Nuclear Development
244 Chestnut Street, Salem, NJ 08079

PSEG
Power LLC

ND-2011-0059
September 9, 2011

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

Subject: **PSEG Early Site Permit**
NRC Docket No. 52-043
Response to Request for Additional Information, RAI No. 35, Long-Term Atmospheric Dispersion Estimates for Routine Releases

References:

1) PSEG Power, LLC letter to USNRC, Application for Early Site Permit for the PSEG Site, dated May 25, 2010

2) RAI No. 35, SRP Subsection: 02.03.05 - Long-Term Atmospheric Dispersion Estimates for Routine Releases, dated August 12, 2011 (eRAI 5845)

3) PSEG Power, LLC letter to USNRC, ND-2011-0058, PSEG Power, LLC, Response to Request for Additional Information, RAI No. 34, Short Term Atmospheric Dispersion Estimates for Accident Releases, dated September 8, 2011

The purpose of this letter is to respond to the request for additional information (RAI) identified in Reference 2 above. This RAI addresses Long-Term Atmospheric Dispersion Estimates for Routine Releases, as described in Subsection 2.3.5 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 our response for RAI No. 35, Questions No. 02.03.05-3 through 02.03.05-5. Our response to RAI No. 35 Questions 02.03.05-3 through 02.03.05-5 will require revisions to the SSAR. Enclosure 2 provides proposed revisions to the SSAR. Enclosure 3 includes the new regulatory commitment established in this submittal.

D079
NRO

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 9th day of September, 2011.

Sincerely,

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

Enclosure 1: Response to NRC Request for Additional Information, RAI No. 35, Question Nos. 02.03.05-3, 02.03.05-4, and 02.03.05-5, SRP Subsection: 02.03.05 - Long-Term Atmospheric Dispersion Estimates for Routine Releases
Enclosure 2: Proposed Revisions Part 2 – Site Safety Analysis Report (SSAR)
Enclosure 3: Summary of Regulatory Commitments

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

PSEG Letter ND-2011-0059, dated September 9, 2011

ENCLOSURE 1

RESPONSE TO RAI No. 35

QUESTION Nos.:
02.03.05-3
02.03.05-4
02.03.05-5

Response to RAI No. 35, Question 02.03.05-3:

In Reference 2, the NRC staff asked PSEG for information regarding Long-Term Atmospheric Dispersion Estimates for Routine Releases, as described in Subsection 2.3.5 of the Site Safety Analysis Report. The specific requests were:

> *10 CFR 100.21(c)(1) requires that site atmospheric dispersion characteristics must be evaluated and dispersion parameters established such that radiological effluent release limits associated with normal operation from the type of facility proposed to be located at the site can be met for any individual located offsite. RG 1.111, Revision 1, states that spatial and temporal variations of airflow should be considered at sites along and near coasts with significant land-water boundary layer effects on airflow and sea-land breeze circulations. SSAR Section 2.3.2.2.1.2 describes the complex wind patterns at the PSEG site that are caused in part by Delaware Bay breezes and local shoreline breezes.*
>
> *The staff notes that in the XOQDOQ input/output files that have been provided in an April 6, 2011, response (ML11111A075) to RAI 16, Question 02.03.05-1 (ML110950323), adjustments for the potential effects of land-water boundaries on airflow have not been addressed.*
>
> *Update Section 2.3.5 of the SSAR to include the χ/Q and D/Q values that consider and account for the potential effects of land-water boundaries, or provide justification as to why this is not necessary for the PSEG site.*

PSEG Response to NRC RAI:

As stated in PSEG Site ESPA, SSAR Subsection 2.3.2.2.1.2, "On-Site Wind Roses during Three Year Period", the annual on-site wind rose reflects a complex mix of several minor airflow phenomena. The intended context is that the mix is complex, not the airflows themselves. There are frequent annual site winds from the southeast, which include airflow from over the smooth surface of the Delaware Bay. Sea breeze regimes that are often present at regional sites directly on the Atlantic Ocean generally do not affect the PSEG Site, and there is no evidence of substantial alteration of the synoptic airflow or of closed mesoscale circulations at that site.

The PSEG Site is located on a man-made island in the Delaware River. It is located at a point where the river gradually widens into the Delaware Bay. From the site northward, the river is less than five kilometers (three miles) wide. South of the site, the river opens up into the bay, which eventually empties into the Atlantic Ocean, approximately 52 miles to the south-southeast of the PSEG Site. Since this site is not located on the coastline of a large body of water, such as an ocean or the Great Lakes, it should not be considered a coastal location. The site is not subject to the frequent sea-breeze mesoscale circulations that arise from the differential heating of the land and water surfaces and are commonly observed at coastal locations.

The meteorological characteristics of the air flowing over the site from the waters of the Delaware Bay to the south-southeast are not significantly altered by passing over the site. The PSEG Site is located on a small, marshy and flat island. Airflows originating from directions other than south-southeast are not significantly affected because of their short over-water fetch. The present meteorological tower allows adequate and representative measurements of airflows and atmospheric stability, which are required to simulate atmospheric dispersion in the region. Stagnation conditions are not frequent in the site region.

Summarizing, the meteorological data used to determine the long-term diffusion estimates were measured by the on-site meteorological tower, which adequately measures site airflows. Those flows include winds from across the Delaware Bay. The site is not an ocean coastal location and no spatial or temporal circulations of airflow are expected due to land-water boundary sea breeze effects. Therefore, no changes are necessary to the X/Q and D/Q values provided in Subsection 2.3.5 of the SSAR.

Additional discussion of the site meteorological dispersion conditions will be added to SSAR Subsection 2.3.2.2.1.2. A reference to the discussion in Subsection 2.3.2.2.1.2 is also being added to Subsection 2.3.5.1.

Associated PSEG Site ESP Application Revisions:

SSAR Subsection 2.3.5.1 will be updated as specified in Enclosure 2 of this document. For ease of review, the revisions to SSAR Subsection 2.3.2.2.1.2 provided in Reference 3, Question 02.03.04-2, are included in Enclosure 2 of this document.

Response to RAI No. 35, Question 02.03.05-4:

In Reference 2, the specific request for Question 02.03.05-4 was:

> *10 CFR 100.21(c)(1) requires that site atmospheric dispersion characteristics must be evaluated and dispersion parameters established such that radiological effluent release limits associated with normal operation from the type of facility proposed to be located at the site can be met for any individual located offsite. NUREG-0800, Section 2.3.5 states that the ESP site characteristics should include the maximum χ/Q and D/Q values calculated at the specific locations of potential receptors of interest.*
>
> *SSAR Section 2.3.5.2 states that the site boundary χ/Q values were disregarded for sectors SE to NW (clockwise direction) due to the site boundary being bordered by the Delaware River.*
>
> *Update Section 2.3.5 of the SSAR to include the χ/Q and D/Q values at the site boundary for all 16 radial directions, or provide a justification as to why this is not necessary for the PSEG site.*

PSEG Response to NRC RAI:

SSAR Subsection 2.3.5.2 will be updated to include the χ/Q and D/Q values at the site boundary for all 16 radial directions. A new table (Table RAI-35-1) will be added to the SSAR to provide a complete set of the χ/Q and D/Q values at the site boundary.

The χ/Q and D/Q values at the site boundary, adjacent to the Delaware River (sectors SE to NW in clockwise direction), are not considered in the associated analyses for radiological exposure due to routine gaseous effluents. This is acceptable because of the negligible time any individual is expected to spend in this area during any one-year period. A note is added to the new table to reaffirm this approach is used in the SSAR.

Associated PSEG Site ESP Application Revisions:

A new SSAR Table 2.3-37 will be added to the SSAR and Subsection 2.3.5.2 will be updated as specified in Enclosure 2 of this document.

Table RAI-35-1
XOQDOQ Predicted Annual Average X/Q and D/Q Values at the Site Boundary for Routine Releases(1)

		χ/Q			D/Q
Sector	**Distance**	**No Decay/ Undepleted**	**2.26 Day Half-life/ Undepleted**	**8 Day Half-life/ Depleted**	
	[miles]	**[s/m³]**	**[s/m³]**	**[s/m³]**	**[1/m²]**
S	0.41	4.5E-06	4.5E-06	4.2E-06	1.6E-08
SSW	0.25	1.1E-05	1.1E-05	1.1E-05	3.6E-08
SW	0.18	1.6E-05	1.6E-05	1.5E-05	5.0E-08
WSW	0.17	1.6E-05	1.6E-05	1.6E-05	3.8E-08
W	0.17	1.4E-05	1.4E-05	1.4E-05	2.9E-08
WNW	0.17	1.2E-05	1.2E-05	1.1E-05	3.0E-08
NW	0.22	1.5E-05	1.5E-05	1.4E-05	6.7E-08
NNW	0.36	4.5E-06	4.5E-06	4.2E-06	2.3E-08
N	0.46	2.8E-06	2.8E-06	2.6E-06	1.3E-08
NNE	0.34	4.9E-06	4.9E-06	4.6E-06	2.1E-08
NE	0.24	9.8E-06	9.8E-06	9.3E-06	3.8E-08
ENE	0.24	1.0E-05	1.0E-05	9.5E-06	4.1E-08
E	0.78	1.2E-06	1.2E-06	1.1E-06	6.4E-09
ESE	1.07	7.2E-07	7.1E-07	6.2E-07	4.2E-09
SE	1.03	1.1E-06	1.1E-06	9.8E-07	6.4E-09
SSE	0.83	1.3E-06	1.3E-06	1.2E-06	6.6E-09

Notes:
(1) The χ/Q and D/Q values that are considered in the associated analyses for radiological exposure due to the routine gaseous effluents are those in sectors NNW to ESE (clockwise direction). Sectors SE to NW (clockwise direction) are adjacent to the Delaware River and are not used.

Response to RAI No. 35, Question 02.03.05-5:

In Reference 2, the specific request for Question 02.03.05-5 was:

> *10 CFR 100.21(c)(1) requires that site atmospheric dispersion characteristics must be evaluated and dispersion parameters established such that radiological effluent release limits associated with normal operation from the type of facility proposed to be located at the site can be met for any individual located offsite.*
>
> *SSAR Section 2.3.5.1 states that the downwind distances used to determine the χ/Q and D/Q values at each of the receptors of interest were calculated from the center of the power block area.*
>
> *Update Section 2.3.5 of the SSAR to include a justification as to why a "power block envelope" encompassing all the potential normal operation release pathways was not used for determining the distances to the receptors of interest.*

PSEG Response to NRC RAI:

Four reactor technologies are considered at the PSEG Site; ABWR, AP1000, U.S. EPR, and US-APWR. The primary gaseous effluent release pathways for the ABWR, U.S. EPR, and US-APWR are via the associated vent stacks that are adjacent to the corresponding reactor buildings. The vent stacks for these three technologies are located approximately at the center of the power block. The distances between the vent stacks and the site boundary vary slightly for these reactor technologies but they are within 10% of the distance between the center of the power block and the site boundary currently used in the SSAR. Therefore, the approach in the SSAR to use the center of the power block as a release point to determine the χ/Q and D/Q values at the PSEG Site is a reasonable approximation.

The new plant using two AP1000 units has multiple gaseous effluent release points around the center of the power block. The release points associated with one of the reactors are farther away from the site boundary than the modeled center of the power block, while the release points associated with the other reactor are closer to the site boundary than the modeled center of the power block. The release point used to determine the χ/Q and D/Q values at the PSEG Site is therefore a representative location for all the release points of the two AP1000 units.

As stated in SSAR Subsection 2.3.5.1, the building wake effects are conservatively not credited in the χ/Q and D/Q calculation. This methodology provides a reasonable justification for the use of the center of the power block as the representative release point for all the reactor technologies being considered for the PSEG Site.

SSAR Subsection 2.3.5.1 will be updated to include an expanded justification for the location of the gaseous effluent release point as described above.

Associated PSEG Site ESP Application Revisions:

SSAR Subsection 2.3.5.1 will be updated as specified in Enclosure 2 of this document.

PSEG Letter ND-2011-0059, dated September 9, 2011

ENCLOSURE 2

Proposed Revisions
Part 2 – Site Safety Analysis Report (SSAR)

Marked Up Pages
RAI Question 02.03.05-3
2.3-29
2.3-42

RAI Question 02.03.05-4
2-xviii
Table 2.3-37 (New Page)
2.3-43

RAI Question 02.03.05-5
2.3-42

The on-site annual dominant wind direction from the northwest reflects flow over the site region of air masses that originate within large surface high pressure systems over the continental interior. The on-site annual frequent wind direction from the southeast reflects Delaware Bay breezes that flow from the southeast along the length of that bay (Reference 2.3.2-1).

On-site winds from directions other than the two dominant directions northwest and southeast, appear to be due to a complex mix of several minor phenomena including: flows around transient storm systems, local shoreline breezes, and flow around the southwest perimeter of the Atlantic Ocean high pressure system.

The winter wind rose (Figure 2.3-25) shows more frequent flow from the northwest than any other season. It verifies that during winter, modified continental polar air masses streaming over the Appalachian Mountains towards the Atlantic Ocean shoreline dominate the site regional airflow.

The spring season wind rose (Figure 2.3-26) shows a high frequency of continental polar air mass intrusion from the northwest, like the winter wind rose. It also indicates an even higher frequency of flow from the southeast. That bimodal distribution is an indicator of two phenomena. First, it indicates that the spring season is transitional between winter and summer synoptic regimes in the region, and that modified continental polar air masses continue to occasionally penetrate to New Jersey during the year. Second, it indicates the high frequency of Delaware Bay breezes during spring.

The summer season wind rose (Figure 2.3-27), in addition to characteristic prevalent flows from the northwest (of modified continental polar air masses) and southeast (Delaware Bay breeze), also indicates somewhat larger frequencies of flows from the minor directions.

The autumn season wind rose (Figure 2.3-28), reflects the characteristic prevalent northwest (modified continental polar air mass) and southeast (Delaware Bay breeze) flows.

No calms are detected during the three years of on-site monitoring because of the sensitivity of the on-site sonic wind sensor and the open exposure of the flat terrain and Delaware Bay at the site.

INSERT 1

2.3.2.2.1.3 On-Site Wind Roses during 32 Year Period

Figures 2.3-29 through 2.3-34 present annual and seasonal wind roses for the 33 ft. level of the on-site primary tower for the 32 year period of record 1977 through 2008.

Comparison of three year (Figure 2.3-12, 2006-2008) and 32 year (Figure 2.3-29, 1977-2008) annual mean wind roses shows very similar distributions, verifying that the three years of data used for χ/Q and dose calculations are representative of longer term climatological conditions at the PSEG Site.

Comparison of three year (Figures 2.3-25 through 2.3-28, 2006-2008) and 32 year (Figure 2.3-30, 1977-2008) seasonal mean wind roses also shows very similar distributions. Those similarities also support the conclusion that the three years of data used for χ/Q and radiological dose calculations are representative of longer term climatological conditions at the new plant site.

RAI No. 34
Question 02.03.04-2

As stated above, the annual on-site wind rose reflects a complex mix of several minor airflow phenomena. The mix is complex, but not the airflows themselves. There are frequent annual site winds from the southeast, which include airflow from over the smooth surface of the Delaware Bay. The bay acts as a relatively low-friction path for airflow from the southeast directional sector.

While the PSEG Site is located on the shore of the Delaware River, the river "valley" is extremely flat and open in this area. The types of channeled airflows that are typically associated with deep "v-shaped" river valleys do not occur, because the marshy land areas bordering the water are only slightly higher than the river level in the region.

The PSEG Site is not located on the coastline of a large body of water, such as the Atlantic Ocean or the Great Lakes, and is not considered a coastal location. Therefore, the PSEG Site is not subject to the frequent sea-breeze mesoscale circulations that arise from the differential heating of the land and water surfaces and are commonly observed at coastal locations. Such closed sea-breeze mesoscale circulations do not occur at the PSEG Site, and recirculation of airflow during periods of prolonged atmospheric stagnation seldom occurs.

Summarizing, the on-site meteorological tower provides representative measurements of PSEG Site airflows and atmospheric stability, and of the meteorological conditions under which effluents are released. The site is not an ocean coastal location. No spatial or temporal circulations of airflow are expected due to land-water boundary sea breeze effects.

INSERT 1
RAI No. 34
Question 02.03.04-2

A straight-line trajectory approach is appropriate for the meteorological conditions at the PSEG Site as described in Subsection 2.3.2.2.1.2.

- From a distance of 1.6 km (1 mi.) at increments of 0.8 km (0.5 mi.) from a distance of 1.6 km (1 mi.) to 8 km (5 mi.)
- From a distance of 8 km (5 mi.) at increments of 4 km (2.5 mi.) to 16 km (10 mi.)
- From 16 km (10 mi.) at increments of 8 km (5 mi.) to a distance of 80 km (50 mi.)

Estimates of χ/Q (undecayed and undepleted; depleted for radioiodines) and D/Q radioiodines and particulates are provided at each of these grid points.

The NRC-sponsored XOQDOQ computer program (NUREG/CR-2919, *XOQDOQ: Computer Program for the Meteorological Evaluation of Routine Effluent Releases at Nuclear Power Stations*, PNL-4380, September 1982) is used to estimate χ/Q and D/Q values due to routine releases of gaseous effluents to the atmosphere. The XOQDOQ computer code calculates the χ/Q values and D/Q values at receptors of interest (e.g., site boundary, the nearest milk cow, residence, garden, meat animal). χ/Q and D/Q values due to intermittent releases, which occur during routine operation, may also be evaluated using the XOQDOQ model.

The XOQDOQ dispersion model implements the assumptions outlined in RG 1.111. The program assumes that the material released to the atmosphere follows a Gaussian distribution around the plume centerline. Atmospheric diffusion parameters are the standard Pasquill-Gifford diffusion parameters. In estimating concentrations for longer time periods, the Gaussian distribution is assumed to be evenly distributed within a given directional sector. A straight-line trajectory is assumed between the release point and all receptors.

Conservatively, the χ/Q values for the new plant are determined without accounting for the reduction due to building wake effect, i.e. building cross-sectional area set to zero, and a ground level release height of 10 meters (m) (33 ft.). The new plant location within the PSEG Site is not yet determined. The downwind distances from 0.25 to 50 mi. are measured from the center of the power block, known as the new plant site center, in all directions. Additionally, distances, to the site boundary, the nearest residence and the nearest farm containing the milk/meat animals and vegetable garden greater than 50 m^2 are also measured from the new plant site center at this time.

The following input data and assumptions are used in the XOQDOQ modeling analysis:

- Meteorological data: Three way JFD based on three years of on-site meteorological data for the period January 1, 2006 through December 31, 2008
- Type of release: Ground-level
- No vertical plume rise
- Conservatively, terrain is flat
- Wind sensor height: 10 m, (33 ft.)
- Vertical temperature difference: 150 ft.-33 ft.
- Number of wind speed categories: 11
- Release height: 10 m, (33 ft.), (default height)
- Distances from the postulated release point at the new plant site center to the nearest residence, nearest site boundary, vegetable garden, and meat animal

INSERT 2

RAI No. 35
Question 02.03.05-5

These values are used in the XOQDOQ model to predict the required annual average χ/Q and D/Q values. The location of the nearest meat animal and vegetable garden is assumed to be the

Four reactor technologies are considered at the PSEG Site; ABWR, AP1000, U.S. EPR, and US-APWR. The primary gaseous effluent release pathways for the ABWR, U.S. EPR, and US-APWR are via the associated vent stacks that are adjacent to the corresponding reactor buildings. The vent stacks for these three technologies are located approximately at the center of the power block. The distances between the vent stacks and the site boundary vary slightly for these reactor technologies but they are within 10% of the distance between the center of the power block and the site boundary currently used in the SSAR. Therefore, the approach in the SSAR to use the center of the power block as a release point to determine the χ/Q and D/Q values at the PSEG Site is a reasonable approximation.

The new plant using two AP1000 units has multiple gaseous effluent release points around the center of the power block. The release points associated with one of the reactors are farther away from the site boundary than the modeled center of the power block, while the release points associated with the other reactor are closer to the site boundary than the modeled center of the power block. The release point used to determine the χ/Q and D/Q values at the PSEG Site is therefore a representative location for all the release points of the two AP1000 units.

As stated in SSAR Subsection 2.3.5.1, the building wake effects are conservatively not credited in the χ/Q and D/Q calculation. This methodology provides a reasonable justification for the use of the center of the power block as the representative release point for all the reactor technologies being considered for the PSEG Site.

INSERT 2
RAI No. 35
Question 02.03.05-5

LIST OF TABLES (CONTINUED)

RAI No. 35
Question 02.03.05-4

Rev. 0

Table 2.3-27
XOQDOQ Predicted Annual Average X/Q and D/Q Values at the Site Boundary for Routine Releases(1)

Sector	Distance [miles]	χ/Q No Decay/ Undepleted [s/m³]	χ/Q 2.26 Day Half-life/ Undepleted [s/m³]	χ/Q 8 Day Half-life/ Depleted [s/m³]	D/Q [1/m²]
S	0.41	4.5E-06	4.5E-06	4.2E-06	1.6E-08
SSW	0.25	1.1E-05	1.1E-05	1.1E-05	3.6E-08
SW	0.18	1.6E-05	1.6E-05	1.5E-05	5.0E-08
WSW	0.17	1.6E-05	1.6E-05	1.6E-05	3.8E-08
W	0.17	1.4E-05	1.4E-05	1.4E-05	2.9E-08
WNW	0.17	1.2E-05	1.2E-05	1.1E-05	3.0E-08
NW	0.22	1.5E-05	1.5E-05	1.4E-05	6.7E-08
NNW	0.36	4.5E-06	4.5E-06	4.2E-06	2.3E-08
N	0.46	2.8E-06	2.8E-06	2.6E-06	1.3E-08
NNE	0.34	4.9E-06	4.9E-06	4.6E-06	2.1E-08
NE	0.24	9.8E-06	9.8E-06	9.3E-06	3.8E-08
ENE	0.24	1.0E-05	1.0E-05	9.5E-06	4.1E-08
E	0.78	1.2E-06	1.2E-06	1.1E-06	6.4E-09
ESE	1.07	7.2E-07	7.1E-07	6.2E-07	4.2E-09
SE	1.03	1.1E-06	1.1E-06	9.8E-07	6.4E-09
SSE	0.83	1.3E-06	1.3E-06	1.2E-06	6.6E-09

Notes:
(1) The χ/Q and D/Q values that are considered in the associated analyses for radiological exposure due to the routine gaseous effluents are those in sectors NNW to ESE (clockwise direction). Sectors SE to NW (clockwise direction) are adjacent to the Delaware River and are not used.

RAI No. 35
Question 02.03.05-4

RAI No. 35
Question 02.03.05-4

dairy farm located 4.9 mi. WSW of the new plant site center. This assumption is acceptable because the specified location is the nearest identified farm, and hence the nearest point where a meat animal or a garden (greater than 50 m^2) could be maintained. Moreover, the S/HC Offsite Dose Control Document requires a land census to identify a garden location for the site dose calculation. The dairy farm located 4.9 mi. west of the existing S/HC site is used for this analysis in the *2008 Annual Radioactive Effluent Release Report for the Salem and Hope Creek Generating Stations* (Reference 2.3.5-1). Therefore, it is reasonable to use this farm to analyze the radiological impact of normal effluents from the new plant. The nearest residence that could be conservatively determined is 2.8 mi. WNW. The nearest distances for the residence, farm and site boundary are presented in Table 2.3-33.

A complete set of the X/Q and D/Q values at the site boundary is provided in Table 2.3-37.

2.3.5.2 XOQDOQ Modeling Results

The values are summarized in Table 2.3-34. The largest χ/Q value for the site boundary is 1.6E-05 sec/m^3 in the South direction. Note however that the limiting values for sectors SE to NW (clockwise direction) is disregarded due to the fact that the site boundary for these sectors is bordered by the Delaware River (greater than a mile radially out from new plant site center). Therefore, the only sectors that are used to obtain the limiting χ/Q value for the site boundary are between the NNW and ESE directions (clockwise direction).

Table 2.3-33 shows the shortest distance between the new plant site center and the receptor points of interest Table 2.3-34 summarizes the maximum χ/Q and D/Q) values predicted by the XOQDOQ model for identified sensitive receptors in the vicinity of the new plant site center due to routine releases of gaseous effluents. As stated above, results for Delaware River sectors for the site boundary are not presented. The listed maximum χ/Q values reflect several plume depletion scenarios that account for radioactive decay (i.e., no decay, and the default half-life decay periods of 2.26 and 8 days).

The overall maximum annual average χ/Q value (with no decay) is 1.00E-05 sec/m^3 and occurs at the site boundary at a distance of 0.24 mi. to the ENE of the new plant site center. The maximum annual average χ/Q values (along with the direction and distance of the receptor locations relative to the new plant site center) for the other sensitive receptor types are: 2.40E-07 sec/m^3 for the nearest residence occurring in the northwest sector at a conservative distance of 2.8 mi. and 1.10E-07 sec/m^3 at the farm 4.9 mi. to the northwest. Table 2.3-35 summarizes the annual average χ/Q values at the XOQDOQ model's 22 standard radial distances between 0.25 and 50 mi. and for the model's 10 distance segment boundaries between 0.5 and 50 mi. downwind along each of the 16 standard direction radials (i.e., separated by 22.5 degrees). Table 2.3-36 summarizes the annual average D/Q values (for no decay).

2.3.5.3 References

2.3.5-1 *2008 Annual Radioactive Effluent Release Report for the Salem and Hope Creek Generating Stations*

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ENCLOSURE 3

Summary of Regulatory Commitments

ENCLOSURE 3

SUMMARY OF REGULATORY COMMITMENTS

The following table identifies commitments made in this document. (Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.)

COMMITMENT	COMMITTED DATE	COMMITMENT TYPE	
		ONE-TIME ACTION (Yes/No)	Programmatic (Yes/No)
PSEG will revise SSAR Subsections 2.3.5.1 and 2.3.5.2 and add a new table (Table 2.3-37) to incorporate the changes in Enclosure 2 in response to NRC RAI No. 35.	This revision will be included in the next update of the PSEG Site ESP application SSAR.	Yes	No