

November 23, 2009

MEMORANDUM TO: Gregory Hatchett, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

FROM: Brent Clayton, Branch Chief */RA/*
Environmental Technical Support Branch
Division of Site and Environmental Reviews
Office of New Reactors

SUBJECT: TRIP REPORT – OCTOBER 20-22, 2009, READINESS ASSESSMENT
(C-2) VISIT FOR A FUTURE EARLY SITE PERMIT APPLICATION AT
THE SALEM/HOPE CREEK SITE

This report summarizes the pre-application readiness assessment (C-2) visit by U.S. Nuclear Regulatory Commission (NRC) staff on October 20-22, 2009, related to the environmental portion of a future early site permit (ESP) application for the Salem/Hope Creek site near Salem, New Jersey. Public Service Enterprise Group (PSEG) has indicated its intent to submit an ESP application for this site in May 2010. The purposes of this visit were to assess the applicant's readiness and to familiarize the NRC staff with the applicant's site-selection process and alternative sites.

PSEG provided an overview presentation about the site-selection process including methodology and outcome. A decision of whether or not to build a new plant has not yet been made. The reactor design has not been determined yet, and therefore, the application will be prepared with a plant parameter envelope (PPE). For each alternative site the applicant has considered the actual locations of onsite buildings as well as potential routes for pipelines and transmission lines.

Enclosure 1 provides a list of attendees. Enclosure 2 is the agenda used during the visit. Enclosure 3 is a summary of the more significant issues that were discussed. Note that this assessment was conducted several months prior to the applicant's planned ESP application date, and the staff did not expect the environmental report (ER) to be fully developed at this stage. Based on discussions to date and data collection underway, PSEG appears to be on track to submit a complete ESP application in May 2010.

CONTACT: Harriet Nash, NRO/DSER
301-415-4100

G. Hatchett

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The next readiness assessment visit (C-3) is scheduled for March 2010. The public outreach meeting (C-4) will likely be in April or early May 2010.

Project No. 777

Enclosures:

As stated

G. Hatchett

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RAnand, NRO

DBarnhurst, NRO

JCushing, NRO

EHickey, PNNL, eva.hickey@pnl.gov

KKlaus, BNL, keithk@bnl.gov

ADAMS ACCESSION NUMBER: ML093220183

NRO-002

OFFICE	PM:RENV:DSER:NRO	LA:DSER:NRO	BC:RENV:DSER:NRO
NAME	HNash	ARedden	BClayton
DATE	11/19/09	11/18/09	11/23/09

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LIST OF ATTENDEES: PSEG Readiness Assessment C2

Name	Organization	Phone Number
Daly, Brendan M	PSEG	856-339-7903
Janosko, Gary	PSEG	856-339-7912
Mallon, Jamie	PSEG	856-339-7908
Pantazes, Jeff	PSEG	856-339-7900
Robillard, Dave	PSEG	856-339-7914
Ruf, Gary	PSEG	856-339-7915
Strait, Ken	PSEG	856-339-3929
Wiwel, Mike	PSEG	856-339-7907
Dahlberg, Douglas	Sargent & Lundy	312-269-2402
Krause, Tim	Sargent & Lundy	312-269-6616
Shervin, Mike	Sargent & Lundy	302-622-7250
Bickle, Gary	AKRF	856-797-9930 ext. 1622
Elzinga, Bill	MACTEC	314-209-5957
Barnhurst, Dan	NRC	803-640-3716
Cushing, Jack	NRC	301-415-1424
Nash, Harriet	NRC	301-415-4100
Anderson, Tom	PNNL	719-395-0130
Fayer, Mike	PNNL	509-372-6045
Hickey, Eva Eckert	PNNL	509-375-2065
Kropp, Roy	PNNL	360-681-3610
Klaus, Keith	BNL	631-466-2698

Alternate Site Pre-Application Visit Agenda

Tuesday October 20, 2009

8:00 a.m. to 5:00 p.m. – Briefing [morning] and afternoon tour of Site 7-3

Wednesday October 21, 2009

7:30 a.m. to 5:00 p.m. – Tour Sites 4-1 and 7-1

Thursday October 22, 2009

8:00 a.m. to 1:00 p.m. – Tour Site 7-2 and Exit

Tuesday October 20, 2009

8:00 a.m. to 1:00 p.m.

Meet at PSEG Nuclear Development offices in city of Salem, NJ for overview discussions/ presentations on overall approach to Alternate Site Evaluation

- Welcome and Introductions
- Opening Remarks – NRC Team Lead and PSEG Nuclear Development Executive Director
- Alternative Site Evaluation Overview
- Methodology
- Criteria Development / Process
- Data Sources / GIS
- Region of Interest
- Candidate areas
- Potential sites
- Candidate sites
- Site reconnaissance
- Final ratings / scoring / ranking
- Safety Brief for Field Tour

1:00 p.m. to 5:00 p.m. Travel to Site 7-3

Wednesday October 21, 2009

7:30 a.m. to 1:00 p.m. – Meet Minibus at Newark DE Hilton [Christiana] and travel together to Site 4-1;

1:00 p.m. to 5:00 p.m. Travel to Sites 7-1 and 7-2 -- Return to Hilton

Thursday October 22, 2009

8:00 a.m. to 11:00 a.m. – Meet at PSEG Nuclear Development offices in city of Salem, NJ – Travel to Site 7-2

11:00 a.m. to 1:00 p.m. – Summary Discussion / Exit Debrief

Summary of Issues and Concerns

The U.S. Nuclear Regulatory Commission (NRC) team identified no significant issues during the C-2 visit. The team's primary concern was related to the applicant not having access to the sites for specific information that would be preferable for reconnaissance-level information and analysis related to the alternative sites. However, this is unlikely to pose an acceptance issue for the prospective application.

Site-Selection Process

PSEG appears to be following a systematic process to review alternative systems, alternative generation options, and alternative sites. The process to evaluate alternative sites appears to follow the EPRI guidance. Based on comments from the C-1 visit, the region of interest (ROI) was revised to be the State of New Jersey (NJ). PSEG used 4-5 general screening criteria and geographic information system (GIS) data from NJ to identify areas within NJ that would be examined further for potential sites. This screening exercise eliminated more than 95% of the state, primarily because of proximity to major population areas. The screening process utilized only qualitative judgment to identify the alternative sites. Numerical scoring and ranking of alternative sites were only generated for the preferred site and the selected alternative sites. The applicant had three categories (ecology, land use, and social factors) that together constituted the environmental score. The ecological category had the lowest influence (fewest criteria, lowest weighted scoring) of the three. All alternative sites and the preferred site scored low for the ecology category, but this was counter balanced by the scores for land use and social factors.

Tour of Site 7-3

Site 7-3 located on the Delaware River coastline southeast of the Salem Nuclear Plant. The site is 885 acres of nearly flat marsh and farmland with elevations ranging from 0 to 20 ft msl. The distance to the Delaware River for water intake and discharge is less than one mile; dredging of the soft substrate would likely be required. PSEG installed several access roads along the coast for the public to fish and crab. The site has farmland, some of which is planted with various warm- or cold-season grasses (farm subsidy). There are several (~10) historical properties (houses) on the site that are not owned by PSEG any longer. There is quite a bit of *Phragmites* in this area, but there also is a substantial "natural" marsh of *Spartina*. The marshes are laced with several tidal creeks. Soy beans and corn seemed the predominant agricultural products in the area. The Dix Fish and Wildlife Management Area is located southeast of the site. Assuming PSEG is able to acquire the necessary properties, there were no observable technical flaws to indicate that the site would not be a viable alternative site.

Tour of site 4-1

Site 4-1 is located northeast of Frenchtown, NJ, a small town located on the Delaware River. The site is 1120 acres that are relatively flat with an elevation range of 540-640 ft msl. The water intake and discharge systems would tap the Delaware River near Frenchtown, about 6.4 miles from the site. The stretch of river in question is non-tidal and designated as "special protection waters" because of contaminant issues (primarily nutrient pollution). The river in this area is fairly broad (~1000 ft wide at the Frenchtown Bridge) and seemed to be fairly shallow (<6 ft). The bottom is covered with large flat rocks with very little soft sediment. This site is located near the New Jersey Highlands, an environmentally significant area in the northwest part of the state. The likely pipeline route would follow existing roadways. The area is

predominantly farmland (corn, soybeans) with the farmed areas relatively small and interspersed with scattered wooded tracts. There are several small, scattered housing developments in the general area. The Delaware Valley Regional High School and Rutgers Agricultural Station are located near the site. Part of County Road 615 runs directly through the site and would have to be relocated. Assuming PSEG is able to acquire the necessary properties, there were no observable technical flaws to indicate that the site would not be a viable alternative site.

Tour of Site 7-1

Site 7-1 is located east of Pennsville, NJ, and north-northeast of the Salem Nuclear Plant. The site has 985 acres and is relatively flat, with an elevation range of 15-35 ft msl. A portion of the site is in the 100-year floodplain. Distance to the Delaware River for water intake and discharge is about 4.7 miles; dredging of the soft substrate would likely be required. The area is predominantly farmland (corn, soybeans) with very few small, scattered wooded tracts. Wetlands, other than a few small ponds, were not observed even though the site is rated as having them. A small river passes north of the site and discharges into the Delaware River. Assuming PSEG is able to acquire the necessary properties, there were no observable technical flaws to indicate that the site would not be a viable alternative site.

Tour of Site 7-2

Site 7-2 is located southeast of Alloway, NJ. The site has 995 acres and is relatively flat. There are a couple small streams and minor wetlands. Distance to the Delaware River for intake and discharge is 12.9 miles; dredging of the soft substrate would likely be required. Much of the site is farmland (corn, soybeans) but there seems to be more wooded area than the other sites. A large, apparently contiguous wooded tract is to the west of the site. The tract is bisected by a transmission line, but it is not clear how much, if any, would be affected directly by building a plant on this site. There did not appear to be any major aquatic habitats that would be affected. Assuming PSEG is able to acquire the necessary properties, there were no observable technical flaws to indicate that the site would not be a viable alternative site.

Assessment of Readiness

The applicant provided discussions and tours to indicate that they have followed a specific framework for the alternative site-selection process including the determination of the ROI, identification of weighting for factors and criteria, specification of specific attributes used to identify candidate sites, and demonstration of a logical process for identifying and reviewing alternative sites. However, the NRC team could not actually access most portions of the sites that are not owned by PSEG, and there is some concern regarding obtaining the data needed to characterize the affected environment at the alternative sites. The tours followed existing roads through and around the alternative sites, and PSEG used NJ GIS data to describe the sites. The team found that PSEG has a good understanding of the requirements for submitting a complete environmental report in support of an early site permit (ESP). The PSEG team has been monitoring the progress of other applications, reviewing requests for additional information submitted in conjunction with other combined license and ESP applications, and responding to potential issues identified during the C-1 visit. NRC staff continues to emphasize the need to engage other agencies, in particular the U.S. Army Corps of Engineers, early in the process including the site-selection process and identification of alternative sites. PSEG appears to be making good progress and on track for the planned submittal of May 2010. The next readiness assessment visit (C-3) is planned for March 2010, and it is possible that additional issues may be identified at that time.