



LR-N12-0173  
June 4, 2012

United States Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

SALEM GENERATING STATION – UNIT 1 and UNIT 2  
RENEWED FACILITY OPERATING LICENSE NOS. DPR 70 and  
DPR-75  
NRC DOCKET NOS. 50-272 and 50-311

HOPE CREEK GENERATING STATION  
RENEWED FACILITY OPERATING LICENSE NO. NPF-57  
NRC DOCKET NO. 50-354

**Subject:**        **Response to Request for Additional Information (RAI) Concerning  
the PSEG Nuclear LLC Request for Exemption From Certain  
Requirements of the Fitness for Duty Rule, Subpart I.**

**References:**

1. PSEG Letter LR-N11-0308, Robert Braun to US NRC Document Control Desk, "Request for Exemption From Certain Requirements of the Fitness for Duty Rule, Subpart I," dated November 30, 2011.
2. NRC Letter, John D. Hughey to Thomas Joyce, "Hope Creek Generating Station and Salem Nuclear Generating Station, Unit Nos. 1 and 2, Request for Additional Information", dated May 4, 2012.

In the reference 1 letter, PSEG Nuclear LLC (PSEG) requested the Nuclear Regulatory Commission (NRC) approve an exemption from specific requirements of 10 CFR Part 26, "Fitness for Duty Programs" for the combined Salem – Hope Creek Generating Station site. Specifically, an exemption was requested from the requirements of 10 CFR 26.205(c) and (d) for meeting work hour rule controls during declarations of severe weather conditions involving tropical storm or hurricane force winds or severe winter precipitation. During these conditions, adherence to work hour control requirements could impede the ability to respond to an emergency condition at the site and ensure that the Units maintain a safe and secure status.

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Subsequently, the NRC provided PSEG with a request for additional information (RAI) (Reference 2) concerning the exemption request documented in Reference 1. The PSEG response to the RAI is provided in the Attachment to this letter.

This letter contains one new commitment and one revision to an existing commitment (see Attachment 2). The commitment made in Reference 1 which specifies incorporation of entry conditions necessary for sequestering site personnel is being revised to refer to the enhancements described in the response to RAI-06 versus the conditions specified in the original exemption request.

If you have any questions or require additional information, please do not hesitate to contact Mr. Lee Marabella at (856) 339-1208.

Sincerely,



Robert Braun  
Senior Vice President, Nuclear Operations

Attachments:

1. PSEG Response to U.S. NRC Request for Additional Information (RAI) Concerning the Fitness for Duty Subpart I Exemption Request.
2. Summary of Commitments

C Administrator – Region I  
U. S. Nuclear Regulatory Commission

Project Manager - Salem Unit 1 and Unit 2 and Hope Creek  
U. S. Nuclear Regulatory Commission

USNRC Senior Resident Inspector – Salem Generating Station (X24)

USNRC Senior Resident Inspector – Hope Creek Generating Station (X24)

NJBNE

Commitment Tracking Coordinators

## **ATTACHMENT 1**

### **PSEG Response to U.S. NRC Request for Additional Information (RAI) Concerning the Fitness for Duty Subpart I Exemption Request.**

## ATTACHMENT 1

### **PSEG Response to U.S. NRC Request for Additional Information (RAI) Concerning the Fitness for Duty Subpart I Exemption Request.**

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 26.9, PSEG requested an exemption from certain requirements of 10 CFR Part 26, "Fitness for Duty Programs," Subpart I, "Managing Fatigue," related to meeting work hour controls during declarations of severe weather conditions involving tropical storm or hurricane force winds or severe winter precipitation. The NRC staff has reviewed PSEG's submittal and determined that additional information is needed to complete the review. Responses for the requested information are provided below.

#### **RAI-01:**

*Consistent with the lessons-learned from Hurricane Andrew (Reference 1) [from the original exemption request], as much as possible, site preparation for a hurricane should occur prior to the need to sequester individuals. What is the time period that is allocated for personnel to prepare the site for the various severe weather scenarios prior to the arrival of hurricane force winds on site, excessive snowfall, excessive temperatures or flooding in the vicinity of the plant? Please be as precise as possible with respect to the number of days or hours prior to the arrival of severe conditions.*

#### **PSEG Response:**

PSEG Procedure OP-AA-108-111-1001, (provided in reference 1) Sections 4.1 through 4.3 describe the time periods allocated for personnel to prepare the site for the various severe weather scenarios. A phased approach is used based on the predictions of the proximity and severity of the severe condition. Each phase has specific actions associated with it for each severe condition including preparatory actions.

For Hurricane, tornado, flooding or blizzard conditions:

- Phase I is implemented in May of each year in anticipation of hurricane season.

Examples of Phase I activities include:

- Review of out-of-service equipment logs
- Performing walkdowns of switchyards for potential wind borne missiles
- Inventory supplies and replenish as necessary

- Phase II is implemented when:
  - A hurricane watch has been posted anywhere from the South Carolina coast to the coast of Massachusetts.
  - Snow greater than 12 inches is expected within 48 hours.
  - Unusually high tides are expected within 48 hours.
  - Any potentially damaging severe weather is predicted for the immediate area within 48 hours.

Examples of Phase II activities include:

- Maintain a log of storm activities
  - Make arrangements for sufficient personnel to be at the plant for storm preparation and to provide the necessary coverage for several days during which the plant may be inaccessible
  - Review Station Blackout procedures
  - Evaluate all work to be performed and prioritize
  - Ensure sleeping gear is available and staged for all onsite and offsite (EOF/ENC) areas/personnel
  - Assign Emergency Preparedness staff members to handle coordination of storm tracking information
  - Contact State and local emergency management to obtain local weather information
- Phase III is implemented when:
    - A hurricane warning has been posted for the immediate area.
    - Snow greater than 12 inches or blizzard conditions expected within 24 hours.
    - Unusually high tides are expected within 24 hours.
    - Any other potentially damaging severe weather is predicted for the immediate area within 24 hours.

Examples of Phase III activities include:

- Suspension of all fuel movement and Dry Cask Storage activities
- Closure of all watertight doors
- Ensuring all unnecessary outside work is stopped
- Ensuring Emergency Response Facilities are staffed and adequately supplied at least 4 hours prior to the predicted onset of severe weather in the local area

For extended hot weather conditions:

- Phase I is implemented when the outside air temperature is expected to be greater than or equal to 90 degrees F for three days.
- Phase II is implemented when the outside air temperature is greater than or equal to 90 degrees F.

For extended cold weather conditions:

- Phase I is implemented when the outside air temperature is expected to be less than or equal to 32 degrees F for three days.
- Phase II is implemented when the outside air temperature is less than or equal to 32 degrees F.

**RAI-02:**

*The exemption request discusses entry conditions that would be used prior to entering the Emergency Response Plan. What are the technical considerations that the Senior Vice President for Nuclear Operations or designee will use to determine entry into the exemption?*

**PSEG Response:**

Weather forecasting technology generally provides advance notice and the ability to plan and prepare for natural event emergencies due to tropical storm, hurricane and severe winter weather conditions. In response to forecast data, PSEG begins physical activities at the plant and prepares for staffing adjustments in advance of tropical storm, hurricane or blizzard conditions actually reaching the site. The Severe Weather and Natural Disaster Guidelines procedure includes guidance for beginning site readiness preparations. This procedure will be upgraded to recognize the need to sequester designated individuals for minimum staffing requirements, release non-essential personnel from the site and enter the exemption. The decision making responsibility for this action is assigned to the Senior Vice President for Nuclear Operations or designee.

Proposed entry conditions for the exemption during severe weather conditions are as follows:

- Issuance of a Hurricane Watch or Warning by the National Weather Service.
- Issuance of a Winter Storm Watch (24-36 hours in advance of winter storm conditions) or Winter Storm Warning by the National Weather Service for the site and surrounding area.
- Issuance of a Blizzard Warning by the National Weather Service for the site and surrounding area.
- Issuance of an Ice Storm Warning by the National Weather Service for the site and surrounding area.
- Travel conditions are forecasted to be hazardous for employee commutes to and from the site (i.e., sustained wind conditions of greater than 40 mph).
- Local governments are preparing to declare restrictions on travel that would impact employee commutes, or are preparing to order or recommend evacuations in areas that effect essential staffing levels for the site.

The timing for instituting the exemption will depend on forecast data, the status of preparations and the status of local government restrictions and orders.

**RAI-03:**

*Many factors contribute to fatigue; one of these factors is inconsistent start times. In order to manage fatigue during sequestering, will shift start times be pre-planned and consistent? Please explain the rationale for organizing current shift start times during sequestering.*

**PSEG Response:**

In order to reduce fatigue, procedural upgrades will be implemented in OP-AA-108-111-1001 and SY-AA-101-109-1003 which will set consistent crew start times (see Attachment 2 for new commitment). OP-AA-108-111-1001 currently directs Operations crews to consist of enough individuals to staff two 12-hours shifts. SY-AA-101-109-1003 provides no direction to deviate from their normal two 12-hour shifts, however it will be enhanced to say Security personnel would maintain their standard start and stop times. Support groups such as Maintenance, Radiation Protection, Chemistry, and Fire Protection are currently directed by procedure to ensure sufficient personnel are on site to maintain 24 hour coverage and are allowed to set their own schedules based on resources available and expected work load during the exemption period. They would be given specific start and stop times to cover the 24 hour day and would not exceed 12 working hours a day. Based on the most conservative work schedule of two 12-hour shifts, the crews are allowed a 12-hour (minimum) break between successive work periods, thereby meeting the requirements of 10 CFR 26.205(d)(1). No covered workers will be scheduled to work shifts longer than 12 hours.

**RAI-04:**

*How has the occurrence of previous severe weather at HCGS and Salem informed the development of the sequestering plans and timing and duration expected for the exempted period?*

**PSEG Response:**

The Salem/Hope Creek site has experienced three severe weather events since the implementation of 10CFR26 Subpart I that resulted in sequestering personnel. In December 2009 and February 2010 winter storm events and an August 2011 hurricane warning event required the sequestration of over 100 covered workers each time. The phased approach of storm preparations as described in OP-AA-108-111-1001 proved

successful in each case with respect to timing of sequestration. The duration of sequestering for the August 2011 hurricane event was approximately 2 days, however future exemption durations will be contingent upon achieving the exit conditions as described in Reference 1 which are based on the degree of surrounding infrastructure damage or access challenges caused by the storm.

**RAI-05:**

*Have all the procedures that will need to be updated or developed been identified?*

**PSEG Response:**

In addition to the updates to be made to OP-AA-108-111-1001 and SY-AA-101-109-1003, LS-AA-119, "Fatigue Management and Work Hour Limits" will also be updated to describe and reference the exemption and to add OP-AA-108-111-1001 and SY-AA-101-109-1003 as references.

**RAI-06:**

*On page 8 of the provided document OP-AA-108-111-1001, it states that Phase II will be implemented when any potentially damaging severe weather is predicted for the immediate area within 48 hours. Is there a [comprehensive] list of the weather conditions to which this statement refers? The NRC staff has observed the definition of Severe Weather on page 2 of this same document and it does not provide a finite list or the cut off for what is considered severe weather.*

**PSEG Response:**

- No, a comprehensive list of weather conditions that define the term Severe Weather does not exist in OP-AA-108-111-1001. The general definition provided in Step 2.8 of OP-AA-108-111-1001 allows the Severe Weather Coordinator flexibility in interpreting changing weather forecasts. This process was very successful in preparing the site for the last three severe weather events referenced in the RAI-04 response above. Conversely, the entry conditions for the exemption during severe winter weather conditions are specific and are provided in the response to RAI-07 below. These entry conditions will be added to OP-AA-108-111-1001 as per the commitment change listed in Attachment 2.



**RAI-07:**

*Please provide additional information describing the specific criteria regarding severe winter precipitation and the determination of blizzard conditions as it relates to this exemption request.*

**PSEG Response:**

PSEG believes the need for this exemption request is equally valid for severe winter weather in our region, specifically winter storms, ice storms, and blizzards. Severe winter weather can result in conditions that require as many site preparation and recovery actions as a hurricane or tropical storm. Severe winter weather can also result in conditions where travel to and from the Salem/Hope Creek site may not be safe or even possible.

Weather forecasting technology generally provides advance notice and the ability to plan and prepare for natural event emergencies due to severe winter weather conditions. Proposed entry conditions for the exemption during severe winter weather conditions are as follows:

- Issuance of a Winter Storm Watch (24-36 hours in advance of winter storm conditions) or Winter Storm Warning by the National Weather Service for the site and surrounding area.
- Issuance of a Blizzard Warning by the National Weather Service for the site and surrounding area.
- Issuance of an Ice Storm Warning by the National Weather Service for the site and surrounding area.
- Travel conditions are forecasted to be hazardous for employee commutes to and from the site (i.e., sustained winds conditions of greater than 40 mph).
- Local governments are preparing to declare restrictions on travel that would impact employee commutes, or are preparing to order or recommend evacuations in areas that effect essential staffing levels for the site.

A definition for these winter weather conditions comes from the National Weather Service. A Winter Storm Watch is issued by the National Weather Service when there is a potential for heavy snow or significant ice accumulations, usually 24 to 36 hours in advance. A Winter Storm Warning is issued by the National Weather Service when a winter storm is producing or is forecast to produce heavy snow or significant ice accumulations. Blizzard warnings are issued for winter storms with sustained or frequent winds of 35 MPH or higher with considerable falling and/or blowing snow that frequently reduces visibility to ¼ mile or less for a minimum of 3 hours. An Ice Storm Warning occurs when freezing rain produces a significant and possibly damaging accumulation of ice. It is typically issued any time more than ¼ inches of ice is expected to accumulate in an area. Exact criteria for these types of watches and warnings vary from one locale to another. Therefore, PSEG relies on the National

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Weather Service to determine when conditions are projected to be significant enough for the site and surrounding areas to issue one of these Watches or Warnings. An example of the severity of a winter storm that would likely rise to the level of a Winter Storm Warning or Watch for our area is one that is expected to produce an accumulation of 12 inches or more of snow.

### Summary of Commitments Salem and Hope Creek Generating Stations

The following table identifies new 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 OR "OUTAGE"	COMMITMENT TYPE	
		ONE-TIME ACTION (YES/NO)	PROGRAM -MATIC (YES/NO)
Incorporate as necessary and maintain in corporate procedures the requirement to establish consistent crew shift start times as described in the PSEG response to RAI-03.	Prior to invoking the exemption and no later than 180 days following exemption approval	No	Yes

The following table identifies commitments revised 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.

ORIGINAL COMMITMENT FROM REFERENCE 1	REVISED COMMITMENT	COMMITTED DATE OR "OUTAGE"	COMMITMENT TYPE	
			ONE-TIME ACTION (YES/NO)	PROGRAM -MATIC (YES/NO)
Incorporate as necessary and maintain in corporate procedures the entry conditions necessary to sequester site personnel that are consistent with the conditions specified in the exemption request.	Incorporate as necessary and maintain in corporate procedures the entry conditions necessary to sequester site personnel that are consistent with the conditions specified in the response to RAI-02.	Prior to invoking the exemption and no later than 180 days following exemption approval	No	Yes