March 13, 2003

MEMORANDUM TO: James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Victor Nerses, Sr. Project Manager, Section 2 ***/RA/***
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: SEABROOK STATION, UNIT NO. 1, FACSIMILE TRANSMISSION, DRAFT REQUEST FOR ADDITIONAL INFORMATION (RAI) TO BE DISCUSSED IN AN UPCOMING CONFERENCE CALL (TAC NO. MB6611)

The attached draft RAI was transmitted by facsimile on March 13, 2003, to Mr. Mike O'Keefe of FPL Energy Seabrook, LLC (the licensee). This draft RAI was transmitted to facilitate the technical review being conducted by NRR and to support a conference call with the licensee to discuss the RAI. The RAI was related to the licensee's October 11, 2002, submittal concerning containment building penetrations. Review of the RAI would allow the licensee to determine and agree upon a schedule to respond to the RAI. This memorandum and the attachment do not convey or represent an NRC staff position regarding the licensee's request.

Docket No. 50-443

Attachment: Draft RAI

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J. Clifford
V. Nerses
M. Hart
PDI-2 Reading
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OFFICE	PDI-2/PM
NAME	VNerses
DATE	3/13/03

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DRAFT

REQUEST FOR ADDITIONAL INFORMATION
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
TECHNICAL SPECIFICATIONS SECTION
CHANGES TO TS 3.9.4 CONTAINMENT BUILDING PENETRATIONS (TAC NO. MB6611)
FACILITY OPERATING LICENSE NO. NPF-86
FPL ENERGY SEABROOK, LLC
SEABROOK STATION
DOCKET NO. 50-443

By letter dated October 11, 2002, North Atlantic Energy Service Corporation (NAESC/the Licensee) submitted a request for a change to the current Seabrook Station Technical Specification (TS) 3.9.4 "Containment Building Penetrations." The proposed change would revise TS 3.9.4 to allow the equipment hatch to be open during core alterations and/or during movement of irradiated fuel assemblies within containment, provided that a temporary refueling structure designated the containment outage door is capable of being closed. The proposal is similar to a request to modify the Standard Technical Specification (STS) made by the Owner's Group Technical Specification Task Force (TSTF-441).

TSTF-441 proposed to revise STS 3.9.3 "Containment Penetrations" to NUREG-1430 Babcock& Wilcox (B&W) STS and NUREG-1432 Combustion Engineering (CE) STS and STS 3.9.4 "Containment Penetrations" to NUREG-1430 Westinghouse (W) STS. The proposed change would allow the equipment hatch to remain open during movement of (recently) irradiated fuel assemblies within containment provided it is capable of being closed in the event of a Fuel Handling Accident (FHA). The staff's review of the TSTF noted some deficiencies in the submittal. The staff in a letter to the Owner's Group dated October 15, 2002, discussed its concerns with regards to the proposed change. The staff's comments were the following:

1. The ability to open or close equipment hatches may require electrically-powered equipment. In the case of a loss of offsite power coincident with a FHA, electrical power may not be available for closing the hatch. If the design basis of a plant requires consideration of a FHA coincident with a loss of offsite power, it is not reasonable to assume in all cases that the equipment hatch can be closed after the accident. The TSTF should provide guidance to the reviewer on any additional commitments, controls and analyses that need to be done in order to adopt this TSTF for this particular design.

2. Criterion 64 of 10 CFR Part 50 Appendix A states that means shall be provided for monitoring the reactor containment atmosphere, spaces containing components for recirculation of loss-of-coolant accident fluids, effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences, and from postulated accidents. The proposed TSTF should consider how Criteria 64 will be met in the event of a FHA with the equipment hatch open. Moreover, this information should be included as part of the Bases discussion or as a Reviewer's Note.

3. The last sentence of the third paragraph in Section 3.0, “Background,” states:

> “However, in order to minimize the impact on the health and safety of the public, equipment hatch closure, as well as closure of the personnel air lock and other penetrations, will be completed within the timeframe assumed in the offsite analysis.”

This statement assumes that a equipment hatch closure time is assumed in the FHA analysis. This differs from many of the license amendments submitted to date, which propose a change similar to what is being proposed in TSTF-441. Most of the FHA analyses submitted in support of those license amendments take no credit for the equipment hatch being closed within the 2 hours assumed in the radioactive release analysis. Therefore, by the sentence above, if a licensee assumed that the equipment hatch remained open, there may be no commitment to close the equipment hatch in the event of a fuel handling accident or to take the full 2 hours assumed in the analyses to close the equipment hatch.

The above sentence appears to conflict with the Reviewer’s Note found in all the proposed TS Bases sections in this TSTF which states:

> “The allowance to have the equipment hatch and the containment personnel airlocks open...is based on...(2) commitments from the licensee to implement acceptable administrative procedures to ensure in the event of a refueling accident (even though the containment fission product control function is not required to meet acceptable dose consequence) that the open equipment hatch and airlock can and will be promptly closed following containment evacuation...”

Based on the above, it is not clear on how an acceptable time to close the equipment hatch will be established. It was concluded in approving TSTF-51 “Revise Containment Requirements During Handling Irradiated Fuel and Core Alteration,” TSTF-68 “Containment Personnel Airlock Doors Open During Fuel Movement,” and TSTF-312 “Administratively Control Containment Penetrations” that even though the analyses showed that a two (2) hour radioactive release was within the regulatory limits, the closure times would be substantially less than 2 hours (in the order of 15-20 minutes); this minimizes the consequences of the release, and provided a reasonable justification for accepting those TSTF changes. TSTF-441 needs to consider this issue and provide guidance on acceptable closure times.

4. The proposed TSTF does not address limits on the dose received by the personnel closing the equipment hatch. The calculated dose to the personnel closing the equipment should be considered when determining the acceptability of proposed technical specification changes submitted under this proposed TSTF. This should be included as part of a Reviewer’s Note.

5. The TSTF should consider the regulatory relief proposed to be granted by this TSTF-441 in comparison to the relief that is already granted via TSTF-51. The implied purpose of the proposed change in this TSTF is to allow the equipment hatch to be open during the movement of “recently” irradiated fuel. This appears to conflict with the stated purpose. The stated purpose of the proposed change in this TSTF appears to be

to allow the equipment hatch to remain open during the movement of “non-recently” irradiated fuel. This is supported by the third paragraph of Section 4.0, “Technical Analysis” which states that the proposed revisions must be justified by a FHA analysis that demonstrates acceptable offsite doses. An “acceptable offsite dose” is a dose that is 25% of the 10 CFR Part 100 limits or the 10 CFR 50.67 limits. In other words the fuel has to meet the definition of “non-recently” irradiated fuel as defined in TSTF-51. Licensees that have incorporated TSTF-51 into their technical specifications can already have the equipment hatch open when moving non-recently irradiated fuel. Under TSTF-51, the containment penetration technical specification is no longer applicable when moving “non-recently” irradiated fuel. In addition, recently submitted TSTF-51 and modified TSTF-51 license amendments have defined the time for recently irradiated fuel based on the alternate source term as less than or equal to the 72-100 hour decay time specified in the old STS (STS 3/4.9.3 in NUREG-0103 “B&W STS,” NUREG-0212 “CE STS,” and NUREG-0452 “W STS”). This specification restricted irradiated fuel movement prior to this decay time and the specified decay time was much less than the time needed to prepare the plant to move irradiated fuel. The staff questions the need for this change, in light of the recent TSTF-51 requests.

Based on the staff’s review of NAESC’s October 11, 2002, submittal, the staff believes that the staff’s TSTF-441 comments are applicable to your proposed change. Provided the following information.

A. It is unclear from the submittal as to how the containment outage door is opened and closed. If electrically powered equipment is required to open and close the containment outage door, then TSTF-441 Comments 1 above is applicable. Provide any additional commitments, controls, and analyses that would address this concern.

B. The submittal does not address the concern discussed in TSTF-441 Comment 2 above. This information needs to be provided and should be included as part of the Bases discussion.

C. The October 11, 2002, submittal states that the containment outage door can be closed within one (1) hour. Based on the discussion in TSTF-441 Comment 3 above, there is no commitment or assurance that the containment outage door will be closed within one (1) hour and a justification that this one (1) hour closure time is a acceptable closure time. Provide this information.

D. The October 11, 2002, submittal does not address the concern discussed in TSTF-441 Comment 4. Provide this information, and discuss why the calculated dose is acceptable.

E. Based on TSTF-441 Comments 1 thru 4 as supplemented by the above requests for additional information A through D, and the discussion in TSTF-441 Comment 5, the licensee should consider revising the proposal to implement TSTF-51 rather than its current proposal which is similar to TSTF-441.