


United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of:	PSEG POWER, LLC AND PSEG NUCLEAR, LLC (Early Site Permit Application)
	ASLBP #: 15-943-01-ESP-BD01
	Docket #: 05200043
	Exhibit #: NRC012-MA-BD01
	Admitted: 03/24/2016
	Rejected:
Other:	Identified: 03/24/2016 Withdrawn: Stricken:

NRC012

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 52-043-ESP
PSEG POWER, LLC AND PSEG	)	
NUCLEAR, LLC	)	ASLBP No. 15-943-01-ESP-BC01
	)	
(Early Site Permit Application)	)	February 25, 2016

NRC STAFF TESTIMONY RELATED TO FEBRUARY 8, 2016 ORDER  
TOPIC 1: ADDITIONAL DISCUSSION OF BUILDING AND OPERATING IMPACTS TO  
BOG TURTLES

**Q1: Please state your name, occupation, employer, and professional qualifications.**

**A1:** (MW) My name is Michael Willingham. I am employed as a Project Manager in the Hydrology and Meteorology Branch 2, in the Division of Site Safety and Environmental Reviews, in the Office of New Reactors (NRO), U.S. Nuclear Regulatory Commission (NRC). I am the technical reviewer for terrestrial ecology and land use for the environmental review associated with the application submitted May 25, 2010, by PSEG Power, LLC and PSEG Nuclear, LLC (together, PSEG or Applicant) for an Early Site Permit (ESP) at the PSEG Site in Salem County, New Jersey. A statement of my professional qualifications is included in Exhibit (Ex.) NRC002.

(NG) My name is Neil Giffen. I am employed as a Natural Resources Manager of the Facilities and Operations Directorate at the Oak Ridge National Laboratory (ORNL), in Oak Ridge, Tennessee. I am employed by UT-Battelle, LLC (UT-Battelle), a not-for-profit, limited liability partnership between the University of Tennessee and Battelle Memorial Institute, which was established for the sole purpose of managing and operating the ORNL facilities for the U.S. Department of Energy.

As part of my official responsibilities, I assisted the NRC Staff in its environmental review associated with the application submitted May 25, 2010, by PSEG for an ESP at the PSEG Site. My assistance to the NRC Staff was specifically in the areas of terrestrial and wetlands ecology. A statement of my professional qualifications is included in Ex. NRC002.

**Q2: Please describe your responsibilities with regard to the Staff's review of the PSEG Site Early Site Permit (ESP) application.**

**A2:** (MW) As the reviewer for terrestrial ecology and land use assigned to the PSEG ESP environmental review, I was responsible for preparing the terrestrial and wetlands ecology portions of Sections 2.4, 4.3, 5.3, 7.3, and 9.3 of the Final Environmental Impact Statement (FEIS) (Ex. NRC004A and NRC004B).

(NG) In my assignment to the PSEG ESP environmental review, I was responsible for assisting the NRC Staff in preparing the terrestrial and wetlands ecology portions of Sections 2.4, 4.3, 5.3, 7.3, and 9.3 of the FEIS (Ex. NRC004A and NRC004B).

**Q3: What is the purpose of your testimony?**

**A3:** (MW, NG) The purpose of our testimony is to explain the staff's review of information and conclusions in the FEIS for the PSEG Site ESP Application regarding the presence of the bog turtle on Artificial Island and its vicinity.

**Q4: Please describe the sources from which the staff gathered information to support its analysis in the FEIS regarding the past and present existence of the bog turtle on Artificial Island.**

**A4:** (MW, NG) In preparation of the FEIS for the PSEG Site ESP application, the staff reviewed the following documents pertaining to the bog turtle, which were referenced in the FEIS (Ex. NRC004A and NRC004B):

- CWFNJ (Conserve Wildlife Foundation of New Jersey). 2014. "New Jersey Endangered and Threatened Species Field Guide: Bog Turtle (*Glyptemys muhlenbergii*).\" Trenton, New Jersey. Available at <http://www.conservewildlifenj.org/species/fieldguide/view/Glyptemys%20muhlenbergii/>;
- NJDEP (New Jersey Department of Environmental Protection). 2014. "New Jersey Bog Turtle Project.\" Division of Fish and Wildlife, Trenton, New Jersey. Available at <http://www.state.nj.us/dep/fgw/bogturt.htm>; and
- PSEG (PSEG Power, LLC). 2015. PSEG Site Early Site Permit Application; Part 3, "Environmental Report.\" Revision 4, Newark, New Jersey. (ADAMS Accession No. ML15169A960) (citing Ichthyological Associates, Inc. 1980. The Terrestrial Ecology of Artificial Island and Vicinity 1972-1978: A Summary. (ADAMS Accession No. ML13309A649)).

**Q5: Please describe the information on which the staff relied to assess the past and present existence of the bog turtle on Artificial Island.**

**A5:** (MW, NG) On page 23 of the Ichthyological Associates, Inc. (1980) report of the terrestrial ecology of Artificial Island, the study states, "The rarely observed bog turtle, *Clemmys muhlenbergi*, was found in the present study in Delaware by Arndt (1977) who reported on its natural history.\" Additionally, Appendix Table 3 on page 78 of the same study reports the bog turtle as "Rare, found in a bog in the Delaware portion of the study area, recorded from Salem County, New Jersey by Grant (1966).\"

In Table 2.4-5 in Section 2.4, pg. 2.4-89, of PSEG ESP Application, Part 3, Environmental Report (2015), the applicant provided a list of reptiles and amphibians observed on-site and in the vicinity of the PSEG Site (Ex. PSEG004S). The table reflects that the bog turtle was not observed during the 2009-2010 survey (Ex. PSEG004S). However, it noted that the bog turtle had been observed in a prior survey and referenced the Ichthyological Associates Report from 1980 (Ex. PSEG004S).

Both CWFNJ (2014) and NJDEP (2014) reported that the preferred habitat of the bog turtle consists of fens, bogs, and wet meadows. Additionally, both reported that plant communities

associated with bog turtle habitats consist of varying compositions of low-growing grasses, sedges, rushes, mosses, ferns, scattered cattails, and myriad ephemeral and perennial forbs. Also, bog turtle habitat consists of low shrub and tree cover, and spring-derived rivulets, shallow, mucky pools, and abundant hummocks. Both reported that bog turtles are primarily restricted to several counties in New Jersey including northeastern portions of Salem County. Artificial Island does not contain the habitat resources in the quantity needed to support the bog turtle (Ex. NRC004A and NRC004B).

**Q6: Should FEIS subsection 2.4.1.3, which states that the bog turtle was recorded historically “for Artificial Island and vicinity,” be revised to assert merely that there is historical evidence of the bog turtle in the “vicinity” of Artificial Island?**

**A6:** (MW, NG) No, FEIS subsection 2.4.1.3, which states that “The bog turtle was recorded historically for Artificial Island and vicinity during a study conducted between 1972 and 1978” should not be revised to assert merely that there is historical evidence of the bog turtle in the “vicinity” of Artificial Island (Ex. NRC004A).

The statement in the FEIS was intended to reflect that the survey on which the staff relied had encompassed both Artificial Island and the vicinity, and the staff agrees that the historical evidence does not indicate direct observations of the bog turtle on Artificial Island. For the reasons summarized above, in particular the fact that Artificial Island does not contain the habitat resources in the quantity needed to support the bog turtle, either wording would support the staff’s conclusions that “building a new nuclear power plant on the PSEG Site would not be expected to impact this species” (FEIS Chapter 4, pg. 4-33) and that “it is not expected that the operation of a new nuclear power plant on the PSEG Site would impact this species” (FEIS Chapter 5, pg. 5-24) (Ex. NRC004A). While the staff therefore does not consider it necessary to more formally revise the statement in the FEIS, this explanation in the mandatory hearing record provides additional clarity regarding that statement and the information underlying the staff conclusions about the bog turtle.

**Q7: Does this conclude your testimony?**

**A7:** (MW, NG) Yes.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 52-043-ESP
PSEG POWER, LLC AND PSEG	)	
NUCLEAR, LLC	)	ASLBP No. 15-943-01-ESP-BC01
	)	
(Early Site Permit Application)	)	February 25, 2016

AFFIDAVIT OF MICHAEL WILLINGHAM

I, Michael Willingham, do hereby declare under penalty of perjury that my statements in the foregoing testimony and my statement of professional qualifications (Ex. NRC002) are true and correct to the best of my knowledge and belief. I attest to the accuracy of my testimony and endorse its inclusion into the record of this proceeding.

**Executed in Accord with 10 CFR § 2.304(d)**

Michael Willingham  
Project Manager  
Division of Site Safety and Environmental Analysis  
Office of New Reactors  
U.S. Nuclear Regulatory Commission  
Mail Stop T7-F3  
Washington, DC 20555-0001  
(301) 415-3924  
Michael.Willingham@nrc.gov

Executed at Rockville, Maryland  
This 25th day of February, 2016

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 52-043-ESP
PSEG POWER, LLC AND PSEG	)	
NUCLEAR, LLC	)	ASLBP No. 15-943-01-ESP-BC01
	)	
(Early Site Permit Application)	)	February 25, 2016

AFFIDAVIT OF NEIL GIFFEN

I, Neil Giffen, do hereby declare under penalty of perjury that my statements in the foregoing testimony and my statement of professional qualifications (Ex. NRC002) are true and correct to the best of my knowledge and belief. I attest to the accuracy of my testimony and endorse its inclusion into the record of this proceeding.

**Executed in Accord with 10 CFR § 2.304(d)**

Neil Giffen  
Natural Resources Manager  
Facilities and Operations Directorate  
Oak Ridge National Laboratory  
Oak Ridge, TN 37831-6351  
(865) 241-9421  
Giffennr1@ornl.gov

Executed at Oak Ridge, Tennessee  
This 25th day of February, 2016