



ND-2013-0017
July 17, 2013

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

Subject: **PSEG Early Site Permit Application**
Docket No. 52-043
Response to Request for Additional Information, No. Env-02S,
ESP EIS 2.2 – Land Use

- References:
- 1) PSEG Power, LLC Letter No. ND-2013-0006 to USNRC, Submittal of Revision 2 of the Early Site Permit Application for the PSEG Site, dated March 27, 2013
 - 2) Env-02S, Review Section: ESP EIS 2.2 – Land Use, dated June 17, 2013 (eRAI 6972)
 - 3) PSEG Power, LLC Letter No. ND-2012-0052 to USNRC, Response to Request for Additional Information, No. Env-02, ESP EIS 2.2 – Land Use, dated October 1, 2012

The purpose of this letter is to respond to the request for additional information (RAI) identified in Reference 2 above. This RAI addresses Question No. ESP EIS 2.2-11 for the Environmental Report (ER), as submitted in Part 3 of the PSEG Site Early Site Permit Application, Revision 2.

Enclosure 1 provides our response for RAI No. Env-02S, Question No. ESP EIS 2.2-11.

Enclosure 2 includes the revisions to the ER resulting from our response to RAI No. Env-02S.

If any additional information is needed, please contact David Robillard, PSEG Nuclear Development Licensing Engineer, at (856) 339-7914.

DD79
HRO

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 17th day of July, 2013.

Sincerely,



James Mallon
Early Site Permit Manager
Nuclear Development
PSEG Power, LLC

- Enclosure 1: Response to NRC Request for Additional Information, RAI No. Env-02S,
Question No. ESP EIS 2.2-11, Review Section: ESP EIS 2.2 – Land Use
Enclosure 2: CD-ROM Containing Proposed Revisions to the Environmental Report

cc: USNRC Project Manager, Division of New Reactor Licensing, PSEG Site
(w/enclosures)
USNRC Environmental Project Manager, Division of New Reactor Licensing
(w/enclosures)
USNRC Region I, Regional Administrator (w/enclosures)
Oak Ridge National Laboratory

PSEG Letter ND-2013-0017, dated July 17, 2013

ENCLOSURE 1

RESPONSE to RAI No. Env-02S

**QUESTION No.
ESP EIS 2.2-11**

Review Section: ESP EIS 2.2 – Land Use

Response to RAI No. Env-02S, Question ESP EIS 2.2-11:

In Reference 2, the NRC staff asked PSEG for information regarding Land Use, as described in Subsection 2.2 of the Environmental Report. The specific request was:

rTL-03S: The application provided two macro-corridors and stated: "As stated in Chapter 1, PSEG is evaluating whether additional off-site transmission may be necessary for transmission stability, but the location and need have not yet been determined. In order to capture the potential effects of developing off-site transmission, PSEG analyzed the potential effects of two new off-site macro-corridors. No decision has been made as to the selection of the macro-corridor or the specific route within the selected macro-corridor, but two macro-corridor alternatives have been preliminarily considered and are discussed in detail in Subsection 9.4.3. The two 5-mile-wide macro-corridors analyzed are the South and West Macro-Corridors." PJM Interconnection, LLC is responsible for the grid and associated transmission lines.

Based on the above statement, it is unclear to the NRC staff if the transmission lines are reasonably foreseeable for the early site permit application. In the context of NEPA, a reasonably foreseeable impact is commonly understood as an impact that is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision, as opposed to an impact that is merely possible or speculative.

If transmission lines are reasonably foreseeable, provide available information regarding PJM Interconnection LLC's estimated building timeframe for the transmission lines and their purpose (i.e., whether PJM is building them for grid stability and/or to relieve congestion on the grid, or whether they are being built for the sole purpose of connecting the PSEG ESP site to the grid).

Supporting Information: In Section 3.7.2 of the environmental report (ER), PSEG states: To support the new plant, one additional offsite transmission line may be required for transient stability purposes. Formal PJM analyses are required to fully identify the requisite transmission system upgrades that are necessary to accommodate a new nuclear plant at the PSEG Site. These PJM analyses have not been initiated, but formal entry into the PJM generation queue and commencement of these analyses is anticipated when a reactor technology is selected.

PSEG Response to NRC RAI:

The existing Hope Creek Generating Station (HCGS) and Salem Generating Station (SGS) are located on Artificial Island, and are interconnected with the regional power grid via four 500 kilovolt (kV) transmission lines. One line extends to the Red Lion substation in Delaware and three extend to the New Freedom substation in New Jersey.

During development of the ESP application, PSEG completed a conceptual evaluation of transmission requirements associated with the addition of generation at the PSEG Site. This evaluation included the PJM Interconnection, LLC (PJM) Regional Transmission Expansion Plan, existing operational limits at HCGS and SGS, and other PJM transmission planning inputs. PJM routinely performs analyses of the regional transmission system and forecasts appropriate upgrades to the system as part of its long term planning cycle. These evaluations are not specific to the addition of new generation at the PSEG Site.

PSEG's conceptual evaluation indicated that a new off-site transmission line may be needed to accommodate new generation at the PSEG site to ensure transient stability of the transmission system. The need for a new transmission line is dependent upon a range of factors including the specific reactor technology selected and the progress of regional transmission upgrade projects as part of PJM's regional planning efforts. Since the completion of this conceptual evaluation, PJM, as an example of their continuing assessment of system reliability, recently determined that additional grid improvements are necessary to address voltage and stability constraints in the region of Artificial Island. In response, PJM has solicited proposals from both regulated and non-regulated (merchant) transmission providers for system enhancements to address these constraints. PJM's determination of the need for this transmission system upgrade is independent of PSEG's interest in new nuclear generation and is not predicated on the construction of a new nuclear facility at the PSEG Site. Therefore, any transmission upgrade project mandated by PJM, including a new off-site transmission line, is considered to be reasonably foreseeable and is considered to be an action that is independent from the potential development of the PSEG Site. Similarly, since this PJM sponsored grid improvement serves to enhance power delivery throughout the region, it inherently possesses independent utility. Although PJM has not formally assessed the scope and structure of this potential future upgrade, PSEG has accordingly identified the potential impacts of a new off-site transmission line whose technical attributes best meet PJM's goal of addressing these regional constraints. Of the two potential transmission corridors discussed in the Environmental Report (ER), the West Macro-Corridor to the Peach Bottom substation is considered to be the most effective route for addressing the regional voltage and stability constraints that PJM is attempting to resolve. Therefore, in Section 10.5, PSEG has used the characteristics of the West Macro-Corridor to evaluate the potential impacts of a new transmission line as representative of the regional transmission upgrade project currently being pursued by PJM.

Associated PSEG Site ESP Application Revisions:

Table ESP-EIS 2.2-11-1 (attached) provides a summary of subsections of the ESP ER where discussions of off-site transmission lines are located and their disposition as a result of this RAI response. Changes to the ER associated with this response include revisions to Chapters 1, 2, 3, 9, and 10. Additional text was added to Chapters 1, 2, 3, and 9 to clarify more recent PJM actions to address grid instability issues. Chapter 10 was updated to include clarifying introductory narrative and text to reflect the analysis of

cumulative effects associated with a transmission line constructed in the West Macro-Corridor that is representative of the transmission upgrade project currently being pursued by PJM.

Enclosure 2 contains the proposed revisions to ER Chapters 1, 2, 3, 9, and 10. Two versions of the ER markups are provided; a blackline version that shows additions (in italicized red) and deletions (strikethrough), and a hidden version (deletions hidden) to enhance readability.

Table ESP-EIS 2.2-11-1: RAI Env-02S Disposition of ER Changes

ER Section	Topic	Disposition
1.2.5	Sentence directing the reader to Section 9.4.3 for more information regarding potential off-site transmission lines.	Additional text added to clarify more recent PJM actions to address grid instability issues. This section is referred to by subsequent sections in Chapter 2 for details regarding the PJM solicitation of proposals, etc. Pointer included to direct reader to Section 10.5 for cumulative impact assessment.
2.2.3.3	Land use/land cover resources within the potential off-site transmission macro-corridor	Additional text added to clarify more recent PJM actions to address grid instability issues. Pointer included to direct reader to Section 1.2.5
Table 2.2-4	Land use/land cover with the potential off-site transmission macro-corridor	No changes
2.3.1.3	Water resources within the potential off-site transmission macro-corridor	Additional text added to clarify more recent PJM actions to address grid instability issues. Pointer included to direct reader to Section 1.2.5
2.4.1.8	Terrestrial ecology and wetland resources within the potential off-site transmission macro-corridor	Additional text added to clarify more recent PJM actions to address grid instability issues. Pointer included to direct reader to Section 1.2.5
2.4.2.5	Aquatic ecology resources within the potential off-site transmission macro-corridor	Additional text added to clarify more recent PJM actions to address grid instability issues. Pointer included to direct reader to Section 1.2.6
Table 2.4-10	Land use/land cover within the potential off-site transmission macro-corridor	No changes
Table 2.4-11	National Wetland Inventory wetlands within the potential transmission macro-corridor study area	No changes
Table 2.4-29	Stream length within the potential off-site transmission macro-corridor	No changes
2.5.3.7	Historic resources within the potential off-site transmission macro-corridor	Additional text added to clarify more recent PJM actions to address grid instability issues. Pointer included to direct reader to Section 1.2.5
2.8.2.1	Discussion of Mid-Atlantic Power Pathway (MAPP) project	Text updated to reflect recent PJM determination that need for the MAPP project is no longer warranted.

ER Section	Topic	Disposition
3.1.2	Discussion of existing and planned infrastructure at proposed site	Additional text added to clarify that a new off-site transmission line may be needed depending on transmission improvement projects as determined by PJM.
3.7.2	Sentence directing the reader to Section 9.4.3 for more information regarding potential off-site transmission lines.	Additional text added to clarify more recent PJM actions to address grid instability issues. Pointer included to direct reader to Section 1.2.5
4.1.1.2.2	Construction impacts to land use from the potential off-site transmission macro-corridor	No changes
4.1.2.1	Construction impacts to land use from the potential off-site transmission macro-corridor	No changes
4.1.3.3	Construction impacts to historic resources from the potential off-site transmission macro-corridor	No changes
Table 4.1-3	Land use impacts associated with hypothetical off-site transmission rights-of-way	No changes
4.2.1.3.1	Construction impacts to surface water from the potential off-site transmission macro-corridor	No changes
4.2.1.3.2	Construction impacts to floodplains from the potential off-site transmission macro-corridor	No changes
4.2.3.1	Construction impacts to surface water quality from the potential off-site transmission macro-corridor	No changes
4.3.1.7	Construction impacts to terrestrial resources and wetlands from the potential off-site transmission macro-corridor	No changes
4.3.2.6	Construction impacts to aquatic ecosystems from the potential off-site transmission macro-corridor	No changes
Table 4.3-4	Land cover associated with hypothetical off-site transmission right-of-way	No changes
Table 4.3-5	Wetlands associated with hypothetical off-site transmission right-of-way	No changes
Table 4.3-7	Stream lengths associated with hypothetical off-site transmission right-of-way	No changes
4.4.1.1.1.2	Construction impacts to socioeconomic resources from off-site construction activities	No changes

ER Section	Topic	Disposition
4.4.1.1.1.2.2	Construction impacts to socioeconomic resources from the potential off-site transmission macro-corridor	No changes
Table 4.6-1	Summary of measures and controls to limit adverse impacts during construction	No changes
5.1.2	Operations impacts to land use associated with the potential off-site transmission macro-corridor	No changes
5.1.3	Operations impacts to historic properties and cultural resources associated with the potential off-site transmission macro-corridor	No changes
5.6	Transmission system impacts from operations	No changes
5.6.1.1	Operations impacts to important terrestrial habitats from the potential off-site transmission macro-corridor	No changes
5.6.1.2	Operations impacts to important terrestrial species from the potential off-site transmission macro-corridor	No changes
5.6.2.1	Operations impacts to important aquatic habitats from the potential off-site transmission macro-corridor	No changes
5.6.2.2	Operations impacts to important aquatic species from the potential off-site transmission macro-corridor	No changes
Table 5.10-1	Summary of measures and controls to limit adverse impacts during operation	No changes
9.4.3.1	Macro-corridor analysis done for potential off-site transmission routes	Additional text added to clarify more recent PJM actions to address grid instability issues. Clarification added that macro-corridor study included both the South and West Macro-Corridor; however Section 10.5 provides an analysis of only the West Macro-Corridor as part of the cumulative impact assessment.
Table 9.4-1	Counties potentially intersected by each transmission macro-corridor	No changes
Table 9.4-2	Land use/land cover within macro-corridors and hypothetical rights-of-way	No changes
Table 9.4-3	Stream length within macro-corridors and hypothetical rights-of-way	No changes
Table 9.4-4	Wetlands within macro-corridors and hypothetical rights-of-way	No changes

ER Section	Topic	Disposition
Table 9.4-5	Prime and special status farmland within macro-corridors and hypothetical rights-of-way	No changes
Table 9.4-6	Sensitive resources within macro-corridors	No changes
Table 9.4-7	Number of NRHP historic properties within macro-corridors and hypothetical rights-of-way	No changes
Table 9.4-8	Infrastructure within macro-corridors and hypothetical rights-of-way	No changes
Table 9.4-9	100-year floodplain within macro-corridors and hypothetical rights-of-way	No changes
10.0	Introduction to environmental consequences of the proposed action	Additional text added to clarify more recent PJM actions to address grid instability issues. Pointer included to clarify that Sections 10.1 to 10.4 provide a summary of potential adverse impacts as discussed in Chapters 4 and 5 including those of the South Macro-Corridor, whereas Section 10.5 provides an analysis of the West Macro-Corridor as part of the cumulative impact assessment.
10.1.1	Unavoidable adverse environmental impacts of construction due to potential off-site transmission macro-corridor	No changes
Table 10.1-1	Construction-related unavoidable adverse environmental impacts	No changes
Table 10.1-2	Operations-related unavoidable adverse environmental impacts	Clarifying text added to water quality and noise impact sections regarding BMPs and other state mandates.
10.2.1.2	Irreversible environmental commitments of land use due to potential off-site transmission macro-corridor	No changes
10.4.2.2.1	Costs associated with land use due to potential off-site transmission macro-corridor	No changes
Table 10.4-2	PSEG site benefits and costs summary	No changes

ER Section	Topic	Disposition
10.5.1.1	Cumulative impacts from construction to land use due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor
10.5.1.2	Cumulative impacts from construction to water resources due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor
10.5.1.3	Cumulative impacts from construction to ecological resources due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor
10.5.1.4	Cumulative impacts from construction to socioeconomic resources due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor
10.5.2.1	Cumulative impacts from operation to land use due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor
10.5.2.2	Cumulative impacts from operation to water resources due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor
10.5.2.3	Cumulative impacts from operation to ecological resources due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor
10.5.2.4	Cumulative impacts from operation to socioeconomic resources due to the potential off-site transmission macro-corridor	Updated text to reflect cumulative effects associated with West Macro-Corridor

PSEG Letter ND-2013-0017, dated July 17, 2013

ENCLOSURE 2

**CD-ROM Containing
Proposed Revisions to the Environmental Report**

