

## **NRR-PMDAPEm Resource**

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**From:** Kuntz, Robert  
**Sent:** Monday, April 13, 2015 1:33 PM  
**To:** McTigue, William  
**Cc:** Sanders-Parker, Carleen  
**Subject:** Salem and Hope Creek Request for Additional Information RE: flood hazard reevaluation report submitted in response to NRC 50.54(f) letter  
**Attachments:** Salem\_LIP\_PMF and CDB RAI\_DRAFT.docx; HopeCreek\_LIP\_PMF and CDB RAI\_DRAFT.docx

Mr. Mctigue,

The staff's review of the Salem and Hope Creek flooding reevaluation report has identified the need for additional information. Attached is the staff's request for additional information. A response to the attached request for additional information is requested within 30 days of this message (i.e. by May 13, 2015). If you have any questions please contact me.

Robert Kuntz  
Sr. Project Manager  
NRR/JLD/JHMB  
(301) 415-3733

**Hearing Identifier:** NRR\_PMDA  
**Email Number:** 1992

**Mail Envelope Properties** (Robert.Kuntz@nrc.gov20150413133200)

**Subject:** Salem and Hope Creek Request for Additional Information RE: flood hazard reevaluation report submitted in response to NRC 50.54(f) letter  
**Sent Date:** 4/13/2015 1:32:34 PM  
**Received Date:** 4/13/2015 1:32:00 PM  
**From:** Kuntz, Robert

**Created By:** Robert.Kuntz@nrc.gov

**Recipients:**  
"Sanders-Parker, Carleen" <Carleen.SandersParker@nrc.gov>  
Tracking Status: None  
"McTigue, William" <William.Mctigue@pseg.com>  
Tracking Status: None

**Post Office:**

| Files                                    | Size | Date & Time          |
|--|------|----------------------|
| MESSAGE                                  | 472  | 4/13/2015 1:32:00 PM |
| Salem_LIP_PMF and CDB RAI_DRAFT.docx     |      | 26317                |
| HopeCreek_LIP_PMF and CDB RAI_DRAFT.docx |      | 26593                |

**Options**  
**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

**Request for Additional Information**  
**Fukushima Lessons Learned Flood Hazard Reevaluation Report**  
**Salem Generating Station, Unit Nos. 1 & 2 (TAC Nos.MF3790, MF3791)**

By letter dated March 11, 2014, PSEG Nuclear LLC (the licensee) submitted its flood hazard reevaluation report (FHRR) for Salem Generating Station UnitNos. 1 and 2 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14071A399). By letter dated June 28, 2014, the U.S. Nuclear Regulatory Commission (NRC) staff provided a request for additional information (RAI) regarding the above referenced FHRR (ADAMS Accession No. ML14168A242). The licensee responded to this RAI by letter dated July 28, 2014. The staff determined that additional information, as requested below, was necessary to complete its assessment of the licensee's FHRR.

**RAI 1: Local Intense Precipitation (LIP) - Event Duration and Distribution**

The flood hazard reevaluation report (FHRR) presents a local intense precipitation flood reevaluation for a 1-hour, front-loaded probable maximum precipitation (PMP) event using Hydrometeorological Report (HMR) Nos. 51 and 52. Provide justification that the LIP analysis presented in the FHRR is bounding in terms of warning time, flood depth, and flood duration. This justification can include sensitivity analysis of LIP event duration to consider localized (one square mile) PMP events up to 72 hours in duration (e.g., 1-, 6-, 12-, 24-, 48-, 72-hour PMPs) and various rainfall distributions (e.g., center-loaded and others in addition to a front-loaded distribution). The evaluations could identify potentially bounding scenarios with respect to flood height, event duration, and associated effects.

**RAI 2: Streams and Rivers - PMF**

The flood hazard reevaluation report (FHRR) presents a streams and rivers probable maximum flood (PMF) reevaluation for two probable maximum precipitation (PMP) events based on HMR Nos. 51 and 52. Present-day regulatory guidance recommends consideration of snowmelt as a contributor to flooding in evaluating the PMF from precipitation. However, the FHRR does not describe whether snowpack and snowmelt were considered. Provide a description of snowpack and snowmelt characteristics that were considered in the streams and rivers flood reevaluation. Justify why evaluating snowmelt as a contributor to the PMF is not necessary, or provide an evaluation of snowmelt contribution to flooding as described in present-day regulatory guidance.

**RAI 3: Comparison of Reevaluated Flood Hazard with Current Design Basis**

The FHRR for Salem Generating Station UnitNos. 1 and 2 provides a comparison of the reevaluated flood hazards with the current licensing basis (CLB). For the purposes of the FHRR, the parameter of interest is the current design basis (CDB). Provide clarification for the inconsistencies identified in the FHRR with regard to the comparison of the reevaluated flood hazard to the current design basis and submit a revised hazard comparison consistent with the instructions provided in the 50.54(f) letter.

## Request for Additional Information

### Fukushima Lessons Learned Flood Hazard Reevaluation Report Hope Creek Generating Station, Unit No. 1 (TAC No. MF3789)

By letter dated March 12, 2014, PSEG Nuclear LLC (the licensee) submitted its flood hazard reevaluation report (FHRR) for Hope Creek Generating Station Unit No. 1 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14071A505). By letter dated July 2, 2014, the U.S. Nuclear Regulatory Commission (NRC) staff provided a request for additional information (RAI) regarding the above referenced FHRR (ADAMS Accession No. ML14168A235). The licensee responded to this RAI by letter dated July 28, 2014. The staff determined that additional information, as requested below, was necessary to complete its assessment of the licensee's FHRR.

#### **RAI 1: Local Intense Precipitation (LIP) - Event Duration and Distribution**

The flood hazard reevaluation report (FHRR) presents a local intense precipitation (LIP) flood reevaluation for a 1-hour, front-loaded probable maximum precipitation (PMP) event using Hydrometeorological Report (HMR) Nos. 51 and 52. Provide justification that the LIP analysis presented in the FHRR is bounding in terms of warning time, flood depth, and flood duration. This justification can include sensitivity analysis of LIP event duration to consider localized (one square mile) PMP events up to 72 hours in duration (e.g., 1-, 6-, 12-, 24-, 48-, 72-hour PMPs) and various rainfall distributions (e.g., center-loaded and others in addition to a front-loaded distribution). The evaluations could identify potentially bounding scenarios with respect to flood height, event duration, and associated effects.

#### **RAI 2: Streams and Rivers - PMF**

The flood hazard reevaluation report (FHRR) presents a streams and rivers probable maximum flood (PMF) reevaluation for two probable maximum precipitation (PMP) events based on HMR Nos. 51 and 52. Present-day regulatory guidance recommends consideration of snowmelt as a contributor to flooding in evaluating the PMF from precipitation. However, the FHRR does not describe whether snowpack and snowmelt were considered. Provide a description of snowpack and snowmelt characteristics that were considered in the streams and rivers flood reevaluation. Justify why evaluating snowmelt as a contributor to the PMF is not necessary, or provide an evaluation of snowmelt contribution to flooding as described in present-day regulatory guidance.

#### **RAI 3: Comparison of Reevaluated Flood Hazard with Current Design Basis**

The FHRR for Hope Creek Generating Station Unit No. 1 provides a comparison of the reevaluated flood hazards with the current licensing basis (CLB). For the purposes of the FHRR, the parameter of interest is the current design basis (CDB). Provide clarification for the inconsistencies identified in the FHRR with regard to the comparison of the reevaluated flood hazard to the current design basis and submit a revised hazard comparison consistent with the instructions provided in the 50.54(f) letter.