

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Paul S. Ryerson, Chairman  
Dr. Gary S. Arnold  
Dr. Craig M. White

In the Matter of  
PSEG POWER, LLC AND PSEG  
NUCLEAR, LLC  
(Early Site Permit Application)

Docket No. 52-043-ESP

ASLBP No. 15-943-01-ESP-BD01

December 15, 2015

MEMORANDUM AND ORDER

(Initial Board Questions and Associated Administrative Directives)

In accordance with the Initial Scheduling Order, the parties shall respond, on or before January 14, 2016 to the Board's initial written questions on the SER attached hereto.<sup>1</sup> The parties are reminded that, pursuant to that Order, "[t]he parties' written answers shall, for each question, identify the responding subject matter expert(s) or individual(s), and shall be submitted in exhibit form, under oath, so that they are suitable for receipt into evidence without the necessity of the personal appearance of each expert or individual."<sup>2</sup>

To avoid potential confusion, if associated attachments are submitted with the answers, they should be labeled as "attachments" and not as "exhibits." The NRC's E-Filing system treats pre-filed written testimony and exhibits that are submitted in connection with an

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<sup>1</sup> Licensing Board Order (Initial Scheduling Order) (Nov. 16, 2015) at 4 (unpublished).

<sup>2</sup> Id. at 3.

evidentiary hearing differently from other submissions.<sup>3</sup> Instructions concerning the submission of such pre-filed hearing exhibits will be provided at the appropriate time in a subsequent order.

Consistent with the Board's role in this uncontested proceeding—that is, to consider the sufficiency of the NRC Staff's review of the Application—most of the Board's questions are directed primarily to the NRC Staff. As appropriate, however, answers to the Board's questions should be submitted both by the NRC Staff and by the Applicant. To the extent practicable, the parties are encouraged to coordinate their responses so as to avoid repetition.

It is so ORDERED.

FOR THE ATOMIC SAFETY  
AND LICENSING BOARD

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Paul S. Ryerson, Chairman  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
December 15, 2015

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<sup>3</sup> See 10 C.F.R. § 2.304(g).

## Attachment A

### (SER-Related Questions)

1. Pursuant to 10 C.F.R. § 52.24(a), in order to authorize issuance of an ESP the Licensing Board must make the following safety findings:
  - (1) An application for an early site permit meets the applicable standards and requirements of the [AEA] and the Commission's regulations;
  - (2) Notifications, if any, to other agencies or bodies have been duly made;
  - (3) There is reasonable assurance that the site is in conformity with the provisions of the Act, and the Commission's regulations;
  - (4) The applicant is technically qualified to engage in any activities authorized;
  - (5) The proposed inspections, tests, analyses and acceptance criteria, including any on emergency planning, are necessary and sufficient, within the scope of the early site permit, to provide reasonable assurance that the facility has been constructed and will be operated in conformity with the license, the provisions of the Act, and the Commission's regulations; [and]
  - (6) Issuance of the permit will not be inimical to the common defense and security or to the health and safety of the public . . . .

Staff shall briefly summarize those portions of its review that support each of these findings. (At its option, Staff may defer its response to this question until the response date (February 25, 2016) for prefiled testimony and exhibits.)

2. Were any significant calculations performed by the Applicant and documented in the SSAR for which Staff did not perform its own confirmatory calculations? If so, what were they? Why is independent verification not necessary?
3. Identify those areas where Staff either reviewed Applicant's computer code input or performed significant analysis using the computer code. Briefly describe the reviewer's prior experience with those codes.
4. Given that three nuclear power reactors are already located adjacent to the proposed site, was Staff able to rely on any information already in its possession and thereby conserve its resources for analysis of the most important safety-related issues? Explain.
5. Given that three nuclear power reactors are already located adjacent to the proposed site, what efforts did Staff make to focus on potential cumulative and interactive effects with respect to safety-related issues? Explain.
6. Throughout the SER, Staff "concludes" certain things and "finds" certain other things. Does Staff's use of either term connote a different decisional process or a different standard of proof? Or are these terms used interchangeably?

7. Except as already discussed the SER or in response to other, more specific questions set forth below, Staff shall identify any regulatory guides that were directly or indirectly applicable and explain how they were applied or adapted to Staff's review.
8. Except as otherwise discussed in response to more specific questions set forth below, identify significant issues (if any) to which Staff determined that no regulatory guide applied, and explain how Staff addressed such issues.
9. The Commission has stated that license conditions must be "precisely drawn so that the verification of compliance becomes a largely ministerial . . . act." Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-00-13, 52 NRC 23, 34 (2000). Does Staff contend that this standard does or does not apply to each of the nine permit conditions Staff proposes in the SER (at pp. A-2 through A-6)?

#### **SER section 2.1.3.4 Technical Evaluation**

10. In the middle of the second paragraph on page 2-12, Staff states:

Therefore, in RAI 32, Questions 02.01.03-5 and 02.01.03-6, the staff requested that the applicant analyze this information and population data and clarify based on growth rates from 2000 to 2010 U.S. Census, whether Middletown, DE, could be a future population center. If so, the staff requested that the applicant demonstrate compliance with population distance requirement in 10 CFR 100.21(b), such that the future growth and developments of Middletown, DE will not be closer than 11.3 km (7 mi) west of the PSEG Site, including growth into and around Odessa, DE, or discuss any changes to the current LPZ boundary.

Does Staff contend that 10 C.F.R. § 100.21(b) requires applicants to apply siting criteria to future population estimates? If so, explain.

11. On pages 2-12 & 13, Staff discusses Applicant's projected population density of 497 people per square mile in the year 2021, which is considered to be the first year of plant operation. Since plant operation by 2021 is unlikely, should there be a COL application at some point in the future, will the criterion of RG 4.7 be revisited at that time?

#### **SER section 2.2.3.4.1 Explosions and Flammable Vapor Clouds**

12. Was any consideration given to missiles that might be generated by an explosion?

#### **SER section 2.3.1.4.5 Severe Weather**

13. Has Staff compared severe weather as described in the SSAR with equivalent information in Hope Creek and Salem plant documents? If so, are there any significant differences?

#### **SER section 2.3.2.4.2.2. Atmospheric Stability**

14. This section explains Applicant's reasons for selecting the lower altitude delta T for determining the atmosphere stability class:

[T]he applicant explained that the use of the delta-temperature between the 45-m (150-ft) and 10-m (33-ft) heights is more appropriate than the use of the delta-temperature between the 91-m (300-ft) and 10-m (33-ft) levels. This is because short-term and long-term releases from each of the reactor technologies used to develop the plant parameter envelope (PPE) are considered to occur at ground level. Using this lower layer to determine the stability class is more representative of conditions that would affect a ground-level release.

Is it reasonable or conservative to treat all releases as occurring at ground level?

15. If a release occurred as a hot air plume at ground level, could not that plume rise to above the level of the lower delta T measurement?

#### **SER section 2.3.4.4 Technical Evaluation**

16. On page 2-67, Staff states: "a COL or CP applicant citing this ESP will need to assess the dispersion of airborne radioactive materials to the control room at the COL or CP stage." Is this requirement captured in a COL Action Item? If not, why not?

#### **SER section 2.3.4.4.4 Conservative Short-Term Atmospheric Dispersion Estimates for EAB and LPZ**

17. On page 2-68, Staff states:

The applicant modeled one ground-level release point and did not take credit for building wake effects, as described in SSAR Section 2.3.4.1. Ignoring building wake effects for a ground-level release decreases the amount of atmospheric turbulence assumed to be in the vicinity of the release point, resulting in higher (more conservative)  $\chi/Q$  values. A ground-level release assumption is, therefore, acceptable to the staff.

Staff assumes a ground-level release with no building wakes is conservative relative to a ground-level release with building wakes accounted for. However it does not address the conservatism of assuming a ground-level release for a release at a higher elevation. Why is assuming a ground-level release conservative for an above ground-level release?

#### **SER section 2.4 Hydrologic Engineering**

18. What is the definition of the "10 percent exceedance high tide"?
19. Are the maximum rainfall, flood, surge, seiche, wave runup, tsunami, etc. for the PSEG site consistent with those for the Hope Creek and Salem plants? Explain any significant differences.

### **SER section 2.4.3.4.3 Computation of Peak Water Levels**

20. On page 2-99, Staff states:

Additionally, although the overall resolution of the applicant's basin model was somewhat coarse . . . the staff recognizes that these assumptions are needed given the large area the model encompasses and associated computational limitations.

Was any study performed to show that the coarseness of the model did not significantly affect these calculations? How much uncertainty could there be in this calculation without affecting the design basis flood?

### **SER section 2.4.5.4 Technical Evaluation of Probable Maximum Surge and Seiche Flooding**

21. Staff notes that the Applicant determined parameters for the Probable Maximum Hurricane (PMH) from data reported in the 1979 National Weather Service Technical Report NWS 23. Using this reference, the Applicant chose a value of 28 nautical miles for the Radius of Maximum Winds (R) for the PMH used in their numerical models, shown on SSAR Table 2.4.5-4.

Would a larger R for the PMH significantly affect the modeled values for maximum total water surface elevation at the PSEG site? If so, given that the Radius of Maximum Winds for Hurricane Sandy was much larger than 28 nautical miles, why is the R value selected for the PMH considered sufficiently conservative?

### **SER section 2.4.5.4.9 Comparative Storm Surge Analyses and Design Basis Flood Level**

22. On page 2-125, Staff states:

Through independent confirmatory analysis, the staff determined that application of PMH storm parameters as input in the SLOSH model produces water surface elevations that exceed the publically available SLOSH Display Program (V. 1.61g) data for Category 4 storms in the PSEG project area.

What is the significance of this statement? Does it mean that the code is being used outside of its range of applicability?

23. What are the water surface elevations at the PSEG site that resulted from Staff's application of the SLOSH model? Why is the ADCIRC+SWAN methodology preferred to the SLOSH methodology?

24. On page 2-126, Staff states:

As a second step in the independent analysis, the staff confirmed the ability to reproduce the PSEG study model results near the project site for similar model settings and storm forcing. The staff executed the PSEG study Hurricane Isabel validation simulation and the PMH storm simulation. The results from the

independent Hurricane Isabel and PMH storm simulations, presented in Table 2.4.5-2 below, showed nearly identical values near the project site with differences in maximum water levels on the order of 0.01 m (0.03 ft).

This paragraph suggests that in Table 2.4.5-2 one would find Staff confirmatory calculations (right two columns of the table) showing nearly the same results as one of the PSEG calculations. However the two staff calculations in that table do not show close agreement with any PSEG calculation. Staff shall provide the comparison between Staff and PSEG calculations that demonstrates the ability of Staff to replicate PSEG calculations. Staff shall also provide a table showing all the sensitivity calculations performed by Staff.

#### **SER section 2.4.5.6 Conclusion**

25. On page 2-132, Staff states:

The staff accepted the applicant's PMSS of 9.78 m (32.1 ft) as the DBF noting that it was a very conservative analysis and most realistic of the simulations with the post-addition of the 10 percent exceedance high tide.

Table 2.4.5-2 on page 2-130 appears to show that 32.1 ft is near the low end of the calculations displayed in the table. Staff shall summarize the factors leading to the conclusion that this value is conservative.

#### **SER section 2.4.6.4.1 Probable Maximum Tsunami**

26. On page 2-139, Staff discusses Applicant's intention to defer some work to the COL application stage:

In SSAR Section 2.5.5, the applicant stated that the analysis of slopes will be conducted at the COL stage. SSAR Section 2.5.5.1 discusses the general site slope characteristics and states that analyses will consider potential failure surfaces extending into the Delaware River. The applicant's text also states that portions of the site outside the new plant power block are relatively flat, and that there are no existing slopes on the site, either natural or manmade, that could affect the stability of the site.

This section of the SER is evaluating the Probable Maximum Tsunami. What is the significance of site slope characterization to the potential sources of tsunamis?

#### **SER section 2.4.6.4.2 Historical Tsunami Record**

27. Staff states on page 2-140 that the 1929 Mw = 7.2 submarine earthquake and associated landslide in the Grand Banks resulted in a tsunami with a runup height of 27 m on the coast of Newfoundland. Are there geological reasons why a similar combination of events could not occur off the coast of the mid-Atlantic states?

#### **SER section 2.4.6.4.3 Source Generator Characteristics**

28. On page 2-143, Staff provides a brief analysis of potential tsunami sources from intra-plate earthquakes and states that the primary sources of intra-plate earthquakes suitably located to generate tsunamis are the mid-Atlantic Ridge and associated transform faults.

Staff shall comment on the 2013 journal article by Hough, Munsey and Ward proposing that a small tsunami observed in the Delaware River near Philadelphia in 1817 was produced by a significant (“low- to mid-M7”) earthquake located along a northeast trending seismic zone off the eastern coast of the United States. Does Staff agree with the conclusions presented in this paper and, if so, does the location and nature of this seismic zone have the potential to generate a significant tsunami hazard for the PSEG site?

29. On page 2-145, Staff states that the Applicant commissioned an independent analysis of 26 well boring logs collected within the footprints of the proposed new power block and east of the existing operating station, but notes that due to the limited geologic information and the complicated estuarine/fluvial and artificial fill architecture of the PSEG Site, the evaluation of the boring logs in a paleotsunami deposit sense is inconclusive.

Other than contacting representatives of the New Jersey Geological Survey, did Staff pursue any additional inquiries to identify studies indicating the presence of Quaternary age paleotsunami deposits in the region bordering Delaware Bay?

30. On page 2-145, Staff discusses the estimated age of the Currituck landslide:

Approximately 4-9 m (13 ft to 30 ft) of sediment has accumulated since the Currituck landslide (Locat, et al., 2009b) leading to an estimated age of the failure of between 25,000-50,000 ybp, based on average sedimentation rates of 5 cm/year (2 in./year) for sediment burying the scar and deposits (Locat, et al., 2009b and Lee, 2009).

In actuality, the reference cited by Staff (Lee, 2009) states: “Deposition rates are likely about 5 cm/ky for the Holocene and about 20 cm/ky for the late Pleistocene.” Staff shall confirm that the omission of “k”—thereby increasing the deposition rate by a factor of 1,000—is merely a typographical error. Staff shall also confirm that the 25,000-50,000 year age calculation is based upon an average of the Holocene and Late Pleistocene deposition rates, and not solely upon the Holocene rate of 5 cm/ky.

31. In the discussion of the hazards posed by tsunamis generated by volcanic landslides in the Canary Islands, Staff notes that the hydrodynamic model used by Ward and Day predicts wave heights on the eastern shore of North America of 10-25 m, but goes on to state on pages 2-142 through 143 that “The hydrodynamic model used by Ward and Day (Ward and Day, 2001), however, does not include the effects of non-linear advection or wave breaking. More recent research that incorporates these effects suggests wave heights along the eastern U.S. coast from this failure would be less than 3 m (9.8 ft) (Mader, 2001) or less than 1 m (3 ft) (Gisler and Weaver, 2006).”

Are there more recently published numerical simulations of Canary Islands sourced tsunamis that predict the maximum heights of tsunami waves on the east coast of the United States? If so, how do these simulations compare with those of the earlier studies cited in the SER?

32. Have new geological data become available or new numerical methodologies been developed that would lead Staff experts to question the results of their numerical simulation for a tsunami generated by a volcanic landslide in the Canary Islands? In other words, in light of tsunami research published since the 2011 Fukushima Dai-ichi accident, does the Staff remain confident that its assessment of the potential hazard posed by tsunamis at the PSEG site is sufficiently conservative?

#### **SER section 2.4.6.4.4 Tsunami Analysis**

33. In its discussion of the numerical simulations of tsunamis generated by a Currituck-like submarine landslide, Staff states on page 2-148 that “[o]f immediate note is the rapid attenuation of wave height through the entrance of the Delaware Bay.” With regard to their simulation of a tsunami caused by a Canary Islands volcanic landslide, Staff states on page 2-150 that “Similar to Currituck, the scattering of the wave at the entrance is the primary wave height reducer.” In both simulations the wave height at the PSEG site is substantially lower than the wave height at the bay entrance.

Can Staff cite any documented examples of tsunamis that entered estuaries and experienced wave height reductions on scales similar to those indicated by the numerical simulations? In other words, do the observed behaviors of tsunamis support the Staff’s conclusion based on their numerical models?

#### **SER section 2.4.11.4.2 Low Water from Drought**

34. On page 2-173, Staff states:

The applicant is a co-owner of the Merrill Creek Reservoir, which is used for low flow augmentation during times of drought to allow the applicant to continue water withdrawal from the Delaware River for power generation.

Given that PSEG is not the sole owner of the reservoir, what assurances are there that this source of low flow augmentation will always remain available?

#### **SER section 2.4.12.4.1 Groundwater System**

35. On page 2-180, Staff states:

Although the applicant indicated that the aquifer/aquitard sequence for the site includes the Kirkwood-Cohansey Formation, the New Jersey Geological Survey (Dames & Moore, 1988) has indicated that this Formation is absent from the site area. Since the applicant performed field studies and derived parameters from these studies for the interval proposed to be the Kirkwood-Cohansey Formation, the formal name for this interval had no impact on the staff’s evaluations and conclusions in this report.

Staff shall confirm that it has concluded that, because the geological and hydrological parameters of these rocks have been determined, it does not matter that the unit was misidentified by the Applicant.

#### **SER section 2.4.13.4.1 Release Site Location**

36. On page 2-186, Staff asserts:

In a June 30, 2011, response, the applicant provided several qualitative arguments, summarized below, as to why a release toward the east side is the most conservative . . . . These arguments for the conservatism of the westerly path noted that a substantially longer easterly travel time allowed for more radionuclide decay before discharge to surface water. (Emphasis added).

Was this simply a typographical error? Explain.

#### **SER section 2.5 Geology, Seismology, and Geotechnical Engineering**

37. On page 2-199, Staff states:

The applicant (PSEG) followed guidance in Regulatory Guide (RG) 1.208, "A Performance Based Approach to Define Site-Specific Earthquake Ground Motion," to define the following four zones around the site and conducted investigations in those zones that became progressively more detailed passing from site region to site location:

- Site region – Area within a 320-kilometer (km) (200-mile (mi)) radius of the site location
- Site vicinity – Area within a 40-km (25-mi) radius of the site location
- Site area – Area within an 8-km (5-mi) radius of the site location
- Site location – Area within a 1-km (0.6-mi) radius of the proposed plant

10 C.F.R. § 100.23(c) provides that:

The size of the region to be investigated and the type of data pertinent to the investigations must be determined based on the nature of the region surrounding the proposed site. (Emphasis added).

Did the Applicant provide an assessment of "the nature of the region surrounding the proposed site" to show that the guidance of RG 1.208 was appropriate for the PSEG site? If so, did the Staff evaluate this assessment? If not, why is it appropriate for Applicant to follow the guidance of a Regulatory Guide rather than the requirements of the regulations?

#### **SER section 2.5.2 Vibratory Ground Motion**

38. This section describes the evaluation of the ground motion response spectra. Should a COL be granted at some future date and a plant be built, what parts of this evaluation (or updated version thereof) will become design basis information for that plant?

#### **SER section 2.5.2.4.1.2 Ground Motion Models**

39. On page 2-244, Staff states that “[t]hese models were reviewed by the staff as part of prior ESP and COL applications’ reviews.” What prior ESP and COL applications is Staff referring to, and where is this review documented?

#### **SER section 2.5.3.4.1.4 Current Aerial and Field Reconnaissance**

40. On page 2-280, Staff states:

The applicant acknowledged that large portions of the site vicinity are tidal marshes and any liquefaction features developed in that environment would be relatively quickly degraded and not easily recognized during aerial or ground reconnaissance investigations.

Given that liquefaction features would not be easily recognized, were any alternative tests considered? Explain.

#### **SER section 2.5.3.5 Geologic Mapping Permit Condition**

41. In Appendix A.1 of the SER, Staff proposed that the Commission include a license condition (Permit Condition No. 3) on an applicant for a COL or CP referencing the PSEG early site permit that requires the applicant to perform detailed geologic mapping of excavations and evaluate features discovered in those excavations. Are these excavations likely to expose undisturbed sediments and, if so, as part of this geologic evaluation, will the Applicant and/or Staff experts be required to carry out analyses specifically designed to identify paleotsunami deposits?

#### **SER section 2.5.4.4.2 Properties of Subsurface Materials**

42. Do the subsurface materials at the PSEG site differ in any significant way from those at the Hope Creek and Salem sites?

#### **SER section 2.5.4.4.10 Static Stability**

43. On page 2-332, Staff states: “the applicant stated that it has not yet established the criteria to estimate the site-specific total and differential settlement because ....” Is this something that must be evaluated at the COL stage, and if so, should there be a COL Action Item for it?

#### **SER section 2.5.4.6 Conclusion**

44. On page 2-336, Staff identifies Permit Condition 4 stating, “the staff identified Permit Condition 4, which addresses the need for additional geotechnical investigations and liquefaction assessments for a COL or CP.” But Permit Condition 4, as set forth on the same page, make no mention of “additional geotechnical investigations” or “liquefaction assessments.” Instead it requires that Applicant “remove and replace the soil.” Which is the correct representation of the Permit Condition?

### **SER section 3.5.1.6. Aircraft Hazards**

45. The potential for an aircraft hazard is evaluated in SSAR section 3.5.1.6. The criteria for eliminating an aircraft from hazard consideration are cited by Staff on page 3-2 as:

The site-to-airport distance (D) is between 5 and 10 statute miles and the projected annual number of operations is less than  $500 D^2$ , or the site-to airport distance (D) is greater than 10 statute mi, and the projected annual number of operations is less than  $1000 D^2$ .

Table 3.5-1 of the SSAR demonstrates that each airport considered by itself meets this criteria. However by evaluating "Limited Distance/Screening Limit" for each airport it can be seen that an aggregate of the airports do not pass this screening by a factor of 2.38. How does considering each airport on its own provide adequate assurance that area airports are not a potential hazard to a new unit? Is it permissible to parse a single hazard (aircraft) into subdivisions (aircraft from different airports) to show that that possible hazard meets safety criteria?

46. On page 3-4, Staff cites an acceptance criterion for airplane crash as, "The radiological consequences of 10 CFR Part 100 exposure criteria are considered met if it is demonstrated that the probability of radiological release or core damage frequency (CDF) is less than  $10^{-7}$  per year." Where is this criterion documented?
47. How many events, each having a CDF just less than  $10^{-7}$  per year, are acceptable before the aggregate becomes a significant risk? How does the safety evaluation assure that the sum total of all risks is acceptable?

### **SER section 11.4.2 Compliance with 10 CFR Part 20 and 10 CFR Part 50, Appendix I – Gaseous Effluents**

48. In the third paragraph of the subsection titled "Gaseous Effluent Source Term Analysis," Staff discusses the absence of dose factors for five radionuclides. Staff states that Applicant explained that the five nuclides are short-lived daughters of long-lived parents, and that there are no dose factors for them in the dose-factor library. Because they are radionuclides, there will be a dose from their decay. Has this dose been accounted for in the dose factor for the parent radionuclides? If not, have they simply been neglected? If so, why is this an adequate treatment?
49. In the subsection titled "10 CFR Part 50, Appendix I, Gaseous Dose Compliance," on page 11-9, Staff discusses Applicant's calculation of the dose to "a member of the public being located at the nearest site boundary for the full duration of the year." Figure 2.3-8 of the SER makes it appear that the nearest site boundary might be in the Delaware River. Was this the location of the calculation or was the nearest site boundary on land used?
50. On page 11-11, Staff explains the reason that the calculated total body dose is close to the limit. The reasons provided include the statement:

(2) in the GASPARG computer code, when the Undecayed, Undepleted and Decayed, Undepleted X/Q values are equal, the equation GASPARG II uses to

solve for decay time sets time equal to zero. Without a decay time, the short-lived gaseous radionuclides increase the total dose.

Staff shall explain this statement in more detail.

51. Under the subheading “Population Dose Evaluation—Gaseous Effluents” on page 11-12 the following two sentences appear:

Table 11.4.2-3 of this report lists the population doses that the applicant calculated as compared to the staff’s verification of the applicant’s results.

Table 11.4.2-3 below shows the assumptions and parameters used by the applicant that resulted in the same dose for the total body and a slightly lower dose for the thyroid when compared to the staff’s bounding independent assessment.

The first of these sentences appears to reflect the content of Table 11.4.2-3. The second sentence does not. Staff shall provide clarification.

### **SER section 13.3 Emergency Planning**

52. Staff shall briefly describe any significant differences between the current site emergency plan and that which would be used if an additional reactor is built on the PSEG site.

#### **SER section 13.3.4.3.6 Emergency Communications**

53. On page 13-26, Staff states that its “primary focus” was to evaluate the emergency plan against NUREG-0654, Planning Standard F. On what else did Staff focus in its evaluation?

#### **SER section 13.3.4.3.8 Emergency Facilities and Equipment**

54. On page 13-32, Staff states that its “primary focus” was to evaluate the emergency plan against NUREG-0654, Planning Standard H. On what else did Staff focus its evaluation?

#### **SER section 13.3.4.3.12 Medical and Public Health Support**

55. On page 13-49, Staff states that its “primary focus” was to evaluate the emergency plan against NUREG-0654, Planning Standard L. On what else did Staff focus its evaluation?

#### **SER section 15.0.3.4.3 Radiological Consequences**

56. On page 15-5, Staff states that “[t]he estimated site characteristic  $\chi/Q$  values for the proposed site are lower than the corresponding site parameter  $\chi/Q$  values.” What is the difference between a site characteristic value and a site parameter? Why do their ratios being less than 1.0 ensure satisfactory radiological consequences?

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
PSEG POWER, LLC ) Docket No. 52-043-ESP  
AND PSEG NUCLEAR, LLC )  
(Early Site Permit Application) )

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **MEMORANDUM AND ORDER (Initial Board Questions and Associated Administrative Directives)** have been served upon the following persons by Electronic Information Exchange or by electronic mail.

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PSEG POWER, LLC AND PSEG NUCLEAR, LLC - Docket No. 52-043-ESP  
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[Original signed by Herald M. Speiser ]  
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