NEXTera ENERGY SEABROOK

November 11, 2011

10 CFR 50.90

SBK-L-11225
Docket No. 50-443

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Seabrook Station

Response to Request for Additional Information Regarding License Amendment Request 11-03, License Amendment Request Regarding Containment Spray Nozzles Surveillance Requirement

References:

1. NextEra Energy Seabrook, LLC letter SBK-L-11130, "License Amendment Request 11-03, License Amendment Request Regarding Containment Spray Nozzles Surveillance Requirement," July 14, 2011 (ADAMS Accession No. ML11203A020)

2. NRC request for additional information "Seabrook Station, Unit No.1 – Electronic Transmission Draft Request for Additional Information Regarding License Amendment Request 11-03 (TAC No. ME6726)," September 21, 2011

In Reference 1, NextEra Energy Seabrook, LLC (NextEra) submitted a request for an amendment to the Technical Specifications (TS) for Seabrook Station. The proposed amendment would modify the criteria for when the TS require verification that the containment spray nozzles are unobstructed.

In Reference 2, the NRC requested additional information in order to complete its review of the license amendment request. The Enclosure to this letter contains NextEra's response to the request for additional information.

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Should you have any questions regarding this letter, please contact Mr. Michael O'Keefe, Licensing Manager, at (603) 773-7745.

Sincerely,

NextEra Energy Seabrook, LLC.

Paul Freeman
Site Vice President

Enclosure

cc: NRC Region I Administrator
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FPL Energy
Seabrook Station

# AFFIDAVIT

SEABROOK STATION UNIT 1

Facility Operating License NPF-86
Docket No. 50-443

**Response to Request for Additional Information Regarding License Amendment Request 11-03, License Amendment Request Regarding Containment Spray Nozzles Surveillance Requirement**

**I, Paul Freeman, Site Vice President of NextEra Energy Seabrook, LLC hereby affirm that the information and statements contained within this response to request for additional information regarding License Amendment Request 11-03 are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.**

**Sworn and Subscribed**
**before me this**
**11 day of November, 2011**

Shirley Sweeney
**Notary Public**

SHIRLEY SWEENEY
MY COMMISSION EXPIRES NOV 18, 2014
NOTARY PUBLIC NEW HAMPSHIRE

Paul Freeman
**Paul Freeman**
**Site Vice President**

**Enclosure**

Response to Request for Additional Information (RAI)

**RAI:**

By letter dated July 14, 2011 (Agencywide Document Access and Management System Accession No. ML11203A020), NextEra Energy Seabrook, LLC (NextEra or the licensee) submitted license amendment request (LAR) 11-03. LAR 11-03 requested to modify the criteria for when the Technical Specifications require verification that the containment spray nozzles are unobstructed. To complete its review, the Nuclear Regulatory Commission staff needs the following information:

1. The current Surveillance Requirement (SR) 4.6.2.1.d requires verification that the nozzles are unobstructed by performing an air or smoke flow test. The proposed SR does not specify the type of test to be performed and the LAR does not address this change. Provide a justification for not specifying the type of test to be used to verify the nozzles are not obstructed or revise the proposed SR wording to specify the test to be performed.

2. The LAR indicates that one path for introduction of material that could block the nozzles is through the containment sump. The LAR states that "...to prevent materials from entering the system, the containment sumps may have covers installed."

   a. Clarify what is meant by "may have covers installed." Are there programmatic requirements for when a cover is to be installed? During what conditions would the cover be installed?

   b. Section 6.2.2.2.j of the Seabrook Updated Final Safety Analysis Report (UFSAR) indicates that the largest debris particle permitted through the sump strainer is 0.068". Although the section does not discuss the spray nozzles, it does indicate that maximum particle permitted through the sump strainer is smaller than the minimum physical restriction in the emergency core cooling flow path (i.e., the fuel assembly debris filter, 0.073"). Please provide the dimensions of the minimum restriction in the containment spray (CS) flow path or confirm that the CS flow path was considered in the statement from the UFSAR.

   c. Please indicate what function the cover performs if the sump strainer will trap debris of sufficient size to clog the system.

**Response to RAI**

1. The proposed change revises surveillance requirement (SR) 4.6.2.1.d as shown below:

   b. ~~At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed~~. ***By verifying each spray nozzle is unobstructed following activities that could result in nozzle blockage.***

   In addition to modifying the frequency, the change removes the details regarding the method of performing the surveillance. This proposed change is consistent with 10 CFR 50.36, Technical Specifications, regarding SRs. SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. The requirement to verify that the spray nozzles are unobstructed following activities that could result in nozzle blockage ensures operability of the flow path through the spray nozzles.

   The proposed change to Seabrook SR 4.6.2.1 is also consistent with SR 3.6.6.8 in NUREG-1431, Standard Technical Specifications – Westinghouse Plants, which states: "Verify each spray nozzle is unobstructed." The method of performing the verification is not included in the SR, but the Bases for SR 3.6.6.8 discuss that, with the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections to verify each spray nozzle is unobstructed. NextEra will revise the Bases for SR 4.6.2.1 upon implementation of the proposed change and, similar to NUREG-1431, the revised Bases will include a discussion of the method of performing the surveillance using low pressure air or smoke.

2. a. The Fleet Foreign Material Exclusion Procedure, MA-AA-101-1000, requires that work in, over or adjacent to the containment recirculation sump or strainer be designated as a Foreign Material Exclusion Area 1 (FMEA1). Designation of FMEA1 is the highest level of control of foreign material exclusion imposed on a system or component. Work controls shall be specified to prevent the introduction of foreign material into the containment recirculation sump or strainers. When the containment sump is designated FMEA1, a cover is installed over the containment sump to prevent the introduction of foreign material.

   During refueling outages when the containment sump is not designated a FMEA1, a cover is installed over the containment recirculation sumps as a precaution to preclude the introduction of foreign material into the containment recirculation sump. The type of cover used is based on the type of work being done in and around the containment sump. During the last refueling outage, a Visqueen (e.g., plastic sheeting) protective wrap was used as a seal over the containment sump strainer assemblies. The Visqueen cover is routinely installed and removed on the containment sump during refueling outages by a line item in the generic refueling outage schedule to ensure that no foreign material enters the containment recirculation sump during refueling outages.

b. The dimension of the minimum restriction in the containment spray flow path is not directly discussed in the UFSAR. The UFSAR discusses that the minimum physical restriction in the emergency core cooling system (ECCS) flow path consists of 0.073 inches, which is the effective opening of the fuel assembly debris filter bottom nozzle in combination with the P-grid. The restrictions in the containment spray system flow path were considered in the determination of the minimal physical restriction.

   UFSAR Figure 6.2-77, Containment Structure Piping Zones 57E and F Sections, contains drawing 805147, which references Foreign Print 50720. Foreign Print 50720 indicates the inside diameter of the spray nozzle. The minimum restriction of the containment spray nozzle is the inside diameter of the spray nozzle, which is 3/8" (0.375"). Since the largest particle permitted through the sump strainer is 0.068", the spray nozzles are unlikely to clog from material in the strained, re-circulated spray water.

c. During normal operation, when the ECCS and CBS system are aligned for system operation in accordance with the plant technical specifications (TS), the containment sump strainers prevent entry of fiber and particulate debris from clogging the flow paths in the ECCS and the containment building spray system. During periods when the reactor is shutdown and the ECCS and containment building spray system are not required to be operable in accordance with the TS, the cover functions as a barrier to introducing foreign material into the sump pit below the containment floor level where the containment sump strainers are installed. The covers also provide a barrier to introducing foreign material into the spaces between the faces of the strainer panels. To establish operability of the containment sump for plant startup, station procedures confirm that covers installed over the containment sump have been removed, and the TS require a visual inspection of the containment sump to verify that the pump suction inlets are not restricted by debris.