

December 2, 2004

EA-04-139

Mr. Mark E. Warner
Site Vice President
c/o Mr. James M. Peschel
FPL Energy Seabrook, LLC
Seabrook Station
P.O. Box 300
Seabrook, NH 03874

SUBJECT: EXERCISE OF ENFORCEMENT DISCRETION SEABROOK STATION
(NRC Integrated Inspection Report 05000443/2004003)

Dear Mr. Warner:

The purpose of this letter is to provide you with the NRC's enforcement decision for an apparent violation that was identified during an inspection completed at Seabrook on June 30, 2004. The results of the inspection were discussed with you and other members of your staff during an exit meeting on July 22, 2004, and documented in NRC Integrated Inspection Report 05000443/2004003.

The apparent violation involved a failure to properly implement 10 CFR 50.59, "Changes, Tests, and Experiments." Specifically, a change was made to the Seabrook facility in 1997 when it was discovered that turbine building flood diversion devices (scuppers) had never been installed in the plant as described in the Seabrook Final Safety Analysis Report (FSAR). The NRC considered that the 1997 change was a violation of the "old" 10 CFR 50.59 rule because the change involved an increase in the frequency of occurrence and the consequences of an accident previously evaluated in the FSAR. In addition, based on a preliminary risk assessment by the NRC, the NRC concluded that the change involved more than a minimal increase in risk under the "new" 10 CFR 50.59 rule, which became effective on October 4, 1999, as amended on December 14, 2001. Therefore, NRC approval was needed prior to the design change under either the "old" or "new" 10 CFR 50.59 rule.

In our letter dated July 30, 2004, the NRC transmitted the referenced inspection report and informed you that before we made our enforcement decision, we were providing you an opportunity to either respond to the apparent violation or request a predecisional enforcement conference. At your request, a predecisional enforcement conference was held on September 23, 2004, to further discuss your views on this issue. A copy of the handout you provided at the conference has been recorded in ADAMS under accession number ML043230504. During the conference, your staff discussed your root cause evaluation, extent of condition review, risk evaluation and corrective actions. These actions included improved procedural guidance for Turbine Building flooding, enhanced operator training, and additional reviews to ensure other 10 CFR 50.59 evaluations were adequately completed. In addition, you agreed that an error was made in 1997, because under the "old" 10 CFR 50.59 rule in effect at the time, NRC approval to change the turbine building design should have been requested. However, you contended that

under the "new" 10 CFR 50.59 rule, the design change could be implemented without prior NRC approval because there was not more than a minimal increase in risk due to the design change. Based on questions by the NRC during the conference, you agreed to provide additional information concerning operator actions and operating experience. You provided the additional information to us in a letter dated October 8, 2004, a copy of which has been recorded in ADAMS under accession number ML043230440.

Based on our evaluation of the inspection findings, including the additional information you provided at the predecisional enforcement conference and the information in your letter dated October 8, 2004, the NRC has concluded that the change to Seabrook's design in 1997 involved an increase in the frequency of occurrence and the consequences of an accident previously evaluated in the FSAR. Therefore, since NRC approval was required but not sought, a potential Severity Level III violation of the "old" 10 CFR 50.59 rule was considered. However, based on our evaluation of its significance, which is described in the enclosure, the NRC now agrees that the change did not result in a more than minimal increase in risk. Therefore, NRC approval would not have been required under the "new" 10 CFR 50.59 rule. Accordingly, even though this issue was clearly a violation of the "old" 10 CFR 50.59 rule, I have been authorized, after consultation with the Director, Office of Enforcement and the Region I Administrator, to exercise enforcement discretion in accordance with Section VII.B.6 of the Enforcement Policy and refrain from issuing enforcement action for the violation. In making this determination, the NRC considered the fact that even though this issue was a violation of the "old" 10 CFR 50.59 rule, it would not have been a violation of the "new" 10 CFR 50.59 rule.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room). (Note: Public access to ADAMS has been temporarily suspended so that security reviews of publicly available documents may be performed and potentially sensitive information removed. Please check the NRC website for updates on the resumption of ADAMS access.)

Sincerely,

/RA/

A. Randolph Blough, Director
Division of Reactor Projects
Region I

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

Enclosure: Significance Evaluation

cc w/encl:

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Enclosure

Significance Evaluation

NRC Inspection Report 05000443/2004003 identified an apparent violation of 10 CFR 50.59 for making a change to the FPL-Seabrook facility in 1997. The NRC determined that the 1997 change was a violation under the "old" 10 CFR 50.59 rule because the change involved an increase in the frequency of occurrence and the consequences of an accident previously evaluated in the FPL-Seabrook Final Safety Analysis Report (FSAR). In addition, based on a preliminary risk assessment, the NRC concluded that the change involved more than a minimal increase in risk under the "new" 10 CFR 50.59 rule, which became effective on October 4, 1999, as amended on December 14, 2001.

The preliminary risk assessment determined that the increase in core damage frequency per operating year was in the low E-6 range (slightly greater than 1 in 1,000,000 operating years). Therefore, this issue constituted "more than a minimal increase in risk," because the increase in core damage frequency exceeded 1E-6 per operating year (1 in 1,000,000). The Region I SRA based this analysis on information from the FPL-Seabrook Individual Plant Examination (IPE) and initial risk analyses performed by FPL.

At a September 23, 2004, predecisional enforcement conference, FPL presented additional information concerning: the change; the plant design basis, plant characteristics, and the time available for operators to identify and take action to prevent a very large turbine building flood causing a loss of offsite power (LOOP). Subsequent to the conference, the licensee presented additional information concerning operator actions and operating experience.

Based on a final risk assessment, which included an evaluation of the additional information provided by the licensee, the NRC determined that the increase in core damage frequency was 7E-7 (7 in 10,000,000) per operating year, which is less than 1E-6 per operating year, the NRC's risk threshold. Therefore, based on the discussion below, the issue did not involve more than a minimal increase in risk. As such, prior NRC approval under the "new" 10 CFR 50.59 rule was not required.

The Region I SRA conducted the final analysis of the core damage frequency given a very large turbine building flood that could progress to a LOOP. Only the very large turbine building flood was assumed, because it dominated the results. At the onset of such a flood, the control room operators would have to diagnose the condition, trip the circulating water pumps, and direct the plant operators to open both turbine building roll-up doors. The available time to complete these actions depended on whether the condenser pit high level alarms functioned or not. Using new information provided by FPL-Seabrook, relative to the time available prior to the flood water causing a LOOP, the SRA estimated that the operators would fail to open the turbine building roll-up doors 6% of the time if the condenser pit alarms functioned and 20% of the time if the condenser pit alarms failed. Assuming that the condenser pit alarms function 50% of the time, a combined operator failure probability of 13% was developed. The frequency of a very large turbine building flood was assumed to be 1E-3 per operating year (1 in 1000 operating years). This calculation agreed with the licensee's revised value of 9.6E-4 (or 0.96E-3) per operating year. The revised core damage frequency was determined to be 7E-7 per operating year given a very large turbine building flood. This core damage frequency resulted from multiplying the 1E-3 per operating year, from the very large flood frequency by the 13% chance of operator failure and then multiplying the derived sum times the previously calculated

5E-3 per operating year, representing the core damage probability given a LOOP. The increase in core damage frequency was approximately 7E-7 per operating year, assuming that if the flood protection devices had been installed, they alone would have prevented a LOOP and there would have been no chance of core damage due to a very large turbine building flood.