

April 29, 2008

Mr. James McCarthy
Site Vice President
FPLE Point Beach
6610 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - REQUEST FOR
ADDITIONAL INFORMATION (RAI) RELATED TO TECHNICAL
SPECIFICATION 3.7.5 C COMPLETION TIME EXTENSION
(TAC NOS. MD7672 AND MD7673)

Dear Mr. McCarthy:

By letter to the Nuclear Regulatory Commission (NRC) dated December 29, 2007, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML073650392), FPL Energy Point Beach, LLC, submitted a request to revise Point Beach Nuclear Plant, Units 1 and 2, Technical Specification (TS) for the completion time (CT) of TS 3.7.5.C. This revision would allow two separate one-time extensions of the CT for TS 3.7.5.C from 7 days to 16 days; one extension for each of the train-specific motor-driven auxiliary feedwater pumps.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure to this letter. During a discussion with your staff on April 24, 2008, it was agreed that you would provide a response within 30 days of receipt of the RAI.

The NRC staff considers that timely responses to RAIs help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-3154.

Sincerely,

/RA/

Jack Cushing, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure:
Request for Additional Information

cc w/encl: See next page

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 Site Vice President
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Point Beach Nuclear Plant, Units 1 and 2

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REQUEST FOR ADDITIONAL INFORMATION (RAI)

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

TECHNICAL SPECIFICATION 3.7.5 C COMPLETION TIME EXTENSION

DOCKET NOS. 50-266 AND 50-301

In reviewing the FPLE Point Beach, LLC's submittal dated December 29, 2007, the Nuclear Regulatory Commission staff has determined that the following information is needed in order to complete its review:

Probabilistic Risk Assessment (PRA) Licensing Branch

PRA RAI-1

The discussion of PRA reviews (Section 3.1.1.3 of Enclosure 2), identify that the licensee has performed gap assessments of the PRA model using Regulatory Guide (RG) 1.200 and the internal events PRA standard American Society of Mechanical Engineers (ASME)-RA-Sb-2005, and state that observations from the assessment are being addressed in an ongoing upgrade project. The licensee is requested to provide a disposition of any identified and unresolved deficiencies as to their potential impact on the risk assessment results used to support this application.

PRA RAI-2

The discussion of the internal events risk (Section 3.1.1.3 of Enclosure 2), identified that the cutset results of the PRA analysis were revised to take credit for recovery actions (which the staff therefore assumes are not included in the baseline PRA model), and to eliminate sequences which are stated to not actually lead to core damage based on plant operating experience and the simulator. In effect, the model is being corrected and revised outside normal processes, and such manipulation of the results is inappropriate and inconsistent with current industry practices and standards, and should require a focused peer review based on changing success criteria (i.e., now basing the sequences on the simulator and on operating experience), and adding new recovery actions. Also, such changes must be propagated in the baseline model as well, to avoid underestimating the delta risk. The licensee is requested to:

- a. Explain exactly how the PRA results were modified,
- b. Explain why sequences included in the baseline model as core damage should be eliminated for the configuration-specific risk calculations,
- c. Explain how the baseline model was similarly examined and revised,
- d. Justify that the manipulation of the results does not undermine the statements of PRA quality based on peer reviews and gap assessments,
- e. Justify the revised success criteria based on operating experience and simulations, and
- f. Justify that the modifications to the model do not require peer review, or provide the results of the review of these changes.

PRA RAI-3

The staff is unable to understand the basis for the risk results presented for the delta core damage frequency (Δ CDF) for cases with one or both units on-line (Section 3.1.1.7 of Enclosure 2, Table 4). Specifically, the staff assumes that Δ CDF results presented in Table 1 (Section 3.1.1.3 of Enclosure 2), and the incremental core damage probability results presented in Table 3 (Section 3.1.1.4 of Enclosure 2), are based on the assumption that the units are on-line. Therefore, it is expected that there would be a relationship between the Table 4 entries for both units online, and also Tables 1 and 3. However, none of the specific risk values presented in Table 4 appear to be related to the other results presented, and are in fact higher values. The licensee is requested to clarify the basis for Table 4 entries, and their relationship to the other risk results presented in the submittal.

PRA RAI-4

Because the motor-driven auxiliary feed water (AFW) pumps are shared between units, the staff is concerned that there may be dual unit initiators (such as loss of offsite power, for example), which would cause a demand for the remaining operable motor-driven AFW pump for both units simultaneously. In such a case, the sum of the single unit risk metrics would be nonconservative to the total risk impact due to the common initiator. The licensee is requested to discuss and quantify the risk impact of any such dual unit initiators to demonstrate that these are not significant contributors.

PRA RAI-5

The large early release frequency (LERF), Δ LERF, and incremental large early release probability (ICLERP) results are all exactly 0.1 times the corresponding core damage metrics. The licensee is requested to discuss how it models and calculates large early release metrics.

PRA RAI-6

The submittal did not identify and justify the truncation limits applied to the baseline model and to the specific application calculations, per RG 1.177, Section 2.3.3.4. The licensee is requested to provide this information.

PRA RAI-7

The submittal did not identify the important accident sequences which contribute to the risk increase, and therefore did not identify the assumptions and sources of uncertainty which may be important to these sequences such that they could be investigated with sensitivity analyses. This is a necessary step to assure that the risk results are robust, and not driven by particular modeling choices or assumptions made in developing the PRA models. The licensee is requested to characterize the risk increase in these terms, and if there are any assumptions or sources of uncertainty that are important for the sources of the risk increase, to investigate and disposition these using sensitivity analyses or other methods.

PRA RAI-8

The fire risk is qualitatively evaluated and dispositioned only by compensatory measures (Section 3.1.1.5 of Enclosure 2). The licensee assumed that the only significant sources of fire risk would be due to plant locations for which a fire could fail all remaining AFW pumps for a unit when one of the two motor-driven AFW pumps is out of service. The staff is concerned that

other fire damage scenarios could also be significant during the extended outage of the motor-

driven AFW pump. For example, a fire which could fail the turbine-driven AFW pump and also impact plant equipment required for feed-and-bleed cooling (the backup cooling method if AFW is unavailable), could also be significant if the remaining operable motor-driven AFW pump were to randomly fail. Since AFW is expected to be important for mitigation of fires, the licensee is requested to provide a more rigorous quantitative evaluation to assure that all significant sources of fire risk are identified and properly characterized and that compensatory measures are applied which will be effective in reducing this risk.

PRA RAI-9

Seismic risk is dispositioned based on being "expected to be low," and no other disposition of external event risk sources is provided based on a lack of updated PRA models (Section 3.1.1.6 of Enclosure 2). The licensee is requested to provide an appropriate technical justification that external events risk is not significant, and not simply state its "expectations." The scope of this justification should include all external events not in the PRA model (i.e., seismic, internal or external floods, external fires, weather, transportation and industrial events, etc.).

PRA RAI-10

The tier 2 analysis does not explicitly identify any specific risk-significant plant equipment outages which would be permitted under the technical specification (TS). Instead, the licensee has committed that no other risk-impacting work will be planned, and emergent equipment outages will be managed per the tier 3 requirements to manage risk. The staff is concerned that 1) the specific scope of this commitment is not clearly defined, and 2) the licensee's program which addresses tier 3 may not include provisions for plant shutdown in the event of an emergent, high risk condition. The licensee is requested to evaluate concurrent equipment unavailability permitted by the TS for potential high risk configurations to determine if there are configurations which should not be permitted, even if they occur on an emergent basis.

Fire Protection Branch (AFPB)

A well balanced fire protection program addresses all the elements of fire protection defense-in-depth :

- To prevent fires from starting
- To detect rapidly, control, and extinguish promptly those fires that do occur
- To provide protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant.

In order to meet the "defense-in-depth" concept for fire protection issues, consistency with the defense-in-depth philosophy is maintained if a reasonable balance is preserved among the three fire protection defense-in-depth elements (preventing fires from starting, rapidly detecting, controlling and extinguishing those fires that do occur, and providing protection for structures, systems, and components (SSCs) to assure safe shutdown of the plant). The defense-in-depth philosophy is not maintained when there is "over-reliance on programmatic activities to compensate for weaknesses in plant design."

The compensatory measures proposed in the license amendment request address the first two elements of fire protection (FP) defense-in-depth, preventing fires from starting and detecting rapidly, controlling and extinguishing promptly those fires that do occur.

AFPB RAI 1

In developing the list of compensatory measures, discuss how actions to address the third element of FP defense-in-depth (to provide protection for SSCs important to safety so that a fire that is not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant) will be considered. RIS 2005-07 notified licensees that operator manual actions are often more effective compensatory measures than fire watch patrols.

AFPB RAI 2

PBNP #1 licensee event report (LER) 2001-006 makes several statements regarding availability of the turbine driven AFW pump for fire areas A02 (FZ151) and A01-B (FZ 237). Please provide information related to the feasibility of restoring/maintaining availability of the turbine-driven auxiliary feedwater (TDAFW) pump as described in this LER.

AFPB RAI 3

Section 3.2.2.4 states: "This review identified seven fire areas where a fire concurrent with a motor-driven AFW pump being unavailable because of extended replacement activities could result in no AFW pump being available to provide decay heat removal."

For each of these fire areas, please provide the following:

- A description (type of circuit, location of cables, location of nearby ignition sources, etc.) of those safe shutdown circuits and/or components that could potentially receive fire-induced damage that provide the same functionality as the motor-driven auxiliary feedwater (MDAFW) pumps being removed from service (redundant MDAFW pump, MDAFW pump, etc.).
- An evaluation of each of these circuits/components to determine the feasibility of an operator action to address potential fire damage (for motor operated valves and air operated valves, investigate the possibility of local, manual operation) to restore/maintain availability of the redundant system.

AFPB RAI 4

The stated purpose of the roving fire watch touring the seven areas of concern "...is to monitor and ensure that combustible loading, work activities, and other activities that could increase the likelihood of a fire are minimized." Although a roving fire watch tour as described may be an effective verification that administrative controls are being followed, the primary control mechanism to address fire risks of this nature is usually administrative. One effective approach for this is to make the seven fire areas of concern both a "combustible free zone" and a "no hot work zone" either through the permitting process or the work control process. These administrative controls can be very effective in preventing fires from starting and ensuring that

any fires that do start are caught in the incipient stage before equipment can be impacted. Please describe how these administrative controls were considered, and if not, why not?

AFPB RAI 5

Section 9.1 (page 171) of the Point Beach Nuclear Plant Fire Protection Evaluation Report contains a list of compensatory measures that should be considered any time there is a safe shutdown component removed from service:

- Temporary repair procedures
- Temporary fire barriers, fire detection or suppression
- Temporary restrictions on activities which could increase the risk of an Appendix R event
- Alternate means to ensure the safe shutdown function is accomplished

This list appears to adequately cover several of the items discussed in the previous four RAI questions. Please describe how you followed your fire protection program as stated in the Fire Protection Evaluation Report, and if not, why not?