



ND-2010-0073
May 25, 2010

10 CFR 52, Subpart A

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

Subject: PSEG Power, LLC,
Application for Early Site Permit for the PSEG Site
NRC Project Number 771

In accordance with 10 CFR 52, Subpart A, Early Site Permits, PSEG Power, LLC and PSEG Nuclear, LLC (together, "Applicants") hereby submit an Application for an Early Site Permit (ESP) for a site near Salem, New Jersey (the ESP Site). Pursuant to 10 CFR 52.26(a), Applicants request an ESP with a twenty-year duration.

The ESP Site is located on the southern part of Artificial Island on the east bank of the Delaware River in Lower Alloways Creek Township, Salem County, New Jersey. Other existing nuclear facilities licensed by the NRC located at this site are Salem Generating Station (SGS) Units 1 and 2 and Hope Creek Generating Station (HCGS) Unit 1.

Applicants have not yet selected a specific reactor design for any future plant that may be built at the ESP Site. Therefore, technical information from various certified and proposed designs has been used to develop a plant parameter envelope for facility characterization necessary to evaluate the suitability of the site for any future construction and operation of a nuclear power plant.

The Application is organized as follows:

- Part 1, Administrative Information – A description of the application format and content and information regarding Applicants as required by 10 CFR 52.16 and 10 CFR 50.33(a) through (d) and (j).
- Part 2, Site Safety Analysis Report – Detailed descriptions and analyses of the physical characteristics of the ESP Site and its capability to safely support the operation of one or two additional reactors. This information is required by 10 CFR 52.17(a)(1).
- Part 3, Environmental Report – Suitability of the ESP Site to support construction and operation of two additional units relative to the impact on the environment. This information is required by 10 CFR 52.17(a)(2).
- Part 4, Limited Work Authorization – Not used- a Limited Work Authorization is not being requested at this time.

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- Part 5, Emergency Plan – A complete integrated emergency plan in accordance with 10 CFR 52.17(b)(2)(ii), including inspections, tests, analyses and acceptance criteria (ITAAC), in accordance with 10 CFR 52.17(b).
- Part 6, Withheld Information – At this time, no information is being withheld under 10 CFR 2.390. Emergency Plans for the states of New Jersey, Delaware and Maryland and the Commonwealth of Pennsylvania will be submitted in hard copy under a separate cover letter and will be requested to be withheld under 10 CFR 2.390.

This ESP Application contains no Restricted Data or other defense information requiring separation in accordance with 10 CFR 50.33, Contents of applications; general information, paragraph (j).

The PSEG ESP Application includes a complete and integrated emergency plan with inspections, tests, analyses and acceptance criteria (ITAAC), in accordance with 10 CFR 52.17(b).

The Applicant at the time of this submittal has no plans for activities at the site after grant of the Early Site Permit, as allowed by 10 CFR 50.10(e)(1). Therefore, a Site Redress Plan as required by 10 CFR 52.17(c) for these types of activities is not provided.

Consistent with common licensing practice, most of the application text is written in the present tense, including discussions of facilities and programs not yet built or implemented. Exceptions to this approach are the discussions of operating experience and completed studies and evaluations, which are written in the past tense. It should be understood, however, that statements regarding facilities (*e.g.*, structures, systems and components), and pre-construction, pre-operational, and operational activities (*e.g.*, procedures and programs) typically address activities that have not yet been performed, and will not be performed until it is reasonable and appropriate to do so.

A complete set of the application documents (identified above) is provided in electronic file format on the enclosed disc (Enclosure 1), except for the offsite emergency plans and the Quality Assurance Program Description which will be submitted in hard copy under a separate cover letters. Enclosure 1 contains a publicly-available version of the ESP Application. Appropriate pre-submission checks have been performed on the files contained in the Enclosure 1 disc to ensure compliance with the guidelines regarding electronic submissions provided on the NRC web site to ensure that the files are acceptable for electronic submittal. The disc includes a "packing slip" describing its contents, pursuant to NRC instructions for electronic submittals. A preflight report for Enclosure 1 is provided as Enclosure 2.

This submittal contains PDF files, one or more of which contains hyperlinks to other files or to the Internet. These hyperlinks are either inoperable or are not essential to the use of the filing. Any material referenced by hyperlinks to the Internet that was essential for use of this filing has been submitted as part of the filing. Any material referenced by a hyperlink to another PDF that was essential for the use of this filing has either been included by reference or submitted as part of this filing.

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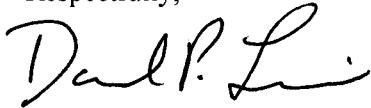
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Service upon the Applicants of hearing requests, intervention petitions or other pleadings related to this application should be made to counsel for PSEG as follows: Vincent C. Zabielski Esq., Associate General Nuclear Counsel, PSEG Services Corporation, PO Box 236, Hancocks Bridge, New Jersey 08038 (phone: (856) 339-1090; email: Vincent.Zabielski@PSEG.com; fax: (856) 339-1580), and Steven P. Frantz, Morgan, Lewis & Bockius LLP, 1111 Pennsylvania Ave., NW, Washington, D.C. 20004 (phone: (202) 739-5460; email: sfrantz@morganlewis.com; fax: (202) 739-3001).

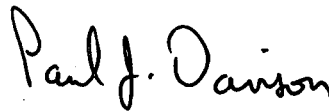
If any additional information is needed, please contact Gary S. Janosko, PSEG Nuclear Development Regulatory Director at (856) 339-7912.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 25th day of May, 2010.

Respectfully,



David P. Lewis
Nuclear Development Project Director
PSEG Power, LLC



Paul J. Davison
Vice President, Operations Support
PSEG Nuclear, LLC

Enclosure 1: PSEG ESP Application DVD
Enclosure 2: ESP Application Pre-Flight Report

cc: USNRC, Director, Office of New Reactors/DNRL (w/enclosures)
USNRC Project Manager, Division of New Reactor Licensing, PSEG Site (w/enclosures)
USNRC Region I, Regional Administrator (w/enclosures)

Enclosure 1

One DVD labeled:

"PSEG Site
Early Site Permit Application, NRC ADAMS Edition,
May 2010"