



ND-2014-0022
September 12, 2014

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

Subject: **PSEG Early Site Permit Application**
Docket No. 52-043
Supplemental Response to Request for Additional Information, RAI
No. 50, Identification of Potential Hazards in Site Vicinity

- References:
- 1) PSEG Power, LLC Letter No. ND-2014-0010 to USNRC, Submittal of Revision 3 of the Early Site Permit Application for the PSEG Site, dated March 31, 2014
 - 2) RAI No. 50, SRP Section: 02.02.01-02.02.02 – Identification of Potential Hazards in Site Vicinity, dated February 10, 2012 (eRAI 6283)
 - 3) PSEG Power, LLC Letter No. ND-2012-0038 to USNRC, Supplemental Response to Request for Additional Information, RAI No. 50, Identification of Potential Hazards in Site Vicinity, Change in Supplemental Response Date, dated July 17, 2012

The purpose of this letter is to provide a supplemental response related to the request for additional information (RAI) identified in Reference 2 above. This RAI addresses Evaluation of Potential Accidents, as described in Subsections 2.2.1 and 2.2.2 of the Site Safety Analysis Report (SSAR), as submitted in Part 2 of the PSEG Site Early Site Permit Application, Revision 0.

Enclosure 1 provides a revision to the proposed revision of SSAR Chapter 2, Revision 1, Page 2.2-17 provided in Reference 3. This proposed revision was incorporated into Revision 2 of the SSAR, and is unchanged in Revision 3 of the Early Site Permit Application (Reference 1).

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NRO

The submittal of the revised SSAR page 2.2-17 provided in Enclosure 1 completes the regulatory commitment presented in Enclosure 3 of Reference 3. No further regulatory commitments are established in this letter.

If any 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 12th day of September, 2014.

Sincerely,

A handwritten signature in black ink, appearing to read "James Mallon", written in a cursive style.

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

Enclosure 1: Proposed Revisions, Part 2 – Site Safety Analysis Report (SSAR),
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/enclosure)

PSEG Letter ND-2014-0022, dated September 12, 2014

ENCLOSURE 1

Proposed Revisions

Part 2 – Site Safety Analysis Report (SSAR)

Section 2.2 – Identification of Potential Hazards in Site Vicinity

Marked-up Page

2.2-17

PSEG Site
ESP Application
Part 2, Site Safety Analysis Report

Nearby Facilities

The only off-site chemicals identified for further analysis for a stationary explosion are a tank of gasoline and a tank of propane at the LAC Township Buildings, over 3 mi. away. For both tanks, the safe distances are much less than the actual distance. The safe distance for the 6000 gal. gasoline tank is 0.239 mi., and the safe distance for the propane tank is 0.814 mi.

Vessels on the Delaware River

Based on reports from the MEDRB (Reference 2.2-22) and from the USACE (Reference 2.2-28), several chemicals are identified as the bounding chemicals that are transported along the Delaware River. These chemicals are propane, gasoline, benzene, alcohols (methanol, ethanol), carboxylic acids, ammonia, naphtha & solvents, methane, acetone and vinyl chloride. The closest point that vessel traffic approaches the new plant is 0.9 mi.

A vapor cloud of alcohols has a standoff distance of less than 0.9 mi., and is therefore not a hazard to the PSEG Site. The hazardous carboxylic acids (acetic acid, formic acid, and benzoic acid) have vapor pressures lower than their lower flammable limits. Therefore, carboxylic acids do not support a flammable vapor cloud. The rest of the chemicals identified as being transported on the Delaware River are analyzed using the probabilistic analysis presented in Subsection 2.2.3.2.1.

The vessels of gasoline, benzene, ammonia, naphtha, methane, acetone and vinyl chloride are analyzed in the same method as the propane analysis that is presented in Subsection 2.2.3.2.1. The table of total allowable trips is shown in Table 2.2-14 and the table of estimated number of trips is shown in Table 2.2-15. For each chemical, the total number of allowable trips is greater than the estimated number of trips; therefore, none of these chemicals pose a threat greater than 10^{-6} hazards per year.

The frequency of each individual chemical vapor cloud explosion affecting the site is included in the aggregated explosion frequency used to assess the rate of radiological releases to the public. This assessment is presented in Subsection 2.2.3.2.6.

Roadways

The only chemical transported by roadway identified for use in this analysis is the gasoline delivery truck to the S/HC site. This analysis is detailed above.

ADD "A probabilistic analysis was performed for vessels in the two anchorages on the Delaware River within five miles of the PSEG Site. The analysis utilized anchorage usage data from the USCG as well as failure rates for anchored vessels. The probability of plant damage due to a flammable vapor cloud from an accident on a vessel in these anchorages is negligible compared to the results of the probability analysis for the vessels that travel past the site." per RAI No. 50, Question No. 02.02.01-02.02.02-1.