



**PSEG**

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Robert L. Mittl General Manager  
Nuclear Assurance and Regulation

August 17, 1984

Director of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
7920 Norfolk Avenue  
Bethesda, MD 20814

Attention: Mr. Albert Schwencer, Chief  
Licensing Branch 2  
Division of Licensing

Gentlemen:

HOPE CREEK GENERATING STATION  
DOCKET NO. 50-354  
DRAFT ENVIRONMENTAL STATEMENT (DES)

Enclosed with this letter are Public Service Electric and Gas Company comments regarding the "Draft Environmental Statement related to the operation of Hope Creek Generating Station" (NUREG-1074) issued by the Nuclear Regulatory Commission on June 29, 1984.

The comments have been listed according to DES section numbers. Affected DES page numbers related to each comment have also been supplied.

Should you have any questions in this regard, please contact Mr. D. E. Cooley at (201) 430-8143.

Very truly yours,

*R L Mittl / pcc*

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Enclosure

C. D. H. Wagner  
USNRC Licensing Project Manager

The Energy People

*Cooley  
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DRAFT ENVIRONMENTAL STATEMENT  
RELATED TO THE OPERATION OF  
HOPE CREEK GENERATING STATION (NUREG-1074)  
DOCKET NO. 50-354  
APPLICANT'S COMMENTS

(NOTE: An underlined word or words indicates a suggested change).

Summary and Conclusions

Item (4)(d) should read "One new offsite transmission line will connect Hope Creek and Salem Generating Stations with the existing grid." (Page vi).

4.2.3.4 Water Treatment

1. The third sentence should read: "Chlorination frequency and concentration..." (Page 4-3).
2. Rather than indicating that chlorination of the HCGS service water system will take place three times per day, it should be stated that chlorination will be used to control bio-fouling and that the rate, frequency and duration of chlorination will depend on biofouling characteristics and water quality. Use of dechlorination to control chlorine residuals should be mentioned. (See EROL Section 3.6.1 and Applicant's response to E291.16) (Page 4-3).
3. The seventh sentence should read: "Well water for domestic use is chlorinated to meet potable water quality standards on the New Jersey Department of Environmental Protec-tion." (Page 4-3).

4.2.4.1 Intake System

The bottom line on the page should read: "...the velocity through the traveling screens..." (See EROL Table 3.4-5, Amendment 4) (Page 4-3).

#### 4.2.6.2 Cooling Water System

1. The 4th sentence should read "...will be dechlorinated, as necessary, with a sulfur IV system so that..." (See EROL Section 3.6.1 and Applicant's response to E291.16) (Page 4-5).
2. The last two lines of the section should read "...concentrated about 1.4 to 1.7 times because of the evaporation..." (See EROL Table 3.4-1) (Page 4-5).

#### 4.2.7 Power Transmission System

1. The fourth sentence should read: "Only the Salem to Deans line passing by New Freedom and a ..." (Page 4-6)
2. The sixth sentence should read: "...partially constructed SGS-Deans line..." (page 4-6)
3. The seventh sentence should read: "The SGS-Deans line being constructed..." (Page 4-6).
4. The last sentence in the first paragraph should read: "...primarily from changes in transmission requirements, including those from the cancellation..." (Page 4-6).
5. The first sentence in the second paragraph should read: "The SGS-Deans..." (Page 4-7).
6. The lengths given for portions of the HCGS-SGS tie line are now as follows:
  - 0.28 mi. section of pre-existing SGS to Keeney line used for tie line, should be changed to 0.10 mi. (See EROL Figure 3.9-5, Amendment 4) (Page 4-7).
  - 0.19 mi. section of new line construction for the tie line, should be changed to 0.32 mi. (See EROL Figure 3.9-5, Amendment 4) (Page 4-7).

4.3.1.3 Groundwater

1. Final sentence should read, "Since the hydraulic gradient of the upper aquifers at the site is too small to measure, it is likely that any groundwater movement in the upper layers at the site is strongly influenced by the tide." (Page 4-9).

4.3.1.4 Water Use

1. First sentence, third paragraph should read "Other than the five active PSE&G production wells at Salem, and the two active wells at Hope Creek, there are no..." (See EROL Table 2.4-15) (Page 4-10).

4.3.4.1 Terrestrial Resources

The phrase "Salem-New Freedom power line" in the second paragraph should be changed to read "Salem-Deans power line" (Page 4-12).

4.3.4.2 Aquatic Resources

This section mentions that "a few special studies on fish and blue crab populations in the site vicinity...are still being continued." Applicant has prepared a detailed 316(b) Demonstration for Salem (See Applicant's response to E291.11) (Page 4-12).

4.3.5.2 Aquatic

1. The fourth sentence states that "...three shortnose sturgeon have been collected on the Salem Generating Station intake structure, all dead before arrival." Applicant's records show that two were dead and one was damaged before arrival. (See EROL Section 2.2.3, Amendment 4) (Page 4-17).

2. The second paragraph mentions sea turtles taken in the river and at the Salem intake structure (Page 4-17). A complete record of these events showing dates, locations of capture, and condition has been reported to the NRC as follows (See EROL Section 2.2.3, Amendment 4):

- Licensee Event Report 83-031/04L, July 29, 1983
- Licensee Event Report 82-050/04L, October 6, 1982
- Response to NRC Questions Concerning Sea Turtles, December 3, 1981
- Questions and Answers Pertaining to ...Atlantic loggerhead...Atlantic Ridley, September 24, 1980
- Licensee Event Report 84-017-000, August 3, 1984

4.3.6 Historic and Archaeological Sites

The fourth sentence should be corrected to state that there are 49 properties in New Castle County, Delaware that are listed on the National Register (See EROL Section 2.6, Amendment 4) (Page 4-17).

Table 4.2

The term "Velocity" in the parameter column should read "Through-Screen Water Velocity" (See EROL Table 3.4-5, Amendment 4) (Page 4-25).

Table 4.5

Average discharge water temperature rise at the OL stage should be 14.4°C (26.4°F) in winter and 3.0°C (5.2°F) in summer. (See EROL Tables 3.4-1 and 4.5, Amendment 4) (Page 4-28).

5.3.1.1 Surface Water

In the third paragraph, Applicant recommends substitution of "a sufficient flow" for "a minimum flow of 85 m<sup>3</sup>/sec (3000 ft.<sup>3</sup>/sec)..." This will make the paragraph accurate regardless of the flow criterion DRBC ultimately selects. Use of the 3000 ft<sup>3</sup>/sec value in the fourth paragraph is appropriate, since it appears in the Hope Creek DRBC Docket (D-73-193CP) and is independent of DRBC's ultimate choice of the Trenton flow criterion (Page 5-2).

5.3.1.2 Groundwater

In the second paragraph, the last sentence should read "The onsite wells will supply up to 2,100,000 liters/day (562,000 gal/day)" (see EROL Table 3.3-1, Amendment 2) (Page 5-3).

5.3.2.1 Surface Water

1. With reference to Paragraph 3, Applicant does not expect any net additions of chromium or iron to the cooling tower blowdown (See NJPDES permit renewal application submitted in response to E291.22) (Page 5-4).
2. It is indicated that PSE&G has initiated a chlorination study. This statement should be modified to reflect Applicant's response to EROL Question E291.19, Amendment 3 (Page 5-4).
3. It is indicated that the DRBC's mixing zone extends 3500 ft. The DRBC mixing zone designated by DRBC Docket D-73-193CP (Revised) is 2500 ft. long x 1500 ft. wide (See EROL Section 5.1.2, Amendment 4) (Page 5-4).

5.4.1 Fog and Ice

Applicant believes that natural draft cooling towers do not generally produce persistent cloudlike plumes (See EROL Section 5.1.4.6). There will be a visible vapor plume rising above the top of the cooling tower under certain conditions (Page 5-5).

#### 5.5.2.1.3 Ichthyoplankton Entrainment

1. In the entrainment analysis egg viability was apparently considered to be 100 percent, resulting in plant impact estimates that are conservatively high. Viability of fish eggs near Artificial Island has been observed as considerably less than 100 percent. The Salem 316(b) Demonstration cites viability of weakfish eggs as 60-70 percent and viability of bay anchovy eggs as 20-30 percent (Page 5-11).
2. The last paragraph should state that estimated entrainment losses represent one-year old fish and not adults. (Page 5-11).

#### 5.5.2.1.4 Total Entrainment Impacts

1. Last line on page reads "...potential entrainment loss of 51 kg (113 lb) is only 0.009 percent of the commercial weakfish catch." Method of calculation should be clarified (Page 5-11).
2. This section presents estimates of kilograms of weakfish potentially lost through entrainment and compares these estimates with commercial landings within 0-80 km of the site. The text concludes that the losses will have a negligible impact on the population. It could be mentioned that the analysis compares weight of one-year old fish lost to weight of adults taken in the commercial fishery. This results in a conservative analysis in that the majority of these one-year old fish would likely be lost through natural mortality and, therefore, would not become available to the commercial fishery (Page 5-12).

#### 5.5.2.2 Impingement Impacts

1. First paragraph, second sentence should read "...because the service water intake at Hope Creek and the circulating water intake at the adjacent operational Salem Generating Station..." (Page 5-12).

2. Second paragraph, first sentence should read "...an intensive impingement monitoring study at the Salem Station once through circulating water intake from April 1977..." (Page 5-12).
3. Last paragraph, third sentence should read "In terms of the reported commercial fisheries..." (Page 5-13).
4. Additional survival data is available for target species in the Salem 316(b) Demonstration supplied to the NRC in March 1984 (See Applicant's response to E291.11) (Page 5-13).

#### 5.14.1 Terrestrial Monitoring

Applicant has not "committed to an aerial photography program." Applicant has committed to the deposition measurements and native vegetation leaf analysis described in the letter from R. L. Mittl to A. Schwencer dated March 28 1984 (Page 5-61).

#### 5.14.3 Atmospheric Monitoring

Applicant has supplied the NRC estimates of overall meteorological system accuracy in an answer to an open item in the Draft Safety Evaluation Report (SER), Section 1.7. See attachments to the letter from R. L. Mittl to A. Schwencer dated July 27, 1984 (Page 5-62).

#### 6.4.2 Benefits

1. First sentence should read "...approximately 6.1 billion kwh of baseload electrical energy..." (See EROL Section 8.1.1) This comment also applies to DES Table 6.1. As stated in EROL Table 8.1-1, Applicant anticipates capacity factors in the first five years of operation to range from 62 to 70 percent (Page 6-2).
2. Applicant estimates annual production cost savings of between \$248 and \$462 million in the first five years of operation (See EROL



Table 8.1-1). This differs from NRC's estimate of \$63 million per year given in the second paragraph and DES Table 6.1 (Page 6-2).

Appendix D (Tables D-2 and D-3)

Applicant used a distance to the nearest boundary of 0.901 kilometers (See EROL Section 5.2.4), not 0.59 kilometers (Page 6).

Appendix D (Tables D-4 through D-8)

Applicant has revised EROL Tables 3.5-11 and 3.5-12. (See EROL Amendment 4). This could affect the values given in Tables D-4 through D-8.