



FPL Energy

Point Beach Nuclear Plant

July 3, 2008

NRC 2008-0053
10 CFR 50.90

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
Renewed License Nos. DPR-24 and DPR-27

Supplemental Response to Request for Additional Information
License Amendment Request 260
One-Time Extension of Completion Time for
Technical Specification 3.7.5, Auxiliary Feedwater System

- References:
- (1) FPL Energy Point Beach, LLC to NRC Letter Dated December 29, 2007, License Amendment Request 260 One-Time Extension of Completion Time for Technical Specification 3.7.5, Auxiliary Feedwater System (ML073650392)
 - (2) NRC to FPL Energy Point Beach LLC Letter Dated April 29, 2008, Point Beach Nuclear Plant, Units 1 and 2 - Request for Additional Information (RAI) Related to Technical Specification 3.7.5 C Completion Time Extension (MD7672 and MD7673) (ML081160206)
 - (3) FPL Energy Point Beach, LLC to NRC Letter Dated May 16, 2008, Response to Request for Additional Information, License Amendment Request 260, One-Time Extension of Completion Time for Technical Specification 3.7.5, Auxiliary Feedwater System (ML Not Available)
 - (4) FPL Energy Point Beach, LLC to NRC Letter Dated May 29, 2008, Response to Request for Additional Information, License Amendment Request 260, One-Time Extension of Completion Time for Technical Specification 3.7.5, Auxiliary Feedwater System (ML081510464)

Via Reference (1) FPL Energy Point Beach, LLC submitted a proposed license amendment request for Commission review and approval pursuant to 10 CFR 50.90 for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. The proposed amendment would allow two separate one-time extensions of the completion time (CT) of LCO 3.7.5.C from seven days to 16 days.

On Monday June 23, 2008, a telephone conference was held between representatives of the NRC staff and FPL Energy Point Beach to discuss additional staff questions regarding two questions contained in the FPL Energy Point Beach response dated May 29, 2008 (Reference 4). Specifically, the staff had concerns associated with the FPL Energy Point Beach responses to PRA RAI-2 and PRA RAI-8. During the course of this telephone conference, it was agreed that FPL Energy Point Beach would provide supplemental information in support of the two identified questions. Enclosure 1 to this letter provides the requested supplemental information.

Enclosure 2 contains a comprehensive table of regulatory commitments made to date associated with this application, which includes the regulatory commitments summarized below.

FPL Energy Point Beach has determined that the response to this request for additional information does not alter the conclusions contained in the no significant hazards consideration nor the environmental consideration associated with the proposed amendment and associated Technical Specification changes that was provided via Reference (1).

Summary of Regulatory Commitments

The following three are new commitments as described in the Enclosure 1 supplemental response to Question PRA RAI-8.

- For the duration of the proposed TSAC 3.7.5.C, current compensatory measures of fire rounds twice per operating shift will continue to be performed. In addition the following fire areas will be included, A32 and A38.
- There will be no planned hot work in 17 fire areas (A01-A, A01-B, A01-B/46, A02, A06, A15, A23N, A23S, A24, A25, A26, A27, A28, A29, A30, A38, and A71) during the MDAFW pump replacement for the duration of the proposed TSAC 3.7.5.C, except in the fire area in which the MDAFW pump is being replaced.

There will be no planned transient combustibles permitted in 17 fire areas (A01-A, A01-B, A01-B/46, A02, A06, A15, A23N, A23S, A24, A25, A26, A27, A28, A29, A30, A38, and A71) during the MDAFW pump replacement for the duration of the proposed TSAC 3.7.5.C, except in the fire area in which the MDAFW pump is being replaced.

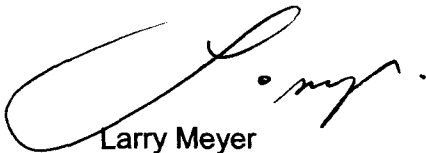
This supplemental response has been reviewed and approved by the Plant Operations Review Committee.

In accordance with 10 CFR 50.91, a copy of this response is being provided to the designated State of Wisconsin Official.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on July 3, 2008.

Very truly yours,

FPL Energy Point Beach, LLC

A handwritten signature in black ink, appearing to read "Larry Meyer", with a large, sweeping initial "L" and a smaller "M" at the end.

Larry Meyer
Site Vice President

Enclosures

cc: Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
PSCW

ENCLOSURE 1

FPL ENERGY POINT BEACH, LLC POINT BEACH NUCLEAR PLANT UNITS 1 AND 2

LICENSE AMENDMENT REQUEST 260 ONE-TIME EXTENSION OF COMPLETION TIME FOR TECHNICAL SPECIFICATION 3.7.5, AUXILIARY FEEDWATER SYSTEM

SUPPLEMENTAL RESPONSE TO REQUEST FOR INFORMATION DATED MAY 29, 2008

This supplemental response is provided by FPL Energy Point Beach, LLC as discussed between representatives of FPL Energy Point Beach and the NRC staff during a teleconference held June 23, 2008. The NRC staff requested additional information relating to the FPL Energy Point Beach responses to PRA RAI Questions 2 and 8 as originally provided via Reference (4). For clarity, the PRA RAI question, the FPL Energy Point Beach response (Reference 4), and the supplement to the Reference (4) response are provided below.

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.*

FPL Energy Point Beach Response dated May 29, 2008

The PBNP PRA model approved at the time this application was submitted (Revision 3.18) has been modified to include more recent plant data. The updated plant data, which has since been incorporated into the approved model as Revision 4.00, was used to generate cutsets for each of the following six cases:

1. Unit 1 core damage baseline assuming zero test and maintenance
2. Unit 2 core damage baseline assuming zero test and maintenance
3. Unit 1 core damage with P-38A out of service
4. Unit 1 core damage with P-38B out of service
5. Unit 2 core damage with P-38A out of service
6. Unit 2 core damage with P-38B out of service

The top 200 combined cutsets for the four cases with a pump out of service were compared to the baseline zero test and maintenance cutsets to determine which cutsets would be in the top 200 as a result of taking a pump out of service. These additional cutsets were then examined to determine if they would cause core damage and if all actions plant operators would take using existing abnormal and emergency procedures were reflected in the cutsets. The proceduralized actions not currently credited in the PRA model were then analyzed using the EPRI Human Reliability Analysis (HRA) Calculator methodology to determine the Human Error Probability (HEP) for those actions. The probability for the additional cutsets with non-modeled actions was adjusted based upon the new HRA findings or set to zero for those cutsets found not to be true core damage sequences. The change in core damage frequency (CDF) above the baseline value was then determined for each of the four MDAFW pump out of service cases. The adjustments made to the model for this application are discussed below:

1. The PRA model assumes that if a steam generator is faulted that it cannot be fed using AFW, requiring initiation of feed and bleed. PBNP Critical Safety Procedure (CSP)-H.1, Response to Loss of Secondary Heat Sink, Revision 29, dated 04/19/2007, Steps 4 and 5, allow feeding a faulted steam generator when a non-faulted steam generator is not available, ensuring adequate heat removal to prevent core damage and making feed and bleed unnecessary. This action was analyzed using established Human Reliability Analysis techniques and the total probability (both human and equipment) of failing to use the remaining MDAFW pump to restore secondary cooling is evaluated as 5.2E-03. This probability was conservatively increased to 0.1 and applied to account for this non-modeled action in cutsets involving steam line breaks outside containment.

For steam line/feed line breaks inside containment, half of the breaks were taken on the feed line with the other half on the steam line. No credit for AFW was taken for a feed line break since it was assumed that any feedwater would go out the break into containment rather than into the steam generator. However, if the break was in the steam line, feedwater flow would still be beneficial. Since this strategy would only work for half of the steam line/feed line breaks inside containment, the conservative reduction factor of 0.1 for breaks outside containment was increased to 0.2 for cutsets involving failures inside containment.

2. The PRA model assumes that for a loss of AC and/or DC power rendering the operable MDAFW pump out of service, no feedwater flow is available. No credit is taken for restoration of condensate and main feedwater pumps associated with the train of AC and DC power still energized. It is likely that if the event occurred at 100% power with no safety injection required, this train of condensate and feedwater would still be in service from before the loss of power event. In a loss of secondary heat sink event caused by loss of all AFW pumps, CSP-H.1, Response to Loss of Secondary Heat Sink, Revision 29, dated 04/19/2007, Steps 8 through 14, restore feedwater flow to an available steam generator using a condensate and feedwater pump.

This action was analyzed using established HRA techniques and the total probability (both human and equipment) of failing to use an available condensate and feedwater train to restore secondary cooling is $5.8E-03$. This probability was conservatively increased to 0.1 and applied to account for this non-modeled action in applicable loss of AC and/or DC power cutsets. This credit was not taken for loss of offsite power cutsets, since affected buses would either be deenergized or on the associated emergency diesel generator. In these situations, condensate and feedwater pumps would not be available.

3. The PRA model assumes that a faulted-ruptured steam generator cannot be fed using AFW, nor is it available as a source of steam for the affected unit turbine-driven AFW (TDAFW) pump. Flow from the reactor coolant system (RCS) into the steam generator and out the break provides a mechanism for heat removal from the core and RCS. The boiling action of reactor coolant after it enters the secondary side of the steam generator provides adequate cooling to prevent core damage as long as safety injection flow to the RCS is available. As a result, feedwater flow is not necessary to prevent core damage for faulted-ruptured steam generator events and cutsets involving this event were assigned a core damage frequency of zero.
4. The PRA model assumes that a transient with loss of the Power Conversion System (PCS) results in a loss of condensate and feedwater. Based upon Section 4.8 of the PBNP Initiating Events Notebook, PRA 2.0, Revision 4, dated March 14, 2008, 63% of loss of PCS events do not result in loss of main feedwater. If main feedwater is still available, then using established HRA techniques, it was determined that main feedwater could be restored and aligned to an available steam generator in accordance with CSP-H.1, Response to Loss of Secondary Heat Sink, Revision 29, dated 04/19/2007, Steps 8 through 14, with an HEP of 0.1. It is assumed that the remaining 37% of loss of PCS events involve a non-recoverable loss of main feedwater. Therefore, the fraction of loss of PCS events where main feedwater could not be used for secondary cooling is $[(0.1 \times 0.63) + 0.37] = 0.43$. Consequently, a reduction factor of 0.43 was applied to the CDF for each cutset involving a loss of PCS event.

None of the adjustments described above constitutes a change in approved PRA model success criteria.

The normal process for PRA model changes and corrections involves documentation of the proposed modification, review of the modification by a technical reviewer and subsequent approval of the change. This process was completed, documented and subjected to the same review and approval process noted above for the adjustments

made to the cutsets in support of this application. Consistent with the PRA model update process, the adjustments described above will be incorporated into the approved PRA model currently in daily use. Since the currently approved model does not yet include these recovery actions and operating experience-based adjustments, risk estimates obtained using the current model are inherently conservative. Use of the currently approved model overestimates delta risk until such time as the model revisions and documentation updates are made using the established development, review and approval process.

The use of simulator and operator experience to add or modify recovery actions does not constitute a change in success criteria nor does it change PRA model development methodology. Therefore, the use of this experience does not require a focused peer review. Likewise, identification and removal of invalid cutsets based on simulator operating experience does not change PRA model success criteria and does not need a peer review.

FPL Energy Point Beach Supplemental Response

In the analysis below FPL Energy Point Beach clarifies that the approach used, applying the recovery actions only to the cutsets appearing in the top 200 list due to taking a MDAFW pump out of service, was a reasonable and conservative, approximation. The adjustments were not applied to those cutsets within the top 200 that also appeared in the baseline quantification. These adjustments would have applied to less than 20% of the top 200 cutsets in the baseline quantification. Therefore, the application of the adjustments only to the cases when one MDAFW pump was out of service is reasonable.

The delta risk calculated in the manner described above provides a more realistic look at the effect on the top 200 cutsets of taking a MDAFW pump out of service including adjustments for proceduralized actions, plant operating history, and observed plant transient behavior. This is a conservative approximation because further reductions in the CDFs and LERFs would have been obtained if these adjustments had been applied to all (not just some) of the "MDAFW pump out of service" cutsets. The effect of these reductions would have been greater than any similar reductions had these adjustments also been applied to the baseline cutsets. This net reduction in the delta CDFs and delta LERFs is shown by performing Sensitivity #2, as discussed below.

The first adjustment described in the RAI response dated May 29, 2008, involves feeding a faulted steam generator. This is based on application of procedural direction found in FPL Energy Point Beach emergency operating procedure (EOP)-0 "Reactor Trip or Safety Injection" and critical safety procedure (CSP)-H.1 "Response to Loss of Secondary Heat Sink." This recovery had not been previously included in the PRA model since it does not have a significant role in the calculation of CDF for baseline cases. By taking a MDAFW pump out of service, new cutsets appear that make a significant contribution to CDF. A number of these additional cutsets do not accurately reflect that an operating crew would feed a faulted steam generator if it were the only one available. These cutsets do not fully use the strategies for maintaining a secondary heat sink in the FPL Energy Point Beach EOP network or in the generic Westinghouse Owners Group (WOG) Emergency Response Guidelines upon which they are based. A peer review is not required by RG 1.200 to take credit for existing proceduralized

mitigating strategies. Feeding a faulted steam generator when it is the only one available is not a change of success criteria for the FPL Energy Point Beach PRA model. This particular mitigating strategy has been a part of the EOP network since its inception and is inherently preferred to initiation of bleed and feed, which may be required if adequate AFW flow is not provided to maintain a secondary heat sink in the absence of adequate steam generator levels.

A sensitivity case was performed without applying any of the adjustments described in the May 29, 2008, PRA RAI-2 response in order to provide the values for the conservative baseline and pump out of service risk calculations. These are presented in the following tables as Sensitivity #1. The intent of this sensitivity case is to demonstrate that the risk increase using the unadjusted PRA model, that received a peer review in 2001, is still in the range of a small risk increase. As discussed in the response to PRA RAI-2 from May 29, 2008, FPL Energy Point Beach does not consider the adjustments made to the PRA model to be changes in success criteria. However, Sensitivity #1 provides an estimate of the risk without these adjustments for comparison purposes.

Since the RAI responses were submitted, the FPL Energy Point Beach PRA model was converted to CAFTA software for the purposes of performing a sensitivity run. This has facilitated the calculation of the ICCDPs and ICLERPs, applying the adjustments to all of the cutsets in both the "MDAFW pump out of service" cases and the baseline cases. The results of these sensitivity calculations are shown in the tables below as Sensitivity #2. The intent of this sensitivity case is to demonstrate that the risk increase calculated as described in Reference (4) is conservatively high with respect to applying the adjustments to all cutsets (baseline and pump out of service).

For convenience of comparison, the values presented in the LAR Submittal, Reference (1), are also shown on the following tables.

Table 1

Unit 1 ICCDP Calculations for 9-Day CT Extension

	Sensitivity #1	Sensitivity #2	License Amendment Request Submittal
Adjustments applied	None	Adjustments to all cutsets (baseline and pump OOS)	Adjustments only to top cutsets when pump OOS
Baseline CDF	1.986E-05	1.708E-05	1.971E-05
CDF, P-038A OOS (/yr)	3.741E-05	2.213E-05	2.512E-05
CDF, P-038B OOS (/yr)	4.659E-05	2.369E-05	2.905E-05
Δ CDF, P-038A OOS (/yr)	1.755E-05	5.051E-06	5.41E-06
Δ CDF, P-038B OOS (/yr)	2.673E-05	6.604E-06	9.34E-06
Proposed CT (days)	16	16	16
ICCDP, P-038A OOS	4.328E-07	1.245E-07	1.33E-07
ICCDP, P-038B OOS	6.592E-07	1.628E-07	2.30E-07

Table 2

Unit 2 ICCDP Calculations for 9-Day CT Extension

Adjustments applied	Sensitivity #1	Sensitivity #2	License Amendment Request Submittal
	None	Adjustments to all cutsets (baseline and pump OOS)	Adjustments only to top cutsets when pump OOS
Baseline CDF	1.919E-05	1.680E-05	1.912E-05
CDF, P-038A OOS (/yr)	4.056E-05	2.230E-05	2.616E-05
CDF, P-038B OOS (/yr)	3.678E-05	2.190E-05	2.454E-05
ΔCDF, P-038A OOS (/yr)	2.137E-05	5.497E-06	7.04E-06
ΔCDF, P-038B OOS (/yr)	1.759E-05	5.097E-06	5.42E-06
Proposed CT (days)	16	16	16
ICCDP, P-038A OOS	5.269E-07	1.355E-07	1.74E-07
ICCDP, P-038B OOS	4.336E-07	1.257E-07	1.34E-07

Table 3

Unit 1 ICLERP Calculations for 9-Day CT Extension

Adjustments applied	Sensitivity #1	Sensitivity #2	License Amendment Request Submittal
	None	Adjustments to all cutsets (baseline and pump OOS)	Adjustments only to top cutsets when pump OOS
Baseline CDF	1.986E-06	1.708E-06	1.971E-06
CDF, P-038A OOS (/yr)	3.741E-06	2.213E-06	2.512E-06
CDF, P-038B OOS (/yr)	4.659E-06	2.369E-06	2.905E-06
ΔCDF, P-038A OOS (/yr)	1.755E-06	5.051E-07	5.41E-07
ΔCDF, P-038B OOS (/yr)	2.673E-06	6.604E-07	9.34E-07
Proposed CT (days)	16	16	16
ICCDP, P-038A OOS	4.328E-08	1.245E-08	1.33E-08
ICCDP, P-038B OOS	6.592E-08	1.628E-08	2.30E-08

Table 4

Unit 2 ICLERP Calculations for 9-Day CT Extension

Adjustments applied	Sensitivity #1	Sensitivity #2	License Amendment Request Submittal
	None	Adjustments to all cutsets (baseline and pump OOS)	Adjustments only to top cutsets when pump OOS
Baseline CDF	1.919E-06	1.680E-06	1.912E-06
CDF, P-038A OOS (/yr)	4.056E-06	2.230E-06	2.616E-06
CDF, P-038B OOS (/yr)	3.678E-06	2.190E-06	2.454E-06
Δ CDF, P-038A OOS (/yr)	2.137E-06	5.497E-07	7.04E-07
Δ CDF, P-038B OOS (/yr)	1.759E-06	5.097E-07	5.42E-07
Proposed CT (days)	16	16	16
ICCDP, P-038A OOS	5.269E-08	1.355E-08	1.74E-08
ICCDP, P-038B OOS	4.336E-08	1.257E-08	1.34E-08

The ICCDPs and ICLERPs calculated by applying the adjustments to all cutsets (baseline and one MDAFW pump OOS) (Sensitivity #2) are smaller than the ICCDPs and ICLERPs documented in the license amendment request submittal that were calculated by applying the adjustments only to the top cutsets when one MDAFW pump is OOS. They are also substantially less than 5E-7 for ICCDP and 5E-8 for ICLERP, corresponding to a small increase in risk as defined in Regulatory Guide 1.177. The risk increase calculated in Reference (1) is conservatively high with respect to applying the adjustments to all cutsets (baseline and pump out of service cases). Therefore, the manner in which the cutsets were adjusted in Reference (1) is justified.

The ICCDPs and the ICLERPs calculated with no adjustments (Sensitivity #1) are in the range of 5E-7 for ICCDP and 5E-8 for ICLERP, corresponding to a small increase in risk as defined in Regulatory Guide 1.177. The risk increase using the unadjusted PRA model, that received a peer review in 2001, is still in the range of a small risk increase. Therefore, although FPL Energy Point Beach does not consider the adjustments made to the PRA model to be changes in success criteria, the risk increase from the 9-day CT extension, without crediting any of these adjustments, is not excessive.

Based on the discussion provided above, FPL Energy Point Beach has calculated the increase in plant risk due to having a MDAFW pump out of service for an additional 9 days. The ICCDPs and ICLERPs values for the 9-day CT extension provided in Reference (1) are substantially less than 5E-7 for ICCDP and 5E-8 for ICLERP, corresponding to a small increase in risk as defined in Regulatory Guide 1.177.

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.

FPL Energy Point Beach Response dated May 29, 2008

PBNP is currently in the process of transitioning to NFPA 805. As part of this transition, a fire PRA is being developed to quantitatively determine the risk to the plant from fires. At this time, PBNP does not have an updated fire PRA; however, the safe shutdown analysis identifies strategies to achieve safe shutdown for the plant's fire areas and the equipment losses postulated to occur resulting from the fire. This analysis is based upon having a limited set of equipment available, or made available, to achieve safe shutdown. Cooling the core through a feed and bleed strategy is not credited in the safe shutdown analysis to achieve safe shutdown. As such, cable routings for safety injection (SI) pumps and cables/systems needed to operate the power-operated relief valves (PORVs) are not part of the analysis, but may be available in certain fire scenarios. The work being done for the fire PRA would require this type of analysis and must be completed prior to taking credit for feed and bleed to prevent core damage.

The fire compensatory measures previously identified in Reference (1), Reference (3) and in response to AFPB RAI-1 will reduce the risk significant sources of fire risk during the MDAFW pump replacements. These fire compensatory measures will ensure there are adequate risk mitigation actions in place during the time of the MDAFW pump replacements.

FPL Energy Point Beach Supplemental Response

FPL Energy Point Beach has taken a qualitative approach to addressing the impact on fire risk from the extended completion time requested for the MDAFW pumps. FPL Energy Point Beach has also performed a review of the plant systems to identify equipment that provides a function redundant to the out of service MDAFW pump. The results of this review identified the following equipment that could provide the redundant function: the redundant MDAFW pump, TDAFW pumps, main feedwater pumps, condensate pumps, instrument and service air compressors (for feed and bleed), safety injection pumps (for feed and bleed), residual heat removal pumps (for long-term core cooling following feed and bleed), and containment sump suction valves (for long-term core cooling following feed and bleed). This list of equipment was then evaluated to

determine compensatory actions to be established to mitigate risk changes associated with the proposed CT extension.

Risk insights have also been obtained from examination of the Appendix R safe shutdown analysis. This analysis relies on auxiliary feedwater as an important system in mitigating fire initiators. This is due to the safe shutdown path chosen and equipment credited in the safe shutdown analysis. For the safe shutdown analysis, alternate equipment that could be used instead of the auxiliary feedwater system is not credited for a fire in most fire areas. For example, the main feedwater and instrument air systems are both assumed to be unavailable during a fire in the safe shutdown analysis without an assessment to determine if they would be available or not. The limited set of credited safe shutdown equipment also inhibits the capability to perform a realistic quantification of the fire risk associated with this application.

In order to compensate for these limitations, a limited scoping study was performed to further identify fire areas associated with alternate equipment that could be used in lieu of AFW that may be of greater importance while a MDAFW pump is out of service. This scoping study used preliminary cable routings from the ongoing NFPA-805 transition work beyond what is available in current recorded analyses.

A review of preliminary results from the ongoing fire PRA provided a list of fire areas that have larger CCDPs when one MDAFW pump is taken out of service. These fire areas correspond to those areas in which additional compensatory measures are being proposed during the MDAFW pump CT extension. The uncertainty of the fire risk quantification is large due to assumptions and lack of state-of-the-art modeling for fire risk including ignition frequency, fire behavior, and plant response. The compensatory actions proposed are aimed at reducing the fire risk effectively, for example, reducing or eliminating ignition of fire by transient combustible control and fire rounds/fire watches, maintaining mitigation system redundancy and diversity by rescheduling maintenance activities of key detection and suppression systems, and improving operator/manual action reliability by instituting temporary procedure changes. While the effect of these actions is not directly quantifiable, the significant sources of fire risk have been identified and properly characterized and the compensatory measures are effective in reducing this risk.

The result of this approach identified various compensatory measures; which were developed and approved for implementation during the MDAFW pump replacements. These compensatory actions serve to effectively compensate for and adequately manage the fire risk imposed by the extended CTs for the MDAFW pump replacements.

The following restates previously committed compensatory actions in References (1), (3) and (4) that are relevant to ensure that plant equipment needed to remove decay heat will be available if needed during the MDAFW pump replacements. This set of equipment includes the redundant MDAFW pump, TDAFW pumps, main feedwater pumps, condensate pumps, instrument and service air compressors, safety injection pumps, residual heat removal pumps, and containment sump suction valves.

- Planned work and testing will be scheduled and performed such that the plant risk level remains “green” while in the extended completion time for the motor-driven auxiliary feedwater pump (MDAFWP) replacement. Emergent work will be addressed in accordance with the plant risk management processes.
- The five fire areas for which feasible and reasonable compensatory manual actions can be implemented are A01-B/46, A02, A15, A25 and A26. A temporary change to FOP 1.2 will be made to provide augmented manual compensatory actions for these five areas prior to entry into TSAC 3.7.5.C.
- OM 3.1, Operations Shift Staffing Requirements, will be temporarily revised prior to entry into TSAC 3.7.5.C to ensure personnel availability of two Operations personnel to implement augmented manual actions for the duration of the TSAC.
- Operations personnel designated as performing augmented compensatory actions in five fire areas will receive a pre-job brief on required augmented compensatory manual actions.

The next three commitments apply to the following seven fire areas:

Fire Area	Location
A01-B/46	Auxiliary Building 46’ CC Heat Exch. Room
A02	Safety Injection /Containment Spray Pump Room
A15	2B32 Motor Control Center Area
A23N	Auxiliary Feed Pump Room - North
A23S	Auxiliary Feed Pump Room - South
A25	D06 Battery Room
A26	D05 Battery Room

- There will be no planned hot work in fire areas other than the area in which the MDAFW pump is being replaced for the duration of the proposed TSAC 3.7.5.C.
- There will be no transient combustibles permitted in areas other than the area in which the MDAFW pump is being replaced for the duration of the proposed TSAC 3.7.5.C.
- A roving fire watch will be conducted to tour the seven potential fire areas of concern to monitor and ensure that combustible loading, work activities and other activities that could increase the likelihood of a fire are minimized.

The next two commitments are applicable for the following durations and fire areas:

During the completion time for P-38A out of service for replacement, fire areas A01-B/46, A02, A15, A25, A26, and A23N.

During the completion time for P-38B out of service for replacement, fire areas A01-B/46, A02, A15, A25, A26, and A23S.

- FPL Energy Point Beach will perform thermography in the areas indicated above prior to entering the first LCO to provide added assurance that a fire initiator is not imminent, and will periodically re-perform the thermography as previously committed in Reference (1).
- The installed detection and suppression systems in the areas indicated above will not be taken out of service for planned testing or maintenance during the extended completion time.

The following are new compensatory actions to better ensure that redundant plant equipment needed to remove decay heat (specifically feed and bleed equipment) will be available if needed during the MDAFW pump replacements.

- For the duration of the proposed TSAC 3.7.5.C, current compensatory measures of fire rounds twice per operating shift will continue to be performed. In addition the following fire areas will be included, A32 and A38.

The next two commitments apply to the following 11 fire areas:

Fire Area	Redundant Plant Equipment in Fire Area
A01-A	RHR pumps (all) CCW pumps (all)
A01-B	IA compressor K-002B power supply
A02	Safety injection pumps (all)
A06	IA compressor K-2A power supply
A24	Safety injection pump power supplies (A-train)
A27	Emergency diesel generator G-01
A28	Emergency diesel generator G-02
A29	Instrument air compressors (all) Service air compressors (all)
A30	SA compressor K-3A power supply SA compressor K-3B power supply RHR pump power supplies (all) SW pump power supplies (all) CCW pump power supplies (all)
A38	Service water pumps (all)
A71	Emergency diesel generator G-03 Emergency diesel generator G-04 Safety injection pump power supplies (B-train)

- There will be no planned hot work in the above fire areas for the duration of the proposed TSAC 3.7.5.C. Actions, as appropriate, may be taken to resolve emergent or unplanned plant conditions.
- There will be no planned transient combustibles permitted in the above fire areas for the duration of the proposed TSAC 3.7.5.C. Actions, as appropriate, may be taken to resolve emergent or unplanned plant conditions.

The above administrative controls have been identified for areas of the plant containing equipment necessary for feed and bleed operations. These controls will eliminate

planned transient combustibles and planned hot work and will reduce the likelihood of a fire event. Because of the overall low level of planned work in the plant during the pump replacements, comprehensive fire rounds (in specific areas and plant-wide), limited planned hot work, and limited planned transient combustibles, the risk of fire initiation and spread affecting decay heat removal capabilities is effectively reduced.

FPL Energy Point Beach is currently in the process of transitioning to NFPA 805. As part of this transition, a fire PRA is being developed to quantitatively determine the risk to the plant from fires. At this time, FPL Energy Point Beach does not have an updated fire PRA. In Regulatory Issue Summary (RIS) 2007-06, the NRC staff recognized the need for an additional implementation period, for routine, limited scope applications (e.g., single allowed outage time extensions) such as this license amendment request. The RIS states that the staff will review routine, limited-scope applications using its current practices for applications submitted prior to 2008. Accordingly, FPL Energy Point Beach requests NRC staff review based on the qualitative assessment provided via this application.

The small increase in fire-related risk to the plant associated with allowing one MDAFW pump to be out of service one time (per pump) for up to 16 days in lieu of the TS-allowed 7 days is considered acceptable when coupled with the comprehensive fire-based compensatory actions proposed above by FPL Energy Point Beach to better ensure availability of the other MDAFW pump, TDAFW pumps, and other redundant function equipment.

ENCLOSURE 2

FPL ENERGY POINT BEACH, LLC POINT BEACH NUCLEAR PLANT UNITS 1 AND 2

LICENSE AMENDMENT REQUEST 260 ONE-TIME EXTENSION OF COMPLETION TIME FOR TECHNICAL SPECIFICATION 3.7.5, AUXILIARY FEEDWATER SYSTEM

LIST OF REGULATORY COMMITMENTS

The following table identifies the regulatory commitments associated with this license amendment request.

<u>Number</u>	<u>Commitment</u>
1	Planned work and testing will be scheduled and performed such that the plant risk level remains "green" while in the extended completion time for the motor-driven auxiliary feedwater pump (MDAFP) replacement. Emergent work will be addressed in accordance with the plant risk management processes.
2	Redundant operable AFW trains and supporting systems will be protected from inadvertent challenges in accordance with PBNP procedure NP 2.1.8, "Protected Equipment."
3	Periodic tours of the protected area(s) will be performed and logged by cognizant Operations watch standers to verify the continuing OPERABILITY of the protected equipment.
4	Pre-job and pre-shift briefings of implementing work group personnel emphasizing the risk aspects of the planned evolution.
5	Pre-shift awareness briefings of the replacement activities with the on-coming operating shift emphasizing current status of the work in progress.
6	A challenge board comprised of FPL personnel experienced in work planning, scheduling, and execution will review and critique the planned work for each MDAFW pump replacement.
7	There will be twenty-four hour (24-hour) staffing of the Outage Control Center (OCC) until the MDAFW pump being replaced has been successfully tested and accepted by Operations. As a minimum, the OCC staff will consist of an Outage Shift Manager, Outage Maintenance Manager, Outage Operations Manager, and an Outage Engineering Manager. These personnel shall have the authority to direct station resources as needed to expedite completion of the work and resolve related emergent issues.

Number**Commitment**

- 8 The work will be scheduled and staffed to proceed around the clock without interruption until the affected MDAFW pump being replaced has been successfully tested and accepted by Operations.
- 9 Parts and materials in support of the replacement will be verified to be correct and will be verified to be on-hand prior to removing a MDAFW pump from service.
- 10 Parts and materials will be staged before needed by the work in progress.
- 11 Parts will be pre-fabricated to the maximum extent practical.
- 12 Parts and equipment will be retained and prepared for reinstallation to the extent practical as a recovery contingency.
13. Implementing work group personnel will conduct turnover on-station to minimize down-time between shifts.
- 14 Tagout activities will be pre-planned and the tagout series will be prepared in advance of removing the MDAFW pump from service.
- 15 The lessons learned from replacement of the first MDAFW pump will be reviewed and incorporated, as applicable, into the work planning for replacement of the second MDAFW pump before the work is started.
- 16 OPERABILITY of both unit-specific TDAFW pump systems and the other MDAFW pump system shall be verified within 24 hours prior to making one MDAFW pump INOPERABLE for pump and motor replacement by satisfying TS SR 3.7.5.1. After the initial SR is met, TS SR 3.7.5.1 frequency shall be increased to daily until the newly replaced MDAFW pump is declared OPERABLE:
- TS SR 3.7.5.1 Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed or otherwise secured in position, is in the correct position.
- 17 OPERABILITY of both unit specific TDAFW pump systems and the other MDAFW pump system shall be demonstrated within 72 hours prior to making one MDAFW pump INOPERABLE for pump and motor replacement by satisfying TS SR 3.7.5.2:
- TS SR 3.7.5.2 Verify the developed head of each required AFW pump at the flow test point is greater than or equal to the required developed head.

Number**Commitment**

- 18 OPERABILITY of the applicable train specific emergency diesel generators (associated with the OPERABLE MDAFW pump) shall be demonstrated within seven days prior to making one MDAFW pump INOPERABLE for pump and motor replacement by satisfying TS SR 3.8.1.1, 3.8.1.2 and 3.8.1.3:
- TS SR 3.8.1.1 Verify correct breaker alignment and indicated power availability for each required offsite circuit.
 - TS SR 3.8.1.2 Verify each standby emergency power source starts from standby conditions and achieves rated voltage and frequency.
 - TS SR 3.8.1.3 Verify each standby emergency power source is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2500 kW and ≤ 2850 kW.
- 19 A roving fire watch will be conducted to tour the seven potential fire areas of concern to monitor and ensure that combustible loading, work activities and other activities that could increase the likelihood of a fire are minimized. The seven potential fire areas of concern are: A01-B/46, A02, A15, A23N, A23S, A25, and A26, excluding the area the pump is being replaced.
- 20 Initial baseline thermography of potential fire initiators in the seven fire areas of concern will be performed within seven (7) days prior to starting the modification. The thermography will be repeated weekly thereafter until restoration of the MDAFW pump to service to detect degrading operating equipment. The seven potential fire areas of concern are: A01-B/46, A02, A15, A23N, A23S, A25, and A26.
- 21 Upcoming preventive maintenance activities will be reviewed for the redundant AFW trains and supporting equipment. These preventive maintenance activities will be completed in advance of the planned work to the extent practical.
- 22 Outstanding corrective work orders on AFW and supporting systems will be reviewed and those that may challenge the reliability and capability of the redundant pumps to complete their design functions will be completed prior to removing a MDAFW pump from service for upgrade replacement (the corrective work orders to upgrade the pumps by replacing them are not subject to this review as it would create an impasse).

Number**Commitment**

- 23 Open corrective action program (CAP) items for the AFW and supporting systems will be reviewed to determine which (if any) could challenge the reliability of the redundant AFW pumps during the extended TSAC period. These will be addressed and corrected commensurate with their safety significance prior to removing a MDAFW pump from service for replacement (the CAP items to replace the MDAFW pumps are not subject this review as it would create an impasse).
- 24 Planned work in the switchyard and on the internal AC distribution system (including protective relaying) that could cause a loss of offsite power to the main feed pumps will not be scheduled for performance during the TSACs. Emergent work to assure continued reliability of offsite power will be coordinated and managed using the on-line risk management process.
- 25 During the extended completion time period, field supervision will be present when modification work is being performed in the auxiliary feedwater pump room.
- 26 Human performance error reduction tools will be part of every shift brief for personnel installing the modifications prior to beginning and/or continuing work.
- 27 There will be no planned hot work in 17 fire areas (A01-A, A01-B, A01-B/46, A02, A06, A15, A23N, A23S, A24, A25, A26, A27, A28, A29, A30, A38, and A71) during the MDAFW pump replacement for the duration of the proposed TSAC 3.7.5.C, except in the fire area in which the MDAFW pump is being replaced.
- There will be no planned transient combustibles permitted in 17 fire areas (A01-A, A01-B, A01-B/46, A02, A06, A15, A23N, A23S, A24, A25, A26, A27, A28, A29, A30, A38, and A71) during the MDAFW pump replacement for the duration of the proposed TSAC 3.7.5.C, except in the fire area in which the MDAFW pump is being replaced.
- 28 FPL Energy Point Beach will perform thermography in the areas indicated below prior to entering the first LCO to provide added assurance that a fire initiator is not imminent, and will periodically re-perform the thermography as previously committed Reference (1).
- During the completion time for P-38A out of service for replacement, fire areas A01-B/46, A02, A15, A25, A26, and A23N.
 - During the completion time for P-38B out of service for replacement, fire areas A01-B/46, A02, A15, A25, A26, and A23S.

Number

Commitment

- 29 The installed detection and suppression systems in the areas indicated below will not be taken out of service for planned testing or maintenance during the extended completion time.
- During the completion time for P-38A out of service for replacement, fire areas A01-B/46, A02, A15, A25, A26, and A23N.
 - During the completion time for P-38B out of service for replacement, fire areas A01-B/46, A02, A15, A25, A26, and A23S.
- 30 The five fire areas for which feasible and reasonable compensatory manual actions can be implemented are A01-B/46, A02, A15, A25, and A26. A temporary change to FOP 1.2 will be made to provide augmented manual compensatory actions for these five areas prior to entry into TSAC 3.7.5.C.
- 31 OM 3.1, Operations Shift Staffing Requirements, will be temporarily revised prior to entry into TSAC 3.7.5.C to ensure personnel availability of two Operations personnel to implement augmented manual actions for the duration of the TSAC.
- 32 Operations personnel designated as performing augmented compensatory actions in five fire areas will receive a pre-job brief on required augmented compensatory manual actions.
- 33 For the duration of the proposed TSAC 3.7.5.C, current compensatory measures of fire rounds twice per operating shift will continue to be performed. In addition the following fire areas will be included, A32 and A38.