

## **PSEGSPeRAIPEm Resource**

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**From:** Chowdhury, Prosanta  
**Sent:** Friday, April 29, 2011 10:36 AM  
**To:** 'PSEGRAIResponses@pseg.com'  
**Cc:** PSEGSPeRAIPEm Resource; 'David.Lewis2@pseg.com'; 'James.Mallon@pseg.com'; 'David.Robillard@pseg.com'; Colaccino, Joseph; Silvia, Andrea; Clark, Phyllis; McLellan, Judith; Wright, Ned; Williams, Kevin; Barss, Dan  
**Subject:** PSEG Site ESPA DRAFT RAI 22 (eRAI 5670) SRP-13.03 (NSIR-LIB-EP)  
**Attachments:** PSEG Site ESPA Draft RAI 22 (eRAI 5670).doc

Please find attached DRAFT RAI No. 22 for the PSEG Site ESP application. You have ten working days to review this request and to decide whether you need a conference call to discuss it. Please notify me of your decision in this regard.

After the call, or after ten days, the RAI will be finalized and issued to you. You will then have 30 calendar days to respond. These durations are factored into your review schedule. If additional time is required to respond, please inform me of your proposed schedule to respond at your earliest opportunity.

If you have any questions, please contact me.

Prosanta Chowdhury  
Project Manager  
EPR Projects Branch  
Division of New Reactor Licensing  
Office of New Reactors  
301-415-1647

**Hearing Identifier:** PSEG\_Site\_EarlySitePermit\_RAI  
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**Options**

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Request for Additional Information No. 22

Application Revision 0

DRAFT

4/29/2011

PSEG Site ESP  
PSEG Power LLC, PSEG Nuclear LLC  
Docket No. 52-043  
SRP Section: 13.03 - Emergency Planning  
Application Section: Part 5

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

13.03-9

**Introductory Material: Emergency Plan Considerations for Multi-Unit Sites:**

Basis: 10 CFR 52.17(2)(b)(1); 10 CFR 52.17(2)(b)(2)(ii); 10 CFR 52.17(2)(b)(3); 10 CFR 50.47; RG 1.206, Section C.I.13.3.2

SRP ACCEPTANCE CRITERIA: Requirement C; Acceptance Criteria 15.

[RAI 13.3-2] In Section 13.3, "Emergency Planning," of Part 2, "Site Safety Analysis Report, (SSAR) and in Part 5, "Emergency Plan," (hereafter referred to as the PSEG ESP Emergency Plan), the applicant has proposed a complete and integrated emergency plan pursuant to 10 CFR 52.17(b)(2)(ii). The applicant stated the PSEG ESP Emergency Plan was developed using the current SGS/HCGS Emergency Plan. Since the proposed ESP site footprint consists of a portion of the existing SGS/HCGS site and is located immediately adjacent to HCGS, little distinction exists between the HCGS/SGS site and the PSEG ESP site for purposes of emergency planning. The ESP application takes advantage of the emergency planning resources, capabilities, and organization that currently exist at the HCGS/SGS site. **Provide an analysis of the PSEG ESP site and its relationship to the Salem and Hope Creek Generating Stations using the nine criteria listed in RG 1.206, Section C.I.13.3.2, "Emergency Plan Considerations for Multi-Unit Sites," or justify why it is not necessary.**

13.03-10

**SITE-1: Assignment of Primary Responsibilities for Emergency Response**

Basis: NUREG-0654/FEMA-REP-1, Evaluation Criterion A.1.a, 10 CFR 50, Appendix E.IV.A.8, NUREG-0654/FEMA-REP-1, Evaluation Criterion A.4

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2.

[RAI A-1] **For Section 2.2.1 of the PSEG ESP application Emergency Plan, clarify whether the Accident Assessment Advisory Group is the same as the Technical Assessment Center.**

13.03-11

**SITE-2:** On-Site Emergency Organization

Basis: NUREG-0654/FEMA-REP-1, Evaluation Criterion B.7

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2.

[RAI B-1] Section 3, "Emergency Organization," of the PSEG Site ESP application Emergency Plan describes the short term and long term augmentation for the emergency response positions. **In the Emergency Plan, discuss whether corporate management, administrative, and technical support personnel will augment the plant staff, or justify why this does not need to be included.**

[RAI B-4] Section 3.4.1, "On shift and Initial Augment," states the NSTA and the CRS or SM

may be the same person. **Provide clarification or additional information on how, during an exercise or actual event, one person can effectively perform three duty position functions.**

[RAI B-5] **Provide an EP-ITAAC to revise or update the Letters of Agreements with local**

**emergency response organizations before fuel load for the proposed PSEG ESP site.**

13.03-12

**SITE-5:** Notification Methods and Procedures

Basis: NUREG-0654/FEMA-REP-1; Evaluation Criterion E.3

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirement A, B, D, F; Acceptance Criteria 1, 2, 6.

[RAI E-1] Figure 6-4, "Typical Initial Contact Message Form," includes information regarding whether a radiological release is taking place, wind direction and speed, when the emergency was declared, a description of the event, and any protective actions that are recommended at the time. **Discuss why Figure 6-4, "Typical Initial Contact Message Form," does not identify potentially affected population areas.**

13.03-13

**SITE-6** Emergency Communications

Basis: 10 CFR 50, Appendix E. IV.E.9, Generic Letter 91-14, "Emergency Communications"

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A, B and F;  
Acceptance Criteria 1, 2, 6, 12, 23, 29, 30

[RAI F-1] Section 7.5 of the PSEG Site ESP application Emergency Plan states that the FTS consists of direct lines to the NRC which and are installed in the Control Room, TSC, and the EOF. **Describe in the Emergency Plan, the guaranteed or backup power available to the FTS emergency communications equipment.**

[RAI F-2] **Define in the Emergency Plan the components and availability of Federal Telecommunications System (FTS) such as Reactor Safety Counterpart Link (RSCL), Protective Measures Counterpart Link (PMCL), Management Counterpart Link (MCL), and Local Area Network (LAN).**

13.03-14

**SITE 8: Emergency Facilities and Equipment**

Basis: NUREG-0737 (8.2.1.b, 8.2.1.f, 8.2.1.h, 8.2.1.k, 8.4.1.h), NUREG-0654/FEMA-REP-1; Evaluation Criterion H.5, H.5, 10 CFR 50, Appendix E.IV.E.4, 10 CFR 50, Appendix E.VI, "Emergency Response Data System," 10 CFR 50.72(a)(4)  
Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1, 2, 4, 5, 12, 25, and 26

[RAI H-1] Section 9.4.3, "Technical Support Center (TSC)," of the PSEG Site ESP application Emergency Plan states that the analytical and assessment capabilities assigned to the TSC include the Safety Parameter Display System (SPDS), Computerized Dose Assessment, and Plant Engineering Support. **Discuss in the Emergency Plan the plant parameter variables of the Safety Parameter Display System (SPDS) that are available in the TSC, and explain whether they are based on the guidance in Regulatory Guide 1.97.**

[RAI H-3] **In the Emergency Plan, discuss whether the plant records, drawings, diagrams, procedures, plans, references, and environmental information are available in the EOF.**

[RAI H-4] **In the Emergency Plan, discuss the facilities and medical supplies for emergency first aid treatment.**

[RAI H-11] The SRM to SECY 10-0078 requires that a centralized EOF must demonstrate, in a dual site exercise, the capability to support emergency operation of at least two distinct sites. **Propose an EP-ITAAC that will demonstrate the capability of the EOF to handle events at two or more reactors on the site, including the capabilities to discriminate plant data, staffing and operation of the facility, or discuss why it is not needed.**

[RAI H-12] Section 9.5.1 states PSEG commits to operating the EOF so as to fulfill the functional requirements of paragraph 4.1 of NUREG-0737, Supplement 1. **Clarify if this statement refers to Section 4.1 of Supplement 1 NUREG-0737 which addresses SPDS or should it be Section 8.4.1 which addresses EOF requirements.**

[RAI H-13] In accordance with Acceptance Criterion 3, "Technical Support Center Radiological Habitability," in SRP Section 15.0.3, "Design Basis Accident Radiological Consequence Analyses for Advanced Water Reactors," the staff reviews whether the total calculated radiological consequences in the TSC for the postulated fission product releases fall within the exposure acceptance criteria specified in GDC 19 of 5 rem TEDE (0.05 Sv) for the duration of the design basis accidents (DBAs). Provide the radiological consequence analyses that were performed for the proposed PSEG TSC for the postulated DBAs. The radiological analyses should include, but are not limited to, the following parameters:

1. TSC ventilation air inlet and recirculation flow rates
2. HEPA filter and charcoal adsorber fission product removal efficiencies
3. TSC unfiltered air in-leakage rate
4. Atmospheric dispersion factors ( $\chi/Q$  values) at TSC air intake
5. TSC occupancy factors
6. TSC free air volume
7. Occupant breathing rate
8. Description of the ventilation design

13.03-15

**SITE-10: Protective Response**

Basis: NUREG-0654/FEMA-REP-1; Evaluation Criterion J.1, J.2, J.2, J.7, J.10.A

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

[RAI J-1] **In the PSEG Site ESP application Emergency Plan, describe the time to warn or advise onsite individuals and individuals who may be in areas controlled by the operator.**

[RAI J-2] Section 11.1.3, "Protective Actions," of the PSEG Site ESP application Emergency Plan, states that evacuation and sheltering options are available and are considered with the necessity for keeping specific technical or management personnel onsite for implementation of the response. The access road to the site is described as the only route for evacuating the site. **In the Emergency Plan, describe alternatives to evacuation that may be implemented in adverse weather conditions or when specific radiological conditions impact the evacuation route.**

[RAI J-3] Section 11.1.3, "Protective Actions," states that transportation for nonessential onsite personnel are part of the Evacuation Time Estimate (ETE). **Provide**

**the reference in the ETE study where the transportation for nonessential onsite individuals is described.**

**[RAI J-4] In the Emergency Plan, discuss when KI may be included as part of the protective action recommendation (PAR) for offsite population, or justify why this does not need to be included.**

**[RAI J-5] Provide a map in the Emergency Plan that identifies preselected radiological sampling and monitoring points, or justify why this does not need to be included.**

13.03-16

Basis: NUREG-0654/FEMA-REP-1; Evaluation Criterion K.2, K.3.a, K.3.b, K.5.b  
Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2, and Section IV.E.3, Appendix E to 10 CFR Part 50

**SITE-12: Medical and Public Health Support**

[Basis: 10 CFR 50, Appendix E.IV.E.5]

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

**[RAI L-1] Discuss in the PSEG Site ESP application Emergency Plan arrangements for the services of physicians and other medical personnel qualified to handle radiation emergencies onsite, or justify why this does not need to be included.**

13.03-17

**SITE-13: Recovery and Reentry Planning**

Basis: NUREG-0654/FEMA-REP-1; Evaluation Criterion M.4

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

**[RAI M-1] Section 14, "Recovery and Reentry Planning," of the PSEG Site ESP application Emergency Plan describes the general approach for reentry and recovery. However, this section does not address methods to estimate total population exposure. In the Emergency Plan, describe the method used to periodically estimate total population exposure, or justify why this does not need to be included.**

13.03-18

**SITE-14: Exercises and Drills**

Basis: 10 CFR 50, Appendix E.IV.F.2.a, 10 CFR 50, Appendix E.IV.F.2.d, 10 CFR 50, Appendix E.IV.F.2.e, 10 CFR 50, Appendix E.IV.F.2.f, NUREG-0654/FEMA-REP-1; Evaluation Criterion N.2.a.

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

[RAI N-1] The applicant has provided Table 15-1, "Schedule of Exercises and Drills," of the PSEG Site ESP application Emergency Plan which shows that communication drills are conducted with the ingestion pathway states, identified as Pennsylvania and Maryland, on a quarterly basis. **In the Emergency Plan, discuss whether States participate in the ingestion pathway portion of the exercise at least once every 6 years, or justify why this does not need to be included.**

[RAI N-2] **Discuss in the Emergency Plan whether State or local governments within the plume exposure EPZ are able to participate in licensee drills, when requested by the State or local government.**

[RAI N-3] **Discuss in the Emergency Plan whether remedial exercises will be conducted after an unsatisfactory biennial exercise, and describe State and local participation in these remedial exercises.**

[RAI N-4] **Discuss in the Emergency Plan whether ERDS is tested quarterly.**

13.03-19

**SITE-15:** Radiological Emergency Training

Basis: NUREG-0654/FEMA-REP-1; Evaluation Criterion O.1. and 1.a, O.4.b

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

[RAI-O-2] **In the PSEG Site ESP application Emergency Plan, describe the scope of the specialized initial training and periodic retraining for accident assessment personnel; radiological monitoring teams and radiological analysis personnel; police, security, and firefighting personnel; repair and damage control teams; and headquarters support personnel.**

13.03-20

**SITE-16:** Responsibility for Planning Effort: Development, Periodic Review, and Distribution of Emergency Plan.

Basis: 10 CFR 50.54(t), NUREG-0654/FEMA-REP-1; Evaluation Criterion P.6, P.8

Acceptance Criteria: (NUREG-0800, Section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

[RAI P-1] **Discuss why Section 17, "Emergency Plan Administration," of the PSEG Site ESP application Emergency Plan does not address any other emergency plans that support the PSEG Emergency Plan, such as State, local, or federal plans that address support to the PSEG site in the event of an emergency.**



[RAI P-2] The applicant provided a master table of contents which includes the section number, title, revision number, number of pages, and effective date for sections 1 through 17 of the Emergency Plan, as well as for Attachments 1 through 11. The applicant also provided a cross-reference of NUREG-0654 to the Emergency Plan. **In the Emergency Plan, provide a cross-reference to Appendix E of 10 CFR 50, or explain why this is not necessary.**

[RAI P-3] Section 17.5.0, "Independent Review," states that the Emergency Plan and associated documents receive an independent review at least once every 24 months. **In the Emergency Plan, discuss why the frequency of 24 months is appropriate when NRC guidance specifies an independent review every 12 months.**

13.03-21

**Site 17:** Subject: Hostile Action Considerations

Regulatory Basis: 10 CFR 50.47; Appendix E to 10 CFR 50; Regulatory Guide 1.206, Section C.I.13.3.1

Acceptance Criteria: 1, 2, and 30

[RAI 13.3-Q]

Regulatory Guide 1.206 requests that applicants for a combined license address the NRC orders issued February 25, 2002, as well as any subsequent NRC guidance, to determine what security-related aspects of emergency planning and preparedness are addressed in the emergency plan.

The Commission Orders issued on February 25, 2002, and security-related enhancements identified in NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events," identify the following areas to be addressed in the ESP application, Emergency plan, or emergency plan implementing procedures:

1. Security-based Emergency Classification Levels and EALs: The emergency plan includes EALs to ensure that a site-specific, security event results in an emergency classification declaration of at least a notification of unusual event. The classification scheme should also reflect the strategy for escalation to a higher-level event classification.
2. NRC Notifications: Notification procedures allow for NRC notification of safeguards events immediately after notification of local law enforcement agencies, or within about 15 minutes of the recognition of a security-based threat.
3. Onsite Protective Measures: Consideration has been given to a range of protective measures for site workers, as appropriate, during a security-based event (e.g., evacuation of personnel from target buildings, site evacuation by opening security gates, dispersal of licensed operators, sheltering of personnel in structures away from potential site targets, and arrangements for accounting for personnel after attack).
4. ERO Augmentation: ERFs and alternative facilities have been identified to support the rapid response from ERO members to mitigate site damage from a security-based event once the site is secured. The alternative facilities could likely be located outside of the PA and should include the following characteristics:

accessible even if the site is under threat or actual attack; communication links with the EOF, control room and plant security; the capability to perform offsite notifications; and the capability for engineering assessment activities, including damage control team planning and preparation. The alternative facility should also be equipped with general plant drawings and procedures, telephones, and computer links to the site.

5. Potential Vulnerabilities from Nearby Hazardous Facilities, Dams, and other Sites: The potential effect has been determined on the plant, onsite staffing and augmentation, and onsite evacuation strategies from damage to nearby hazardous facilities, dams, and other nearby sites, in consideration of a security-based event.
6. Drills and Exercises: Emergency Preparedness drill and exercise programs maintain the key skills necessary for mitigating security-based events. The ERO demonstrates security-based emergency preparedness program activities under the schedule as committed to in its emergency plans.
7. Emergency Preparedness and Response to a Security-based Event: Onsite staffing, facilities, and procedures are adequate to accomplish actions necessary to respond to a security-based event, and the emergency plan and/or procedures reflect the site-specific needs.

[RAI 13.3(Q-1)] NRC Notifications - Notification procedures allow for NRC notification of safeguards events immediately after notification of local law enforcement agencies, or within about 15 minutes of the recognition of a security-based threat.

**Revise the Emergency Plan to include this information or justify why it is not needed.**

[RAI 13.3(Q-2)] Onsite Protective Measures - Consideration has been given to a range of protective measures for site workers, as appropriate, during a security-based event (e.g., evacuation of personnel from target buildings, site evacuation by opening security gates, dispersal of licensed operators, sheltering of personnel in structures away from potential site targets, and arrangements for accounting for personnel after attack).

**Discuss in the Emergency Plan the range of considerations for protective measures for site workers or justify why it is not needed**

[RAI 13.3(Q-3)] ERO Augmentation - ERFs and alternative facilities have been identified to support the rapid response from ERO members to mitigate site damage from a security-based event once the site is secured. The alternative facilities could likely be located outside of the PA and should include the following characteristics: accessible even if the site is under threat or actual attack; communication links with the EOF, control room and plant security; the capability to perform offsite notifications; and the capability for engineering assessment activities, including damage control team planning and preparation. The alternative facility should also be equipped with general plant drawings and procedures, telephones, and computer links to the site.

**Describe in the emergency plan, or provide reference to where this information is contained, an alternative facility to support rapid response to a hostile-action event, or provide justification as to why this information is not necessary. As stated in BL 2005-02, the alternative facility should include the following characteristics:**

- **Accessibility even if the site is under threat or attack;**

- **Communication links with the emergency operations facility, control room, and security;**
- **Capability to notify offsite response organizations if the emergency operations facility is not performing this action;**
- **Capability for engineering and damage control teams to begin planning mitigative actions (e.g., general drawings and system information)**

**[RAI 13.3(Q-4)] Discuss in the emergency plan/procedures whether EP drills and exercises will be scheduled to address security based events or justify why this information is not required.**

**[RAI 13.3(Q-5)] Provide an assessment on the potential effect on the plant, onsite staffing and augmentation, and onsite evacuation strategies from damage to nearby hazardous facilities, dams, and other nearby sites, in consideration of a security-based event.**

13.03-22

**SITE-19: ITAAC**

Regulatory Basis: 10 CFR 52.80(a)

SRP ACCEPTANCE CRITERIA: Requirement E; Acceptance Criterion 23

[RAI 13.3(S-1)] RG 1.206, Appendix B, Table C.II.1-B1 outlines generic, non-site specific EP-ITAAC Planning Standards, EP Program Elements, Inspection, Tests, Analysis, and Acceptance Criteria. Attachment 10, "EP-ITAAC," does not propose a complete EP-ITAAC addressing the same Planning Standards as Table C.II.1-B1.

**Discuss whether these examples of generic EP-ITAAC should be completely addressed in Attachment 10 of the PSEG ESP Emergency Plan with site specific details, or justify why all of the EP-ITAAC in Table C.II.1-B1 are not needed.**

13.03-23

**Permit Conditions proposed by NRC for Introduction Section of SER**

Regulatory Basis: 10 CFR 52.17, 1-0 CFR 52.18, 10 CFR 50.47; Appendix E to 10 CFR 50; Regulatory Guide 1.206,

Acceptance Criteria: 1, 2, 3, 21, 24

The NRC staff has identified the following Permit Conditions and ITAAC for the PSEG ESP regarding the emergency preparedness plan.

- 1. An applicant for a combined license (COL) referencing this early site permit shall contain a fully developed set of EALs for the proposed Unit(s), which are based on in-plant conditions and instrumentation, including onsite and offsite monitoring, and which have been discussed and agreed on by the applicant or licensee and State and local governmental authorities, and shall include the full set of EALs in the COL application.**

- 2. An applicant for a combined license (COL) referencing this early site permit shall identify the location of the TSC and describe the radiological monitoring equipment provided in the TSC.**
- 3. An applicant for a combined license (COL) referencing this early site permit shall identify the location of the OSC and describe the equipment provided in the OSC.**
- 4. The licensee shall perform and satisfy the ITAAC in accordance with 10 CFR 52.17(b)(3).**