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10 CFR 50
10 CFR 51
10 CFR 54

June 21, 2013

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Limerick Generating Station, Units 1 and 2
Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352 and 50-353

Subject: Exelon Generation Company, LLC Review of the Draft Plant-Specific Supplement 49 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Limerick Generating Station, Units 1 and 2

Reference: 1. Exelon Generation Company, LLC letter from Michael P. Gallagher to NRC Document Control Desk, "Application for Renewed Operating Licenses", dated June 22, 2011
2. Letter from David J. Wrona (NRC) to Michael P. Gallagher (Exelon), "Notice of Availability of the Draft Plant-Specific Supplement 49 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Limerick Generating Station, Units 1 and 2", dated April 30, 2013

In the Reference 1 letter, Exelon Generation Company, LLC (Exelon) submitted the License Renewal Application (LRA) for the Limerick Generating Station, Units 1 and 2 (LGS).

In the Reference 2 letter, the U.S. Nuclear Regulatory Commission informed Exelon of the availability of the Draft Plant-Specific Supplement 49 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Limerick Generating Station, Units 1 and 2 and requested reviewers to provide comments to the staff by June 27, 2013.

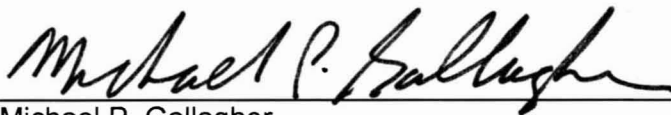
Exelon has completed its review and is submitting, as an enclosure to this letter, written comments on the Draft Plant-Specific Supplement 49 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants regarding Limerick Generating Station, Units 1 and 2.

There are no new or revised regulatory commitments contained in this letter.

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If you have any questions, please contact Mr. Al Fulvio, Manager, Exelon License Renewal, at 610-765-5936.

Respectfully,

A handwritten signature in black ink, appearing to read "Michael P. Gallagher". The signature is written in a cursive style and is positioned above a horizontal line.

Michael P. Gallagher
Vice President - License Renewal Projects
Exelon Generation Company, LLC

Enclosure: Comments Related to the Draft Plant-Specific Supplement 49 to the Generic
 Environmental Impact Statement for License Renewal of Nuclear Plants
 Regarding Limerick Generating Station, Units 1 and 2.

cc: Regional Administrator – NRC Region I
 NRC Project Manager (Environmental Review), NRR-DLR
 NRC Project Manager (Safety Review), NRR-DLR
 NRC Project Manager, NRR- DORL Limerick Generating Station
 NRC Senior Resident Inspector, Limerick Generating Station
 R. R. Janati, Commonwealth of Pennsylvania

Enclosure

Comments Related to the Draft Plant-Specific Supplement 49 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Limerick Generating Station, Units 1 and 2.

The table on the following pages contains comments and suggestions for NRC staff consideration, based upon Exelon's review of the Draft Plant-Specific Supplement 49 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Limerick Generating Station, Units 1 and 2.

An item number is provided in column 1, the page number from the document is given in column 2, the line number on the page from the document is listed in column 3, the Section number from the document is given in column 4 and the comment is provided in column 5.

Exelon Comments on the Draft Plant-Specific Supplement 49 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Limerick Generating Station, Units 1 and 2

Where suggested changes are provided, they are highlighted with **bolded italics** for inserted text and strikethroughs for deleted text.

Item #	Page #	Line #	Section #	Comment
1.	2-6	12 to 13	2.1.2.2	Clarify the sentence that reads "Discharge of these gases are planned, monitored, controlled, and discharged through the south stack" by changing it to read as follows (see LGS ER page 3-18, 3rd para.): "Discharge of these gases are is planned, monitored, and controlled. and All are discharged through the north stack, except those from the reactor enclosures, which are discharged through the south stack."
2.	2-6	14 to 15	2.1.2.2	Clarify the sentence that reads "The standby gas treatment system (SGTS) and the reactor enclosure recirculation system (RERS) are used to reduce radioactive levels before being discharged into the environment" by changing it to read as follows (see LGS ER page 3-18, 4th para.): "The standby gas treatment system (SGTS) and the reactor enclosure recirculation system (RERS) are used to reduce radioactive radioactivity levels before being discharged into the environment in gases from the reactor enclosures before they are discharged into the environment. "
3.	2-6	17 to 18	2.1.2.3	Clarify the sentence that reads "The solid waste management system collects, processes, and packages solid radioactive waste for storage and offsite shipment and permanent disposal" by changing it to read as follows (see LGS ER page 3-19 and 3-20): "The solid waste management system collects, processes, and packages solid radioactive wastes for temporary onsite storage, as well as shipment and permanent offsite disposal and offsite shipment and permanent disposal. "
4.	2-6	23 to 24	2.1.2.3	Because (1) not all dry wastes are sent to Duratek for processing and (2) Duratek does not provide final disposal services, clarify the sentence that reads "Compressible and non-compressible wastes are packaged and temporarily stored until they are sent to Duratek in Tennessee for processing or final disposal" by changing it to read as follows (see LGS ER page 3-20): "Compressible and non-compressible wastes are packaged and temporarily stored until they are sent offsite to Duratek in Tennessee for processing or final disposal."
5.	2-6	26 to 29	2.1.2.3	Clarify the sentence that reads "Wastes from the reactor water cleanup (RWCU) system floor drains, equipment drains, and fuel pool system usually exceed the criteria for LLRW or low specific activity material and are packaged in containers and stored in the high level storage area (HLSA), which is located in the Radwaste Enclosure" by changing it to read as follows (see LGS ER page 3-20): " However, wet wastes from the reactor

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				water cleanup (RWCU) system floor drains, equipment drains, and fuel pool system usually exceed the criteria for both Class A LLRW and low specific activity material. and Therefore, if they cannot be reused, they are packaged in containers and stored in the high level storage area (HLSA), which is located in the Radwaste Enclosure."
6.	2-16	34 to 35	2.1.6.1	The sentence in lines 34 to 35 on page 2-16 reads as follows: "The screens have 0.25-in. (0.64-cm) mesh openings designed to limit water approaching the screens to a velocity of 0.75 fps (0.23 m/s)." As Exelon explained in its March 27, 2012 response to the NRC's Request for Additional Information, item E1-7, the information in this sentence was based on initial design information provided during the LGS construction permit stage (in Section 3.4.3 of the LGS ER-CP) and subsequently reflected in the LGS FES-CP and ASLB Initial Decision of June 14, 1974. However, changes made to the initial Schuylkill Pumphouse design resulted in a decrease from 0.75 fps to 0.61 fps in design velocity for the as-built screens. This decrease is acknowledged in Section 4.2.4 of the LGS FES-OL, as well as in the DRBC Docket No. D-1969-210 CP-13 (p. 3, Sec. A.2.b), which was approved on May 8, 2013. Accordingly, Exelon requests that the sentence in lines 34 to 35 on page 2-16 be revised to read as follows: "The screens have 0.25-in. (0.64-cm) mesh openings designed to limit water approaching the screens to a velocity of 0.75 fps (0.23 m/s) 0.61 fps (0.19 m/s) ."
7.	2-6	41	2.1.2.3	Replace the last two sentences of the paragraph that begins in line 41 on page 2-6 as follows: " Class B/C LLRW stored at LGS or packaged in the future will be sent to PBAPS to be stored at the LLRW storage Purpose and Need for Action facility at that site. The storage capacity for LGS Class B/C 1 wastes at PBAPS is expected to be sufficient through the extended operating license for both LGS units. Class B/C LLRW stored at LGS or packaged in the future may be sent to PBAPS to be stored at the LLRW storage facility at that site. The storage capacity for LGS Class B/C wastes at PBAPS is expected to be sufficient through the extended operating license for both LGS units. However, storage of LGS Class B/C wastes at PBAPS should be unnecessary during the term of a contract, which was executed in February 2013, for treatment and disposal of such wastes at a licensed off-site facility in Texas. "

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8.	2-7	7 to 9	2.1.2.4	Clarify the words "however, if it were necessary to treat and dispose of LLMW during the license renewal period, Exelon would store it on site, in compliance with the 1976 Resource Conservation and Recovery Act (RCRA) storage and treatment conditional exemption" as follows: " however, if it were necessary to treat and dispose of LLMW were generated during the license renewal period during the license renewal period, Exelon would store it on site, in compliance with the 1976 Resource Conservation and Recovery Act (RCRA) storage and treatment conditional exemption."
9.	2-7	13 to 17	2.1.2.4	Consider deleting the paragraph in lines 13 to 17 on page 2-7 because it repeats information provided in the preceding paragraph. In addition, although Exelon has previously shipped LLMW for treatment and disposal by the facilities named in the paragraph, future contractual arrangements may be different.
10.	2-8	20 to 21	2.1.3.1	Under Pennsylvania regulations there are 4 types of universal waste management facilities: large quantity handlers of universal waste (LQHUWs), small quantity handlers of universal waste (SQHUWs), universal waste transporters, and destination facilities. As stated in section 3.1.4.2, p. 3-25, of the LGS License Renewal Environmental Report, LGS is classified as a Small Quantity Handler of universal wastes (less than 5,000 kg accumulated at any time). Accordingly, the sentence in lines 20 to 21 on p. 2-8 of the draft SEIS, should be corrected to read as follows: "LGS is considered a Large Quantity Generator Small Quantity Handler of universal wastes (less than 5,000 kg accumulated at any time) (greater than 2,200 lb [1,000 kg] per month)"
11.	2-23	2 to 3	2.1.7.1	Beginning after the words "and held a hearing on August 28, 2012" on line 3, insert the following sentence: " On May 8, 2013, the DRBC unanimously approved the docket for water withdrawals by and discharges from the LGS. " The approved DRBC Docket No. D-1969-210 CP-13 is available on the DRBC Web site at the following URL: http://www.state.nj.us/drbc/library/documents/dockets/050713/1969-210CP-13.pdf
12.	2-23	30 to 31	2.1.7.2	Because the DRBC docket for LGS has been approved, revise the sentence in lines 30 to 31 on p. 2-23 as follows: " The draft docket issued by the DRBC (see Section 2.1.7.1) proposes groundwater production limits for LGS. The approved DRBC docket for LGS (see Section 2.1.7.1) restricts groundwater withdrawals from each LGS well and from the total system,

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				<i>except during fire emergencies and other plant emergencies."</i>
13.	2-33	45 to 47	2.2.4.2	In lines 45 to 47 on page 2-33, the LGS DSEIS indicates that Exelon has not received any Notices of Violation, nonconformance notifications, or related infractions associated with the site's NPDES permits or related to other water quality matters within the past 5 years, based on a letter from Exelon to NRC responding to an NRC request for additional information, dated February 28, 2012. Please note that the Pennsylvania Department of Environmental Protection (PADEP) issued a Notice of Violation (NOV) to LGS dated 03/06/2012. The NOV addressed external corrosion and pitting observed by PADEP on the outer shells of the Unit 1 and 2 Sulfuric Acid Aboveground Storage Tanks (DEP Tank Nos. 001A and 002A) during inspections that were performed in December 2011. LGS completed the required corrective actions, had the tanks re-inspected, and submitted a letter to the PADEP on 03/27/2012 documenting the corrective actions. At this time, there are no open actions with respect to the NOV, and no other NOV's have been received in the past 5 years.
14.	2-37	11 to 13	2.2.6	During the water supply demonstration project (see LGS License Renewal Application Environmental Report, p. 3-8, Section 3.1.2.1), the DRBC removed temperature as a restriction on water withdrawal from the Schuylkill River, and the DRBC docket issued on May 8, 2013 did not reinstate any temperature restriction. Accordingly, Exelon requests that the sentence in lines 11 to 13 on page 2-37 be revised as follows: "When temperature and flow conditions in the Schuylkill River do not meet DRBC criteria for water use, LGS secondarily relies on water from Perkiomen Creek."
15.	2-40	31	2.2.6.1	During the water supply demonstration project (see LGS License Renewal Application Environmental Report, p. 3-8, Section 3.1.2.1), the DRBC removed temperature as a restriction on water withdrawal from the Schuylkill River, and the DRBC docket issued on May 8, 2013 did not reinstate any temperature restriction. Accordingly, Exelon requests that the sentence in lines 11 to 13 on page 2-37 be revised as follows: "As described in Section 2.1.6, LGS withdraws water from Perkiomen Creek, rather than the Schuylkill River, if the flow and temperature conditions in the Schuylkill River do not meet DRBC criteria for water use."

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16.	2-62	6 to 21	2.2.8.3	On February 18, 2013, a bald eagle was observed and photographed hunting waterfowl in the LGS spray pond. This observation will be reported in the Limerick Corporate Lands for Learning application to be submitted to the Wildlife Habitat Council in late June 2013.
17.	2-71	8 to 10	2.2.9.5	Clarify the sentence in lines 8 to 10 on page 2-71 by revising it as follows: "As the ROI has a population greater than or equal to 190 persons per square mile within 80.4 km (50 miles), this translates to a Category 4, <i>"in close proximity" population density based on the GEIS measure of proximity</i> (greater than or equal to 190 persons per square mile within 50 miles)."
18.	2-83	35 to 37	2.2.10.2	Because rehabilitation and mothballing activities at the Fricks Lock Historic District have been completed, revise the sentence in lines 35 to 37 on page 2-83 as follows: "The rehabilitation and mothballing activities are specified to meet the Secretary of Interior's Standards for Rehabilitation and construction activity, <i>which began is expected to begin in 2012, was completed in May 2013.</i> "
19.	4-4	20 to 22	4.4	The sentence in lines 20 to 22 on p. 4-4 indicates that NRC staff did not consider use of water from the Wadesville Mine Pool and the Still Creek Reservoir in its impact level determination because the final DRBC docket had not been approved and use of these waters remained a demonstration project. Exelon recommends modifying the sentence based on DRBC's approval of Docket No. D-1969-210 CP-13 on May 8, 2013. The approved docket, which authorizes the Wadesville Mine Pool and Still Creek Reservoir as augmentation water sources for the Schuylkill River, is available on the DRBC Web site at the following URL: http://www.state.nj.us/drbc/library/documents/dockets/050713/1969-210CP-13.pdf
20.	4-4	28 to 30	4.4	Because the DRBC made the demonstration project permanent by approving Docket No. D-1969-210 CP-13 on May 8, 2013, consider revising the sentence in lines 28 to 30 on page 4-4 as follows: "This trend toward an increasing reliance on augmented flows in the Schuylkill River would be expected to increase during the license renewal term should the demonstration project continue or be made permanent by DRBC, as requested by Exelon. "
21.	4-23	14 to 16	4.9.2	Because the type of dosimeter used to measure environmental radiation doses may be changed from time to time, revise the sentence in lines 14 to 16 on page 4-23 as follows: "The ambient gamma radiation pathway measures direct exposure

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				from environmental radiation doses using thermoluminescent dosimeters, which are typically thermoluminescent dosimeters.
22.	4-29 to 4-31	NA	4.10.2 to 4.10.5	In sections 4.10.2 to 4.10.5, which discuss the impacts of LGS license renewal on housing, public utilities, offsite land use, and transportation, the DSEIS does not reach conclusions on the level of impacts (i.e., SMALL, MODERATE, etc.). Instead each section concludes that "there would be no ... impacts during the license renewal term beyond those already experienced." Exelon suggests that NRC consider providing impact level determinations in these sections using the standard levels of SMALL, MODERATE, and LARGE adopted in the GEIS.
23.	4-30	33 to 37	4.10.4.2	Because payments to Chester County taxing entities are very small, consider revising the sentences in lines 33 to 37 on page 4-30 as follows: "As discussed in Chapter 2, Exelon pays the majority of its annual property taxes for LGS to the following entities in Montgomery County County and Chester Counties: Limerick Township,; Spring-Ford Area School District, Lower Pottsgrove Township, Pottsgrove School District, Cherster County, East Coventry Township, and Owen J. Roberts School District. Exelon also makes tax payments to taxing authorities in Chester County and Bucks County, but the amounts are relatively minor."
24.	4-48	17	4.12.3.4	NRC's determination of SMALL to MODERATE cumulative impacts on aquatic resources is based on the combination of past flow alterations, increased suburban residential/commercial development, existing power/industrial/municipal NPDES dischargers, Marcellus shale/energy development activities, and climate change. Exelon requests that this conclusion be further clarified by adding the following sentence at the end of the paragraph in line 17 on page 4-48: " However, the most significant contributory effects would come from activities in the region that are unrelated to continued LGS operation. "
25.	4-50	15 to 22	4.12.4	NRC's determination of MODERATE cumulative impacts on terrestrial resources is based on neighboring energy-producing facilities, habitat fragmentation from increased suburban development, agricultural runoff, nearby parks and recreation areas, and climate change, with no contribution for the minimal terrestrial impacts from continued LGS operation. Considering that ,of the neighboring energy-producing facilities, one closed 2 units in 2011 (Cromby), another closed 1 unit in 2012 (Eddystone), and one was withdrawn (Linfield Energy Center),

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				Exelon suggests that SMALL to MODERATE may be a more appropriate cumulative impact level, similar to aquatic resources.
26.	4-53	Socio-economics	Table 4-10	Exelon suggests that NRC consider providing an impact level determination in Table 4-10 for "Socioeconomics" using the standard levels of SMALL, MODERATE, and LARGE adopted in the GEIS.
27.	6-5	13 to 16	6.2.1.2	The LGS DSEIS states that the various studies reviewed show that "the relatively low order of magnitude of GHG [greenhouse gas] emissions from nuclear power, when compared to fossil-fueled alternatives (especially natural gas), <i>could potentially disappear if</i> available uranium ore grades drop sufficiently . . ." (Emphasis added.) This statement is speculative, based on worst-case assumptions, and a review of the information presented in the draft LGS DSEIS reveals it to be incorrect. None of the studies cited in Table 6-3 (page 6-7) shows that the difference in GHG emissions between nuclear and natural gas would "disappear," even under the worst-case speculative conditions of declining ore grades and best-case future improvements in natural gas technology. See, e.g., POST (2006) (showing GHG emissions nearly an order of magnitude lower for nuclear even under these assumptions). For this reason, Exelon suggests reevaluation of the accuracy of the conclusions in the draft LGS DSEIS regarding future relative magnitudes of GHG emissions from nuclear power plants compared to natural gas power plants.
28.	6-9	40	6.2.2	On page 6-9, the draft LGS DSEIS states in line 40 that "[f]ew studies predict that nuclear fuel cycle emissions will exceed those of fossil fuels within a timeframe that includes the LGS periods of extended operation." However, <u>none</u> , rather than "few," of the studies cited in the draft LGS DSEIS appear to support this thesis. Therefore, Exelon suggests that the quoted sentence be deleted and replaced with the following sentence: <i>"Nearly all studies predict that nuclear fuel cycle emissions will remain an order of magnitude or more below those of all types of fossil fuels during the LGS periods of extended operation."</i>
29.	8-9	22 to 23	8.1.2	Because LGS does not use groundwater for service water makeup, revise the sentence in lines 22 to 23 on page 8-9 as follows: "This includes the use of groundwater for service water makeup <i>backup supply of fire emergency water</i> and potable

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				and sanitary uses.”
30.	8-14	32 to 33	8.1.10	The description of a NGCC plant in lines 32 to 33 on page 8-14 is credited to “Exelon 2011.” However, section 8.9 lists no reference document to which this short form citation is assigned. Furthermore, since the draft LGS DSEIS excludes the existing LGS site as the host for replacement generating facilities (see page 8-3, lines 22 to 27), Exelon questions the assumption that an alternative NGCC plant would have two cooling towers that exceed 500 ft in height, which implies natural draft hyperbolic towers. Accordingly, Exelon suggests that the accuracy of the description on page 8-14 of onsite features at an alternative NGCC plant should be verified.
31.	8-21	12 to 13	8.2.2	Because LGS does not use groundwater for service water makeup, revise the sentence in lines 12 to 13 on page 8-21 as follows: “This includes the use of groundwater for service water makeup backup supply of fire emergency water and potable and sanitary uses.”
32.	8-30	42	8.3.2	Because LGS does not use groundwater for service water makeup, revise the sentence in lines 41 to 42 on page 8-30 as follows: “This includes the use of groundwater for service water makeup backup supply of fire emergency water and potable and sanitary uses.”