ-GW-2	2.3.3	ESRP/S1 2.2.3	Provide a copy of the 2006 Hydrogeologic Investigations Report for review, as cited in the ER.	Kevin Folk (NRC) / Lance Vail (PNNL)
HWQ-GW-3	2.3.3 5.2	ESRP/S1 2.2.3	Provide a summary of the results of groundwater monitoring performed for tritium, strontium-90, and gamma-emitting radionuclides since 2006 under the RGPP.	Kevin Folk (NRC) / Lance Vail (PNNL)
<b>HWQ-SW</b>			<b>Hydrology and Water Quality – Surface Water</b>	
HWQ-SW-1	3.1.2.1 4.1	ESRP/S1 2.2 / 4.1.1	The LRA states that “DRBC approval of the request [docket revision] is pending as of the date of this report’s publication.” Provide staff that are knowledgeable on this topic and are able to provide an update of the status of the docket request.	Kevin Folk (NRC) / Lance Vail (PNNL)
HWQ-SW-2	3.1.2.2	ESRP/S1 2.2.2 / 4.1 / CWA 316(b)	Clean Water Act 316(b) Phase II requirements regarding intakes are currently proposed by the Environmental Protection Agency and scheduled to be approved by July 27, 2012. Provide staff that are knowledgeable on this topic and identify any anticipated changes in the existing design to comply with the proposed 316(b) requirements.	Kevin Folk (NRC) / Lance Vail (PNNL)
HWQ-SW-3	3.1.2.1	ESRP/S1 2.2.3	Provide a copy of the NPDES permit renewal application for PA0051926 for review.	Kevin Folk (NRC) / Lance Vail (PNNL)
HWQ-SW-4	3.1.2/ 9.0	ESRP/S1 1.3 / 2.2.3	Provide any Notices of Violation (NOVs), nonconformance notifications, or related infractions received from regulatory agencies associated with NPDES	Kevin Folk (NRC) / Lance

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
		NEPA	permitted discharges, sewage systems, groundwater or soil contamination, including spills, leaks, and other inadvertent releases of fuel solvents, chemicals, or radionuclides (covering past 5 years).	Vail (PNNL)
HWQ-SW-5	App A-1	ESRP/S1 2.2.3	Provide all non-radiological monitoring reports from the last 5 years, including Discharge Monitoring Reports and surface water use/diversion reports,	Kevin Folk (NRC) / Lance Vail (PNNL)
<b>LU-T</b>			<b>Land Use and Transmission Lines</b>	
LU-T 1	2.1.3.4	ESRP/S1 2.1.7	<b>LGS Transmission System – Line 5030:</b> The text on page 2-6 states, “The current LGS transmission system is essentially the same as that originally constructed for LGS.” The transmission line description for Line 5031 on page 2-8 briefly mentions a pre-existing ROW (5030 line from Peach Bottom). It’s not clear in the ER what role, if any, the 500 kV 5030 line played during the construction of LGS. Since it is not described in detail, it is assumed that the 5030 line was not needed to connect LGS to the regional electricity grid. Please confirm whether or not it was considered part of the LGS transmission system constructed to connect LGS to the regional electricity grid.	Jeff Rikhoff (NRC) / Dave Anderson (PNNL)
LU-T 2	2.1.3, 2.8.2	ESRP/S1 2.2.1	<b>Coastal Zone:</b> Please confirm that the Limerick site is not in the coastal zone affected by the Coastal Zone Management Act or State-equivalent statutes. If the site is subject to these laws, please provide applicable discussion and context.	Jeff Rikhoff (NRC) / Dave Anderson (PNNL)
LU-T 3	Not applicable	Not applicable	<b>Power Uprate:</b> Confirm whether or not the proposed power uprate would require transmission system upgrades (substation expansion, new lines, corridors, etc.).	Jeff Rikhoff (NRC) / Dave Anderson (PNNL)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
<b>MET</b>			<b>Meteorology and Air Quality</b>	
MET-1	2.9.2	ESRP/S1 2.2.4	Provide hourly meteorological data, preferably in the Regulatory Guide 1.23 Revision 1 format, from the LGS onsite meteorological program for the most recent 5-year period of record.	Drew Stuyvenberg (NRC) / Jeremy Rishel (PNNL)
MET-2	2.9.4	ESRP/S1 2.2.4	Provide a list of permitted air emission sources in the Title V operating permit and the associated emission quantities.	Drew Stuyvenberg (NRC) / Jeremy Rishel (PNNL)
MET-3	2.9.4	ESRP/S1 2.2.4	Provide recent annual statement(s) to the Pennsylvania Department of Environmental Protection (PADEP) for emissions of air pollutants resulting from operations at LGS.	Drew Stuyvenberg (NRC) / Jeremy Rishel (PNNL)
<b>TE</b>			<b>Terrestrial Ecology</b>	
TE-1	2.4.1	ESRP/S1 2.2.6	<p>The ER reiterates the expected outcomes of potential impacts described in the Final Environmental Statement (FES)-Construction Permit and FES-Operating License. Briefly describe what specific records or information Exelon Generation reviewed to determine that no new and significant information exists for each of the following:</p> <ul style="list-style-type: none"> <li>• Avian collisions with cooling towers</li> </ul>	Briana Balsam (NRC) / Jim Becker (PNNL)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
			<ul style="list-style-type: none"> <li>• Cooling tower salt drift deposition effects on native and ornamental vegetation</li> <li>• Avian collisions with transmission lines and electrocutions</li> <li>• Transmission line and water pipeline corridor maintenance effects on nesting birds and non-target biota</li> <li>• Spray pond operation, maintenance, and routine testing effects on wildlife, particularly avian species (e.g., waterfowl) that may be inclined to nest there.</li> </ul>	
TE-2	2.4.1, 2.4.2	ESRP/S1 2.2.6, 3.8.1, 4.6.1	<p>Clarify if the “recent field reconnaissance” mentioned on page 2-39, paragraph 3, refers to the 2006 Site Assessment and Wildlife Management Opportunities prepared by WHC. If not, please provide a description of this field reconnaissance plus any associated reports or documentation.</p> <p>Similarly, clarify if the “surveying of biodiversity of Possum Hollow Run” on page 2-39, paragraph 7, also refers to the same 2006 assessment by WHC. If not, please provide any survey reports or documentation related to this effort.</p>	Briana Balsam (NRC) / Jim Becker (PNNL)
TE-3	2.4.1, 2.4.2	ESRP/S1 2.2.6, 3.8.1, 4.6.1	Provide copies of the bird surveys conducted from 1972-1985 mentioned on page 2-39, paragraph 4, of the ER.	Briana Balsam (NRC) / Jim Becker (PNNL)
TE-4	2.4.1	ESRP/S1 2.2.6	<p>Provide any additional information or material that the NRC can reference in its EIS relating to LGC’s Environmental Stewardship Committee projects mentioned on page 2-39, Paragraph 6, of the ER. Specifically, describe:</p> <p>(a) The locations of artificial avian and raptor nesting structures, the species that benefit from these structures, and any ongoing monitoring of these nest</p>	Briana Balsam (NRC) / Jim Becker (PNNL)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
			<p>sites.</p> <p>(b) The location, purpose, and specific frog species that benefit from the 300-ft-long fence.</p>	
TE-5	2.4.2	ESRP/S1 2.2.6	Provide a copy of LGS's WHC Corporate Wildlife Habitat Certification that is referenced on Page 2-39, Paragraph 3, of the ER.	Briana Balsam (NRC) / Jim Becker (PNNL)
TE-6	2.4.2	ESRP/S1 2.2.6	Provide a copy of LGS's Wildlife Management Plan that is referenced on Page 2-39, Paragraph 3, of the ER.	Briana Balsam (NRC) / Jim Becker (PNNL)
TE-7	2.4.2, 3.1.3.1, 3.1.3.2, 3.1.3.3	ESRP/S1 2.2.6	<p>Provide the following ER references:</p> <ul style="list-style-type: none"> <li>• WHC, 2006. WHC (Wildlife Habitat Council). 2006. Site Assessment and Wildlife Management Opportunities prepared for Exelon Corporation's Limerick Generating Station. 100 pp. Illustrated. August.</li> <li>• Exelon Generation, 2010c. Exelon Generation. 2010c. Limerick Generating Station Wildlife Management Plan.</li> </ul>	Briana Balsam (NRC) / Jim Becker (PNNL)
TE-8	2.4.1, 2.4.2	none	The ER on page 2-37 states that no terrestrial monitoring was required as part of the annual, non-radiological environmental monitoring conducted from 1984 to 2004. However, the ER on page 2-43 cites the annual, non-radiological environmental monitoring reports as evidence that no State- or Federally listed threatened or endangered species had been observed on or in the vicinity of the LGS plant site. Please verify that State- or Federally listed threatened or endangered species would appear under Section 2.7, Non-Routine Reports,	Briana Balsam (NRC) / Jim Becker (PNNL)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
			had any protected species been observed or harmed on the site.	
TE-9	3.1.3.2, 3.1.3.3	ESRP/S1 2.2.6	Provide a copy of PECO's transmission line vegetative maintenance procedure(s).	Briana Balsam (NRC) / Jim Becker (PNNL)
TE-10	3.1.3.2, 3.1.3.3	ESRP/S1 2.2.6	Provide knowledgeable staff that can discuss the following regarding transmission line maintenance:  (a) PECO's integrated management plan for maintaining transmission line corridors  (b) Description of the agencies with whom PECO partners and what is collaboratively undertaken to promote biodiversity and reduce long-term impacts within and along transmission line corridors  (c) Description of any impact mitigation, as well as what types of mitigation, actions that may halt vegetative maintenance, and any agencies or groups that PECO partners to carry out mitigative actions.	Briana Balsam (NRC) / Jim Becker (PNNL)
TE-11	2.1.3 2.4.2 2.5.5		Provide an LGS topographical map of the site and vicinity including:  • the following facilities associated with the Limerick makeup water supply system discussed on Page C-3 of the ER:  o the Perkiomen Pumphouse and associated underground 7.6-mi long Perkiomen Pumphouse-to-LGS pipeline;  o the Bradshaw Reservoir and Bradshaw Pumphouse;  o the Bedminster Water Processing Facility;	Briana Balsam (NRC) / Jim Becker (PNNL)

	ER Section	ESRP / Supplement 1 Regulation	Information Needed	Responsibility
			<ul style="list-style-type: none"> <li>o the underground water transmission main (routed within a natural gas pipeline right-of-way)</li> <li>• the full in-scope length of each of the 6 transmission lines discussed in Section 2.1.3 of the ER.</li> <li>• the location of avian and raptor nesting structures discussed on Page 2-39 of the ER.</li> <li>• the location of the 91.1-meter fence to reduce frog casualties discussed on Page 2-39 of the ER.</li> <li>• the location of outdoor classroom with butterfly garden and fish pond discussed on Page 2-39 of the ER.</li> <li>• the potential location of the Tooth-cup on the Limerick site, as discussed on Page 2-44 of the ER.</li> </ul>	

### **Tours/Discussions Requested with the Exelon Generation Company:**

- The hydrologists and aquatic ecologists would like a general tour of the project area including all water sources to be used at LGS including associated intake structures and conveyances, significant streams and other surface water features, and NPDES outfall locations.
- The hydrologists would like a general tour of the groundwater supply well locations, and Groundwater Protection Program well locations.
- The hydrologist expert would also like a meeting with the applicant or responsible contractor for writing the hydrological portions of the ER who can discuss the project and hydrological resources within the area of potential effect. The aquatic ecologists will likely participate in the portion of this meeting related to dredging, water quality, and 316(b) regulations..
- The cultural resource expert would like a general tour of the project area in relation to known significant cultural resources on the LGS. The expert would also like a meeting with the applicant or contractor responsible for writing the cultural resources portions of the ER who can discuss the project and known cultural resources located within the area of potential effect.
- The health physicist and waste experts would like a general tour of the project area to identify onsite storage or staging of solid wastes and the Independent Spent Fuel Storage Installation for spent fuel. Additionally, the experts request a tour of the radiological waste processing and storage areas.
- The aquatic ecologist would like a meeting with the applicant or contractor responsible for writing the aquatic communities portions of the ER who can discuss the project and known aquatic resources within the area of potential effect. As noted above, the aquatic ecologists is also interested in discussing dredging, water quality, and 316(b) regulations as part of the hydrology discussions.
- The terrestrial ecologist expert would like a tour of areas where biological investigations have been done, such as Possum Hollow run and an off-site location other than the transmission lines, such as the Bradshaw Reservoir and Pumphouse. The expert would prefer a meeting with the applicant or responsible contractor for writing the terrestrial ecology portions of the ER who can discuss the project and known terrestrial resources within the area of potential effect.
- The health physicist expert would like a tour of the low-level radioactive waste storage facility, the radioactive effluent monitoring systems, and the radiological environmental monitoring stations (e.g. air monitoring stations, including any co-located state monitoring stations).

### **Off-Site Meetings:**

#### **Meeting with the State Historic Preservation Office during the week of the audit, November 7:**

A SHPO staff person will attend the audit due to the cultural resources (Fricke's Lock) involved in this review. The purpose of the meeting is to discuss NRC's licensing action, schedule, opportunities to participate in the NEPA process, process for completing Section 106 by coordinating with NEPA (in accordance with 36 CFR 800.8c) and any questions or issues the SHPO may have concerning cultural resources.