



**FPL Energy**  
**Seabrook Station**

**FPL Energy Seabrook Station**  
**P.O. Box 300**  
**Seabrook, NH 03874**  
**(603) 773-7000**

**DEC 3 2004**

Docket No. 50-443  
SBK-L-04116

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

References:

1. FPL Energy Seabrook, LLC letter NYN-04016, "LAR 04-03, Application for Stretch Power Uprate," dated March 17, 2004.
2. FPL Energy Seabrook, LLC letter NYN-04032, "Background Information to Support LAR 04-03, Application for Stretch Power Uprate," dated April 1, 2004.
3. FPL Energy Seabrook, LLC letter NYN-04016, "Response to Request for Additional Information Regarding LAR 04-03, Application for Stretch Power Uprate," dated May 26, 2004.
4. FPL Energy Seabrook, LLC letter SBK-L-04044, "Changes to LAR 04-03, Application for Stretch Power Uprate," dated September 13, 2004.
5. NRC letter to FPL Energy Seabrook, LLC, "Seabrook Station Unit 1 – Request for Additional Information for Proposed Amendment Request Regarding the Application for Stretch Power Uprate (TAC MC2364)" dated August 18, 2004.
6. Revised Request for Additional Information RAI #22 provided by fax, dated August 23, 2004.
7. Four Additional Requests for Additional Information regarding RAIs #96 through #99 provided by e-mail, dated September 1, 2004.
8. FPL Energy Seabrook, LLC letter SBK-L-04072, "Changes to LAR 04-03, Application for Stretch Power Uprate," dated October 12, 2004.

**Seabrook Station**

**Supplemental Response to Request for Additional Information (RAI Nos. 2 and 3) Regarding  
License Amendment Request 04-03, Application for Stretch Power Uprate**

By letter dated March 17, 2004 (Reference 1), FPL Energy Seabrook, LLC (FPL Energy Seabrook) requested an amendment to facility operating license NPF-86 and the Technical Specifications for Seabrook Station. This license amendment request (LAR) is an application for a stretch power uprate which will increase the Seabrook Station licensed reactor core power by 5.2% from 3411 megawatts thermal (MWt) to 3587 MWt. This LAR is supported by additional information submitted to the NRC by References 2, 3, and 4.

ADD 1

In References 5, 6, and 7, the NRC has requested additional information to support its review of Seabrook Station LAR 04-03. FPL Energy Seabrook's responses to the requests for additional information (RAIs) were submitted in Reference 8.

During a telecon between the NRC and FPL Energy Seabrook on November 4, 2004, the NRC requested supplemental information to support the responses to RAI Nos. 2 and 3. The enclosure to this letter contains the supplemental information requested.

Should you have any questions concerning this information, please contact Mr. Stephen T. Hale, Power Uprate Project Manager, at (603) 773-7561.

Very truly yours,

FPL Energy Seabrook, LLC



Mark E. Warner  
Site Vice President

cc. S. J. Collins, NRC Region I Administrator  
V. Nerses, NRC Project Manager, Project Directorate I-2  
G. T. Dentel, NRC Resident Inspector

Mr. Bruce Cheney, Director  
New Hampshire Bureau of Emergency Management  
State Office Park South  
107 Pleasant Street  
Concord, NH 03301

**OATH AND AFFIRMATION**

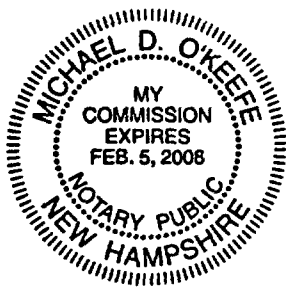
I, Mark E. Warner, Site Vice President of FPL Energy Seabrook, LLC hereby affirm that the information and statements contained in the responses to the request for additional information to support the review of License Amendment Request 04-03 are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed  
Before me this

3 day of December, 2004

Michael D O'Keefe  
Notary Public

Mark E. Warner  
Mark E. Warner  
Site Vice President



U. S. Nuclear Regulatory Commission  
SBK-L-04116  
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**Enclosure to Letter No. SBK-L-04116**  
**Supplemental Response To Request for Additional Information**  
**(RAI Nos. 2 and 3)**  
**for**  
**LAR 04-03, Application for Stretch Power Uprate**

**SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION  
(RAI Nos. 2 and 3)  
REGARDING LICENSE AMENDMENT REQUEST 04-03  
APPLICATION FOR STRETCH POWER UPRATE  
SEABROOK STATION  
DOCKET NO. 50-443**

**RAI #2**

In each case where a setpoint is shown as a percentage of instrument span, identify the instrument by manufacturer, model and range, its span, and the actual and allowable physical values of the setpoint.

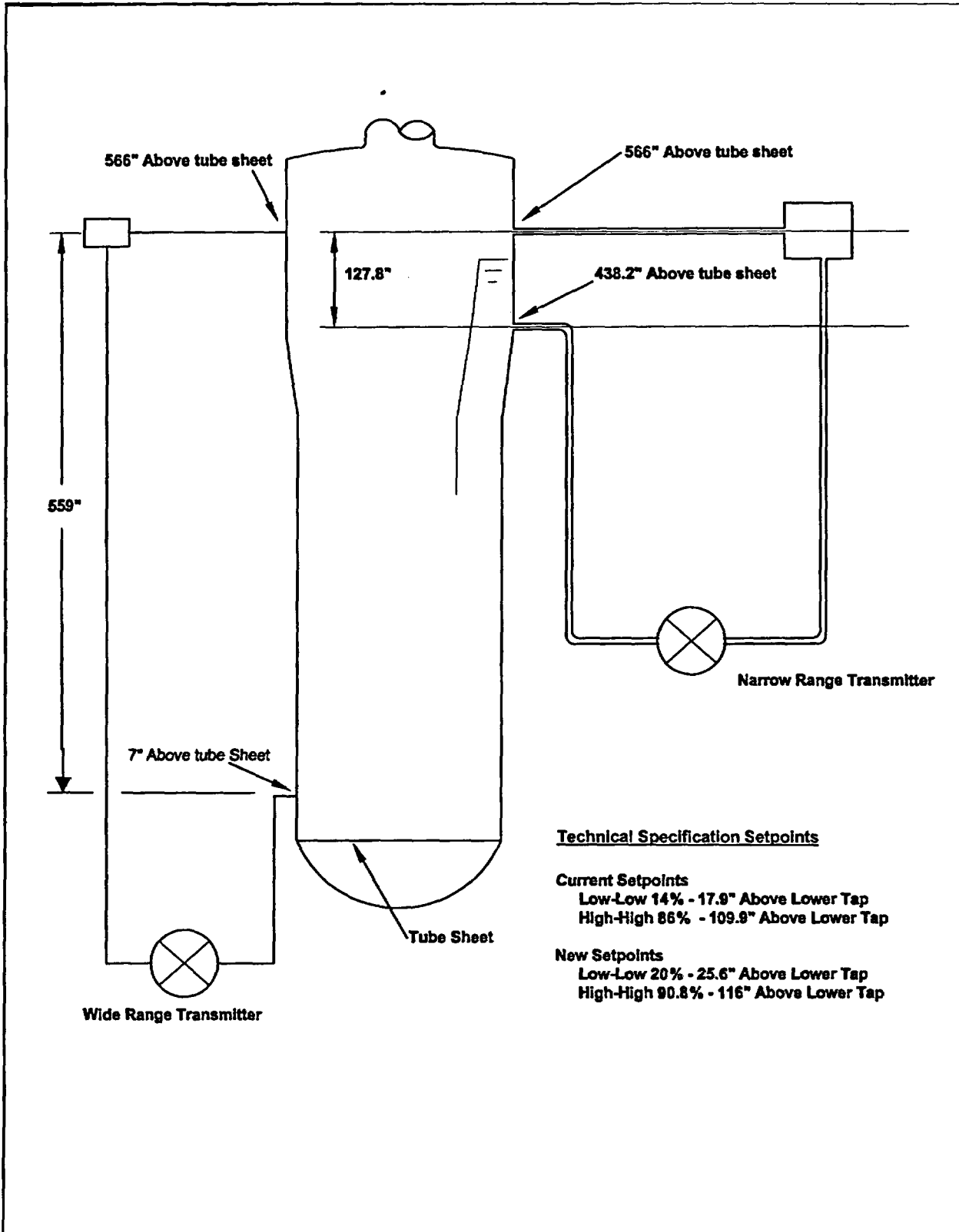
**FPL Energy Seabrook Response:**

The response below supercedes the response to RAI #2 transmitted by FPL Energy Seabrook letter SBK-L-04072 dated October 12, 2004. This response is being revised to include information that addresses the span of the steam generator high-high instrumentation. The attachments to this response (Attachments RAI 2-1 and RAI 2-2) are not changed and are not being resubmitted.

For steam generator level, the transmitters are Rosemount model 1154DP4RA and the process racks are Westinghouse 7300 racks. The narrow range span is defined as the distance between the lower instrument tap and the upper instrument tap. The distance is 127.8 inches – see Figure RAI 2-1. The transmitter range is 150 inches of water column (W.C.) and the calibrated span is 85.72 inches of water column. The process rack range and span is 0 – 10 volts D.C. The physical unit of measure for this function is level. Based on the tap to tap distance of 127.8 inches, the previous Technical Specification low level setpoint of 14% narrow range span is 17.9 inches above the lower tap and the previous Technical Specification high level setpoint of 86% narrow range span is 109.9 inches above the lower tap. The setpoint change for the SPU is 20% of narrow range span which is 25.6 inches above the lower tap and the high level setpoint change is 90.8 % of narrow range span which is 116 inches above the lower tap.

For Overtemperature  $\Delta T$  and Overpower  $\Delta T$  function, there are multiple inputs. The Reactor Coolant System resistance-temperature detectors (RTDs) are Weed model N9004E-2B, the pressurizer pressure transmitters are Rosemount model 1154GP9RA, the Nuclear Instrumentation System input is Westinghouse nuclear instrumentation system neutron detectors and process racks, and the protection racks are Westinghouse 7300 racks. The physical unit of measure for this trip is  $\Delta T$ . The span of the  $\Delta T$  trips is  $\Delta T$  equivalent to 150 percent power. The setpoint is a variable setpoint and therefore does not have fixed  $\Delta T$  span value. The Allowable Value is expressed in percent of  $\Delta T$  span. Additional information is provided in the tables in Attachment RAI 2-1 (non-proprietary) and Attachment RAI 2-2 (proprietary) to FPL Energy Seabrook letter SBK-L-04-072 relative to the span for each input to the trip.

Figure RAI 2-1



**RAI #3**

Provide calculations and supporting setpoint methodology for the setpoints indicated in Attachment 2 of the March 17, 2004, submittal. Details should be sufficient to allow the Nuclear Regulatory Commission (NRC) staff to understand the values used, assumptions made, and formulae used. If the NRC staff has previously reviewed and approved the setpoint methodology, provide a reference to the acceptance document.

**FPL Energy Seabrook Response:**

The response below supercedes the response to RAI #3 transmitted by FPL Energy Seabrook letter SBK-L-04072 dated October 12, 2004. This response is being revised to include information that addresses previous NRC review and approval of the setpoint methodology applied for the Seabrook Station SPU. The attachments to this response (Attachments RAI 2-1 and RAI 2-2) are not changed and are not being resubmitted.

Attachments RAI 2-1 (non-proprietary) and RAI 2-2 (proprietary) contain tables which provide the calculation results for the safety related setpoints that are changing for the SPU. Westinghouse proprietary information is provided in Enclosure 2 to FPL Energy Seabrook letter SBK-L-04-072.

The methodology for calculation of the uncertainties is a Square Root Sum of the Squares approach which is an acceptable approach per ISA S67.04.01. Attachments RAI 2-1 and RAI 2-2 contain tables which provide the Square Root Sum of the Squares equation, the values for each uncertainty term and the calculation results for the safety related setpoints that are changing for the SPU.

The methodology for the uncertainty calculations and Allowable Value determinations used for the Seabrook Station SPU was previously reviewed by the NRC via Westinghouse WCAPs for Millstone Unit 3 and Beaver Valley Units 1 and 2. The WCAP reference for Millstone Unit 3 is WCAP-10991 Rev. 5 "Westinghouse Setpoint Methodology for Protection Systems, Millstone Nuclear Power Station Unit 3, 24 Month Fuel Cycle Evaluation", dated August 1997. Upon conclusion of this review the NRC issued Amendment 159 to the facility operation license NPF-49 via a May 26, 1998 letter titled "Issuance Of Amendment – Millstone Nuclear Power Station, Unit No. 3 (TAC NO. M99796)". The WCAP for Beaver Valley Unit 1 is WCAP-11419 Rev. 2 "Westinghouse Setpoint Methodology for Protection Systems Beaver Valley Power Station – Unit 1" dated December 2000, and the WCAP for Beaver Valley Unit 2 is WCAP-11366 Rev. 4 "Westinghouse Setpoint Methodology for Protection Systems Beaver Valley Power Station – Unit 2" dated December 2000. Upon conclusion of this review the NRC issued Amendment 239 to facility license DRP-66 and Amendment 120 to facility license NPF-73 via a July 30, 2001 letter titled "Beaver Valley Power Station, Unit Nos. 1 And 2 – Revised Implementation Period For License Amendment Nos. 239 And 120, (TAC Nos. Mb0848 And Mb0849)". The methodology used in the above WCAPs is applicable to Seabrook Station, and is the same methodology used for the Seabrook Station SPU.

The methodology to determine the Allowable Values for the above WCAPs and the Seabrook Station SPU submittal is a performance based Allowable Value. The Allowable Value is satisfied by verification that the channel "as found" and "as left" conditions about the nominal trip setpoint are within the Rack Calibration Accuracy. These criteria are controlled by the Technical Specifications and implemented by plant procedures. In the Seabrook Station

Technical Specifications, Sections 2.2.1 parts a and b, and 3.3.2 parts a and b, the requirement is to return the instrumentation to the nominal trip setpoint. Because the Allowable Value is based on the Rack Calibration Accuracy, it then follows that the technical specification requirement is to return the channel to within the calibration accuracy. Therefore the technical specification as currently written satisfies the requirement to return the channel to within the calibration accuracy which is consistent with the Setpoint Methodology and should not require any additional revisions.