



January 21, 2014  
ND-2014-0001

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

Subject: **PSEG POWER, LLC**  
**Docket No. 52-043**  
**Documents in Support of Application**  
**Early Site Permit for the PSEG Site**  
**Comments on Advanced Safety Evaluation for Chapter 2, Section 2.1,**  
**"Geography and Demography" and Section 2.2, "Identification of**  
**Potential Hazards in Site Vicinity"**

Reference: 1) Letter from P. Chowdhury, USNRC, to J. Mallon, PSEG Power, LLC, PSEG EARLY SITE PERMIT APPLICATION – ADVANCED SAFETY EVALUATION WITH NO OPEN ITEMS FOR CHAPTER 2, SECTION 2.1, "GEOGRAPHY AND DEMOGRAPHY" AND SECTION 2.2 "IDENTIFICATION OF POTENTIAL HAZARDS IN SITE VICINITY", dated January 8, 2014

In Reference 1, USNRC transmitted the Advanced Safety Evaluation with No Open Items for Chapter 2, Section 2.1, "Geography and Demography" and Section 2.2, "Identification of Potential Hazards in Site Vicinity", associated with PSEG's Early Site Permit (ESP) application, for review to confirm that the Advanced Safety Evaluation does not include any proprietary information that PSEG would seek to withhold under 10 CFR 2.390, or contain any factual errors.

PSEG has completed the review of the above referenced safety evaluation and has determined that the safety evaluation does not include any proprietary information that PSEG would seek to withhold under 10 CFR 2.390.

During PSEG's review of the advanced safety evaluation for Chapter 2, Sections 2.1 and 2.2, PSEG compiled a list of comments that could improve the accuracy and clarity of the safety evaluation. These comments are included in Enclosure 1 to this letter.

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

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 21st day of January, 2014.

Respectfully,

A handwritten signature in cursive script, appearing to read "James Mallon".

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

Enclosure 1: List of Comments on Advanced Safety Evaluation for Chapter 2, Section 2.1, "Geography and Demography" and Section 2.2, "Identification of Potential Hazards in Site Vicinity"

cc: USNRC Project Manager, Division of New Reactor Licensing, PSEG Site  
(w/enclosure)  
USNRC Environmental Project Manager, Division of New Reactor Licensing  
(w/enclosure)  
USNRC Region I, Regional Administrator (w/o enclosure)

**PSEG Letter ND-2014-0001, dated January 21, 2014**

**Enclosure 1**

**List of Comments on Advanced Safety Evaluation for  
Chapter 2, Section 2.1, "Geography and Demography" and  
Section 2.2, "Identification of Potential Hazards in Site Vicinity"**

**7 Pages**

## Advanced SER Review Comments

<b>SER Chapter/Section: Chapter 2</b> <b>Title: Section 2.1, "Geography and Demography" and</b> <b>Section 2.2, "Identification of Potential Hazards in Site Vicinity"</b>		
Comment No.	Page	Comment
1.	2-1	Section 2.1.1.1, 2nd sentence: Suggest the wording be revised to: "... (3) any additional information requirements prescribed in the applicable subparts to Title 10 . . . ."
2.	2-5	Section 2.1.2.2, 1 <sup>st</sup> sentence: Suggest the wording be revised to: "The applicant identified <b>the</b> exclusion ...."
3.	2-5	Section 2.1.2.3, 1st bullet: Change "10 CFR 50.17(a)(1)" to "10 CFR 52.17(a)(1)."
4.	2-5	Section 2.1.2.4, 2 <sup>nd</sup> para., 3 <sup>rd</sup> sentence: The 3 <sup>rd</sup> sentence states "PSEG will obtain legal authority from the USACE <b><u>before applying for a COL</u></b> , which will either allow PSEG and its surrogates to control activities on this land or to obtain an agreement from the USACE." This statement conflicts with the statement in SSAR Section 2.1.2.1 which states "PSEG will obtain legal authority from the USACE <b><u>prior to the issuance of the COL</u></b> that will either allow PSEG and its surrogates to control activities on this land or obtain an agreement with the USACE that provides assurances that the USACE will control activities and access if required." ( <b><i>emphasis added</i></b> ) Additionally, the sentence should be modified to reference the issuance of the COL rather than applying for a COL because there is no requirement that PSEG obtain legal authority from the USACE before applying for the COL.
5.	2-6	Section 2.1.2.4, 6 <sup>th</sup> para., 8 <sup>th</sup> sentence: The sentence states: "However, the applicant did not submit with the response a markup of the proposed revision of or a regulatory commitment to revise SSAR Section 2.1.2.2, or Section 2.1.2 in general." This statement is not accurate. In response to RAI No. 10, PSEG provided SSAR mark-ups in response to Question 02.01.02-1, subparts (a), (c), and (d), and provided a regulatory commitment to "revise SSAR Section 2.1, Figure 1.2-3 and create a Figure to incorporate the changes in Enclosure 2 in response to NRC RAI No. 10" in the next update to the SSAR.
6.	2-8	1 <sup>st</sup> para., under 1st bullet: Suggest the wording be revised to: "The <b>staff</b> also considered...."
7.	2-8	Section 2.1.3.1, 4 <sup>th</sup> bullet: Suggest the wording be revised to: "... closest population center <b>having</b> 25,000 or more..."
8.	2-8	Section 2.1.3.1, last bullet: Suggest the wording be revised to: "any additional information requirements prescribed in the applicable subparts to 10 CFR 52.17, "Contents of Applications; Technical Information.""

Comment No.	Page	Comment
9.	2-10	Section 2.1.3.4, 6 <sup>th</sup> para., 3 <sup>rd</sup> sentence: Suggest the wording be revised to: “ ... recreation areas are <b>5,814,971</b> annually ....”
10.	2-11	Last Paragraph – 3 <sup>rd</sup> sentence: Suggest the wording be revised to: “The applicant also stated that none of <b>the</b> distance or direction...”
11.	2-11	Section 2.1.3.4, 7th para., last sentence: Suggest the wording be revised to: “Question 02.01.02-3” to “Question 02.01.03-3.”
12.	2-12 and 2-13	These pages identify COL Action Item 2.1-3, which requires the COL applicant referencing the ESP to re-evaluate population center distance with the latest Middletown, DE, population data. This COL Action Item should be deleted because, as discussed in the draft SER, the ESP application currently satisfies the requirements of 10 CFR 100.21(b). Section 100.21(b) states that it applies to “[a]pplications for site approval for commercial power reactors . . . .” Section 100.3 defines an ESP as “a Commission approval . . . for a site or sites for one or more nuclear power facilities.” Therefore, this requirement can be fully satisfied at the ESP stage. There is no requirement to re-evaluate the Section 100.21(b) requirements at the COL stage if they are met at the ESP stage. The COL Action Item appears contrary to the ESP finality provisions of 10 CFR 52.39.
13.	2-13	Section 2.1.3.5, 1 <sup>st</sup> bullet states “A COL applicant referencing this ESP will ensure acquisition ... is completed prior to or at the time of COL application.” This statement conflicts with the statement in SSAR Section 2.1.2.1 which states “PSEG will obtain legal authority from the USACE <b><u>prior to the issuance of the COL</u></b> that will either allow PSEG and its surrogates to control activities on this land or obtain an agreement with the USACE that provides assurances that the USACE will control activities and access if required.” Additionally, the sentence should be modified to reference the issuance of the COL rather than applying for a COL because there is no requirement that PSEG obtain legal authority from the USACE before applying for the COL.
14.	2-13	Section 2.1.3.5, 2 <sup>nd</sup> bullet states “A COL applicant referencing this ESP will .. prior to applying for a COL, obtain legal authority from ...”. This statement conflicts with the statement in SSAR Section 2.1.2.1 which states “PSEG will obtain legal authority from the USACE <b><u>prior to the issuance of the COL</u></b> that will either allow PSEG and its surrogates to control activities on this land or obtain an agreement with the USACE that provides assurances that the USACE will control activities and access if required.” Additionally, the sentence should be modified to reference the issuance of the COL rather than applying for a COL because there is no requirement that PSEG obtain legal authority from the USACE before applying for the COL.

Comment No.	Page	Comment
15.	2-13	Section 2.1.3.6, 1st para., 2nd sentence: Suggest the wording be revised to: "10 CFR 52.17(vii)" to "10 CFR 52.17(a)(1)" and "10 CFR 100.20(b)" to "10 CFR 100.21(b)."
16.	2-14	Section 2.1.3.6, 1st para., last sentence: Change "10 CFR 52.17(vii)" to "10 CFR 52.17(a)(1)."
17.	2-14	Section 2.2.1.1, last sentence: Suggest the wording be revised to: "any additional information requirements prescribed in the applicable subparts to 10 CFR 52.17, "Contents of Applications; Technical Information.""
18.	2-14	Section 2.2.1.2, last sentence: There are <b>9</b> industrial facilities, <b>10</b> road transportation routes, and <b>2</b> railroads within 5 to 10 miles of the PSEG site per SSAR Sections 2.2.1, 2.2.2.1, Table 2.2-10, and/or Figure 2.2-1.
19.	2-16	under "Transportation Routes": "Quinton Hancock Bridge Road" should be "Quinton <b>Hancocks</b> Bridge Road"
20.	2-17	Last Bullet: Name Correction - Paruszewski Farm Strip Airport
21.	2-18	List of Airports and Airways: Scotty's Airport is missing from the list.
22.	2-18	Section 2.2.1.4, 1st para. after bullets, 2nd sentence: Suggest the wording be revised to: "staff notes that" to "staff <b>noted</b> that."
23.	2-19	Section 2.2.1.4.3, 2 <sup>nd</sup> para., 3 <sup>rd</sup> sentence: Suggest the wording be revised to: "...PSEG Site is 1.4 km (0.9 mi)."
24.	2-19	Section 2.2.1.4.1, 3 <sup>rd</sup> para, 1 <sup>st</sup> sentence: Suggest the wording be revised to: " ...990 <b>m</b> (3,249 ft) south of the nearest ..."
25.	2-19	Section 2.2.1.4.3, 2 <sup>nd</sup> paragraph, 6 <sup>th</sup> sentence: The closest anchorage is <b>1.1 km (0.7mi)</b> away not 1.2 km (0.75mi) per SSAR Section 2.2.2.3.2.
26.	2-20	Section 2.2.1.4.5, 2 <sup>nd</sup> sentence: Suggest the wording be revised to: "... Quinton <b>Hancocks</b> Bridge Road."
27.	2-20	Section 2.2.1.4.7, last sentence under Airways: Suggest the wording be revised to: "Airway V157 is 11.4 km (7.1 mi) east of the PSEG Site. <b>The centerline of jet way J42-150 is 1.3 km (0.8 mi) east of the PSEG Site with additional ...</b> "
28.	2-21	Section 2.2.1.5, last sentence: The sentence states "The hazards associated with these activities have been reviewed and are discussed in Sections 2.2.3, 3.5.1.5, and 3.5.1.6 of this report." There is no Section 3.5.1.5 for Chapter 3.
29.	2-21	Section 2.2.1.5, 2 <sup>nd</sup> sentence: Citation to "10 CFR 52.17(a)(viii)" is incorrect. Correct citation is "10 CFR 52.17(a)(1)(vii)"; Citation to "10 CFR 52.17 (a)(ix)" should be "10 CFR 52.17 (a)(1)(ix)".

Comment No.	Page	Comment
30.	2-21	Section 2.2.1.5, last sentence: There is no Section 3.5.1.5 for Chapter 3.
31.	2-22	Section 2.2.2: Suggest the wording be revised to: "... ESP application <b>SSAR</b> Section 2.2.2 is ..."
32.	2-22	Section 2.2.3.1, 1 <sup>st</sup> para., 1 <sup>st</sup> bullet: Suggest the wording be revised to: "... or gases <b>and</b> their potential ..."
33.	2-22	Section 2.2.3.2, 1 <sup>st</sup> para., 1st sentence: "10 CFR 50.17" should be "10 CFR 52.17".
34.	2-22	Section 2.2.3.2, 1st sentence: Suggest the wording be revised to: <ul style="list-style-type: none"> <li>• "Using Non-Seismic Criteria" to "Non-Seismic Siting Criteria"</li> <li>• "Explosion Postulated" to "Explosions Postulated"</li> <li>• "General Site Suitability for Nuclear Power Plant Sustainability" to "General Site Suitability Criteria for Nuclear Power Stations"</li> </ul>
35.	2-22	Section 2.2.3.2, last sentence: Suggest the wording be revised to: "...selecting DBEs: Explosions; flammable ..."
36.	2-22	Section 2.2.3.2: Add the revision number to Regulatory Guides (RG1.78, Revision 1, RG1.91, Revision 1, RG4.7, Revision 2, RG 1.206, Revision 0)
37.	2-23	Section 2.2.3.3, 2 <sup>nd</sup> para., 1 <sup>st</sup> bullet: Citation to "10 CFR 52.17(a)(viii)" is incorrect. Correct citation is "10 CFR 52.17(a)(1)(vii)"; Citation to "10 CFR 52.17 (a)(ix)" should be "10 CFR 52.17 (a)(1)(ix)".
38.	2-23	Section 2.2.3.3, 2 <sup>nd</sup> para., 2 <sup>nd</sup> bullet: Suggest the wording be revised to: "...facilities) <b>that must</b> be evaluated ..."
39.	2-23	Section 2.2.3.4.1, 1 <sup>st</sup> para., 2nd sentence: Suggest the wording be revised to: "adversely effecting" to "adversely affecting"
40.	2-23	Section 2.2.3.4.1, 1 <sup>st</sup> para., 4 <sup>th</sup> sentence: Suggest the wording be revised to: "... site chemicals, nearby <b>facilities'</b> chemicals, ..."
41	2-23	Section 2.2.3.4.1, 1 <sup>st</sup> para., 6 <sup>th</sup> sentence: Suggest the wording be revised to: "Hazardous materials transported on nearby roads, or <b>located</b> at nearby facilities or at the Salem and Hope Creek..."

Comment No.	Page	Comment
42.	2-24	Section 2.2.3.4.1, 1 <sup>st</sup> para., 8 <sup>th</sup> sentence: Suggest the wording be revised to: "...22,712 liters (L) (6,000 gallons (gal)) tank of gasoline, the 30,283 L (8,000 gal) truck that refills the tank of gasoline, 3,785,411 L (1,000,000 gal) capacity tank of diesel fuel, and a bank of 3,398 cu. m (120,000 cu. ft)...."
43.	2-24	Section 2.2.3.4.1, 2 <sup>nd</sup> para., 1 <sup>st</sup> sentence: "Lower Alloway Creek" should be "Lower Alloways Creek"
44.	2-24	Section 2.2.3.4.1, 3 <sup>rd</sup> para., 4 <sup>th</sup> sentence: "SSAR Section 2.2-6" should be "SSAR Table 2.2-6".
45.	2-24	Section 2.2.3.4.1, 3 <sup>rd</sup> para., 5 <sup>th</sup> sentence: Suggest the wording be revised to: "...transport amount of 4,535,924 kg (10,000,000 lbs)..",
46.	2-24	Section 2.2.3.4.1, 4 <sup>th</sup> para., 2 <sup>nd</sup> sentence: Suggest replacing the entire second sentence with two sentences, as follows: "Historically, the largest vessel explosions have been on the order of 2,500 tons of solid explosive. An explosive mass of 2,500 tons is considered for this analysis."
47.	2-25	Section 2.2.3.4.1, 7 <sup>th</sup> para., 3 <sup>rd</sup> sentence: Suggest replacing the entire third sentence with two sentences, as follows: "The results of the analysis indicate that the minimum allowable safe distances from the gasoline storage tank and the route of the delivery tanker to a safety-related building are less than the actual distance from the tank and route to the nearest safety-related building. The tank and delivery tanker, therefore, do not meet the requirement that an explosive overpressure not exceed 1 psid at a safety-related building."
48.	2-25	Section 2.2.3.4.1, 6 <sup>th</sup> para., 1 <sup>st</sup> sentence: The volume for the hydrogen tube farm is incorrect. "12,000" should be " <b>120,000</b> cu. ft. Also, there is an extra period at the end of the sentence.
49.	2-25	Section 2.2.3.4.1, 6 <sup>th</sup> para., 1 <sup>st</sup> sentence: Suggest the wording be revised to: "...include a 22,712 L (6,000 gal) tank of gasoline, the 30,283 L (8,000 gal) truck that refills the tank of gasoline, and a <b>340</b> cubic meter (cu. m.)
50.	2-25	Section 2.2.3.4.1, 6 <sup>th</sup> para., 2 <sup>nd</sup> sentence: Suggest the wording be revised to: "The applicant performed <b>an analysis of the impacts on the nearest safety-related building at the proposed plant of a potential explosion</b> of the gasoline storage tank at Hope Creek Generating Station, ..."



Comment No.	Page	Comment
51.	2-25	Section 2.2.3.4.1, 6 <sup>th</sup> para., Permit Condition 1: Suggest the wording be revised to: "...demonstrate that the nearest <b>safety-related</b> structures, systems and components (SSCs) of the selected ...."
52.	2-25 and 2-26	These pages identify Permit Condition 1. Recommend deleting the last sentence of the condition, which states: "The applicant shall demonstrate this by using the methodologies provided in RG 1.91 and RG 1.78 for direct explosion and vapor cloud explosion, respectively, to confirm that a minimum safe distance exists between the nearest plant SSCs important to safety and the relocated gasoline storage tank and the gasoline delivery tanker truck such that the SSCs would not experience an overpressure in excess of 1.0 psi in the event of an explosion." This sentence appears to be too prescriptive. The timing of a COL application referencing the ESP is not known, and in the interim the staff guidance could change. The existing staff guidance should not be transformed into a requirement.
53.	2-26	Section 2.2.3.4.1, 8 <sup>th</sup> para., 1 <sup>st</sup> sentence: Suggest the wording be revised to: "...USCG and <b>USACE</b> ..."
54.	2-26	Section 2.2.3.4.1, 9 <sup>th</sup> para., 7 <sup>th</sup> sentence: n"2.31 x 10 <sup>6</sup> per year" should be 2.31 x 10 <sup>6</sup> per year"
55.	2-26	Section 2.2.3.4.1, 9 <sup>th</sup> para., last sentence: Suggest the wording be revised to: "02.0203-4" to "02.02.03-4."
56.	2-27	Section 2.2.3.4.2, 1 <sup>st</sup> para., last sentence: "... Section 2.2.3.4.7 of this report." Should be "... Section <b>2.2.3.5</b> of this report."
57.	2-27	Section 2.2.3.4.2, 3 <sup>rd</sup> para., last sentence: "... Section 2.2.3.4.7 of this report." Should be "... Section <b>2.2.3.5</b> of this report."
58.	2-27	Last para., 2 <sup>nd</sup> sentence: Suggest the wording be revised to: "... concluded that none of the fires are hazardous.."
59.	2-28	Section 2.2.3.4.5, 1 <sup>st</sup> sentence: Suggest the wording be revised to: "One of the reactor plant technologies being proposed by PSEG requires a safety-related structure on the Delaware River."
60.	2-28	Section 2.2.3.4.5, 3 <sup>rd</sup> sentence: Suggest the wording be revised to: "... would float on the surface of <b>the</b> water.."
61.	2-28	Section 2.2.3.5, 1 <sup>st</sup> bullet: Suggest the wording be revised to: "An applicant for a COL that references this early site permit shall demonstrate that the nearest <b>safety-related</b> structures, systems, and components (SSCs) of the selected plant design can withstand the effects of potential explosions ..."

Comment No.	Page	Comment
62.	2-29	Section 2.2.3.6, last sentence: This paragraph does not address all of the applicable regulatory requirements and the existing regulations are incorrectly cited. Suggest the wording be revised to: “. . . meet the requirements of 10 CFR 52.17(a)(1)(vii), 10 CFR 52.17(a)(1)(ix), 10 CFR 100.20(b), and 10 CFR 100.21(e) for determining the acceptability . . . .”