



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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October 6, 2008

NOTE TO: File

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

SUBJECT: TELCONFERENCE SUMMARY REGARDING POINT BEACH NUCLEAR
PLANT SUPPLEMENT TO THE AUXILIARY FEEDWATER AMENDMENT

On August 7, 2008, the Deputy Division Director for the Division of Operator Reactor Licensing (DORL) and the technical staff held a conference call with FPL Energy Point Beach (the licensee) to discuss its plans to supplement the auxiliary feedwater (AFW) amendment. Enclosure 1 is a list of the participants, Enclosure 2 is the handouts from the licensee, and Enclosure 3 is the draft information needs from the staff. The licensee discussed the areas of fire risk reduction, probabilistic risk assessment (PRA) changes, the recent Title 10 of the *Code of Federal Regulations* (10 CFR) 50.72 notification, and the proposed compensatory measures.

The purpose of the call was to exchange information between the staff and licensee regarding the supplemental submittal in preparation for a public meeting on August 12, 2008. The supplement is scheduled for the end of August or the first of September. The licensee in the call, stated that they would like the Nuclear Regulatory Commissions review completed by the end of the year.

Fire Risk Reduction

The licensee provided a list of fire areas and the proposed compensatory measures (See Enclosure 2). For the fire areas that affect feed and bleed, the licensee did not propose additional compensatory measures beyond what is being currently performed other than no planned hot work in the fire area, or transient combustible material during the AFW allowed outage time (AOT). In the fire areas that affect AFW, the licensee proposed additional compensatory measure such as a roving fire watch and thermography prior to start of the AOT and every 72 hours thereafter.

The staff asked if existing fire impairments in the affected fire area could be fixed prior to entering the AOT, and if the fire impairments factor into their defense in depth and risk analysis. The licensee stated that they would address it at the public meeting. The staff stated that the table of fire areas needs to be clarified to state that hot work will be performed in the opposite side of the AFW room. The staff discussed its list of supplemental information needs.

PRA

In the area of risk assessment, the staff asked the licensee if they had evaluated making the temporary diesel AFW pump permanently available, thereby reducing risk over the remaining life of the plant. Doing so would provide a permanent risk reduction to compensate for the increased AOT for having a motor-driven AFW pump out of service, given that the potential fire risk reduction could also provide a basis for the staff to consider the qualitative assessment provided by the licensee, rather than a more rigorous quantitative assessment of fire risk. The staff also re-iterated its previous request for additional information regarding the requirement that recovery actions added to the cutset results needed to have a firm analytical basis and peer review when the success criteria of the baseline PRA model is changed, and that simulator runs and existence of emergency operating procedures (EOPs) did not constitute a sufficient basis for new recovery actions.

Balance of Plant

The staff discussed the additional information needs. In particular, the licensee needs to clarify the 270 gpm they stated they needed for a steam generator tube rupture with the existing 200 gpm provided by the existing motor-driven AFW pumps and the 240 gpm provided by the upgraded pumps. The discussion should include what is assumed for the bounding radiological analysis and what is actually done in the EOPs to minimize the radiological release. The clarification should include whether or not the AFW system is designed to take a single active failure such as a failure of the turbine driven AFW pump.

Conclusion

The staff and the licensee agreed to discuss the issues further during the public meeting.

Enclosures: 1. List of Attendees (ML082250330)
 2. Licensee Handouts (ML082320491)
 3. Staff Draft Information Needs (ML082320567)

Docket Nos. 50-266 and 50-301

ATTENDEES

NRC

Tim McGinty, DORL Deputy Div. Dir.
Lois James, LPL3-1 Branch Chief
Mark Rubin, PRA Branch Chief
Donnie Harrison, Balance of Plant Branch Chief
Harold Barrett, Fire Protection Reviewer
Andrew Howe, PRA Reviewer
Stanley Gardocki, Balance of Plant Reviewer
Rob Krsek Sr. Resident Inspector
Jack Cushing, Project Manager
Laura Kozak, RIII
Danny Walsh
Kamishan Martin, DIRS

FPL

Liz Abbott, Dir. Project Engineering
Dan Tomaszewski, N. Div. Eng. Dir.
Ching Guey, PRA Manager
Ron Kuhn, AFW Project Manager
Sid Brain, Site Proj. Eng. Manager
Fritzie Flentje, PB Lic. Manager
Vinny Rubano, App R Engineer
Tom Kendall, Eng. Supervisor
Jeff Novak, PB Design Engineer
Swadesh Ramdeen, FPL Eng. Mgr.

**ENCLOSURE 2
AUGUST 7, 2008
TELECONFERENCE
LICENSEE HANDOUTS**

Point Beach AFW CT Extension
NRC Conference Call
August 7, 2008

Proposed Agenda

Opening—Liz Abbott

Fire Risk Reduction—Sid Brain

- Opening
- High Risk Areas and relation to AFW
- Prevention and Detection
- Mitigation
 - Operator Actions
 - Suppression Summary
 - Standby Steam Generator Feed Pump
- SAMG Mitigation Strategies (also B.5.b)
- Summary on mitigation actions commensurate with fire risk in area

Internal Events PRA Process Changes—Ching Guey

- Independent Assessment
- Model Changes
- Approach
- Results

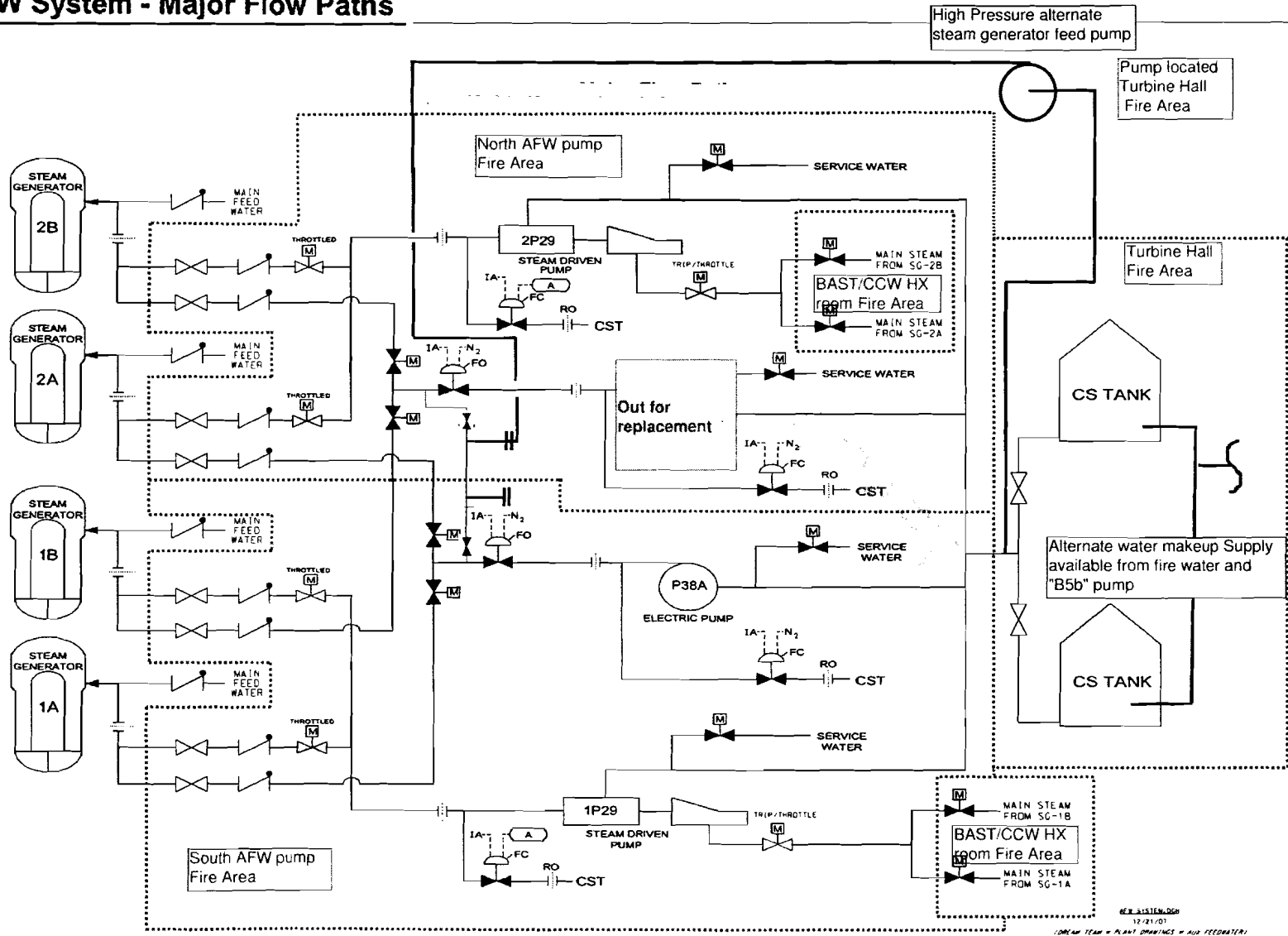
50.72 Notification—Appendix R Secondary Fire Vulnerability—Vinny Rubano

- Description of Issue
- Extent of Condition Review
- Compensatory Measures/Corrective Actions
- Applicability to AFW Mods
- Applicability to LAR

Question and Answers—All

Closing—Liz Abbott

AFW System - Major Flow Paths



12/21/00 9:48:42 AM

REV: SYSTEM/SEP 12/21/01
 (DRAWING TEAM = PLANT DRAWINGS = AFW FEEDWATER)

Point Beach AFW CT Extension

Compensatory Measure Risk Mitigation Effects

Compensatory Measures	Fire Ignition Frequency	Failure Probability of Fire Detection and Suppression	CCDP	ICCDP
Augmented Compensatory Manual Actions for AFW Recovery (including 2 additional operators)			↓	
Temporary Standby FW Pump			↓	
No planned hot work in 17 fire areas	↓			
No planned transient combustibles permitted in 17 fire areas	↓			
Thermography every 72 hours	↓			
Roving Fire Watch		↓		
Fire rounds twice per shift		↓		
Suppression and Detection systems not removed from service		↓		
CCW Heat Exchanger Room Suppression Equipment Staged		↓		
Plant Risk Level "Green"			↓	
Redundant Trains Protected and Toured			↓	
AFW and EDG Operability Surveillances			↓	
AFW Readiness Reliability Review			↓	
Augmented Work Planning/Pre-staging				↓
Augmented Work Execution Practices				↓

Point Beach AFW CT Extension

FT

Location	Suppression and Detection Capabilities							Compensatory Actions						
	Suppression	Suppression Actuation	Suppression Coverage	Detection	Detection Coverage	Extinguishers (Inside Rooms)	Hose Reels (Outside Rooms)	No planned hot work in area for the duration of the proposed TSAC 3.7.5.C.	No planned transient combustibles permitted in area for the duration of the proposed TSAC 3.7.5.C.	Roving Fire Watch	Fire rounds twice per shift	Initial Thermography within 3 days and repeated every 72 hours	Augmented Compensatory Manual Actions for AFW Recovery--Unit 1 TDAFW Pump)	Suppression and Detection not removed from service for planned activities
3lead	NA	NA	NA	Photoelectric	Full	ABC (2)	x	x	x		x			
3lead	Wet Pipe	Automatic	Partial	Photoelectric	Full	ABC (2)	x	x	x		x			
3lead	NA	NA	NA	Photoelectric	Full	ABC (2) BC (1)	x	x	x		x			
3lead	Wet Pipe (Spray Curtain)	Automatic	Partial (doorways)	Photoelectric	Full	ABC (1)	x	x	x		x			
3lead	Halon	Automatic and Manual	Full	Photoelectric	Full	ABC (2) A (3) BC (1)	x	x	x		x			
3lead	Wet Pipe	Automatic	Full	Photoelectric	Full	BC (1)	x	x	x		x			
3lead	Wet Pipe	Automatic	Full	Photoelectric	Full	BC (1)	x	x	x		x			
3lead	NA	NA	NA	Photoelectric	Full	BC (1)	x	x	x		x			
3lead	Halon	Automatic and Manual	Full	Photoelectric and Heat	Full	ABC A (2) BC (1)	x	x	x		x			
3lead	Halon	Automatic	Full	Photoelectric	Full	BC (2) A (1)	x	x	x		x			
3lead	Wet Pipe	Automatic	Full	Photoelectric	Full	ABC (2)	x	x	x		x			
3lead								x	x		x			
3lead	Wet Pipe	Automatic	Full	Heat	Full	ABC (2)	x	x	x		x			
3lead	Wet Pipe	Automatic	Full	Photoelectric	Full	ABC (2)	x	x	x		x			
3lead	NA	NA	NA	Photoelectric	Full	BC (1)	x	x	x		x			

**ENCLOSURE 3
AUGUST 7, 2008
TELECONFERENCE
STAFF DRAFT INFORMATION NEEDS**

MEMORANDUM TO: Lois M. James, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Donald Harrison, Chief
Balance of Plant Branch
Division of Safety Systems
Office of Nuclear Reactor Regulation

SUBJECT: ADDITIONAL REQUEST FOR INFORMATION FOR POINT BEACH
NUCLEAR PLANT IN REGARDS TO ONE-TIME EXTENSION OF
ALLOWED OUTAGE TIME FOR AUXILARY FEEDWATER (TAC NO.
MD7672)

By letter dated December 29, 2007, Florida Power and Light (FPL), the licensee, requested two separate one-time extension of the Technical Specification (TS) TS 3.7.5, Auxiliary Feedwater System (AFW) for Point Beach Nuclear Plant, for both Units 1 and 2, to 16 days from 7 days allowed outage time (AOT) to replace the motor-driven AFW pumps.

On April 18, 2008, the Balance of Plant Branch (SBPB) sent a request for additional information (RAI) in order to complete its review. In a letter dated May 15, 2008, the licensee provided a response to the staff's RAI.

SBPB has performed a review of Point Beach License Amendment Request and the response to the staff's RAI. Based upon the review, the staff requires additional information in order to complete evaluation of this LAR. Efforts on TAC MD7672 continue.

Docket No.: 50-413

Enclosure:
As stated

CONTACT: Stanley Gardocki, NRR/DSS/SBPB
(301) 415-102

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Docket No.: 50-413

Enclosure:
As stated

CONTACT: Stanley Gardocki, NRR/DSS/SBPB
(301) 415-1023

DISTRIBUTION: DSS R/F

ADAMS: ML082110433

OFFICE	NRC/DSS/SBPB	NRC/NRR/SBPB
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DATE	/ /08	/ /08

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SBPB ARAI-1

The staff identified a concern that the existing flow rate from one motor-driven auxiliary feedwater pump (MDAFWP) does not meet the current licensing basis requirement of 270 gpm flow necessary during a steam generator tube rupture (SGTR) to provide a rapid cooldown of the reactor coolant system (RCS) in order to meet radiological release design basis analysis. The existing MDAFWP can only deliver 200 gpm, and the proposed new pump can only deliver 240 gpm. The SGTR event analysis does not consider any failure in the auxiliary feedwater (AFW) system, and assumes isolation of the affected steam generator (SG) can be achieved within thirty minutes by operator actions, to include securing AFW flow to ruptured SG. If the turbine-driven auxiliary feedwater pump (TDAFWP) fails, and if the licensee isolates flow to the affected SG, the unit would be left with only one MDAFWP with a 200 gpm (240 gpm with the new pump) capacity supplying the unaffected SG to mitigate the accident. The emergency operating procedures (EOPs) contains a caution, "Do not commence cooldown until the rupture S/G is identified and isolated."

- a) Explain the basis for the 270 gpm criteria and how it is obtained. Include whether there is sufficient flow to assure the SG pressure is below the safety relief lift setpoint within 30 minutes assumed in the radiological analysis.
- b) Explain how EOP's assures the credit actions in the accident analysis are performed, and remain bounded within the accident analysis.

SBPB ARAI-2

Under RG 1.177, the staff uses the defense-in-depth philosophy to ensure there are multiple means to accomplish safety functions and prevent the release of radiological material. With one of the MDAFWP unavailable for maintenance, the TDAFWP becomes critical in mitigating a design basis accident. Several accident scenarios show that in the event of a loss of the TDAFWP the accident may result in no AFW available to the accident unit; such as, in the event of a main steam line break (MSLB) on the SG supplied by the only remaining operable MDAFWP, the only means to cool down the RCS would be to feed the failed SG. Also, in the event of a LOOP and the TDAFWP fails on non-accident unit, there would be no AFW to the non-accident unit if the accident unit automatically closed off AFW flow from the only MDAFWP.

The licensee iterated that they do not have to consider a failure of the TDAFWP while having one MDAFWP unavailable due to the temporary relaxation of the single failure criterion while in a limiting condition for operation (LCO). However, to ensure the licensee maintains an adequate defense-in-depth should a TDAFW pump fail, the staffs asks the licensee to explain their proposed defense-in-depth in the events as describe above, to mitigate the consequences of the accident.

ENCLOSURE

SBPB ARAI-3

The licensee proposes to use compensatory measures to mitigate the risk profile while in the extended CT. The staff evaluated the licensee's proposed compensatory actions and found areas where the licensee's actions were less than adequate for the amount of risk exposure during the CT.

- a) In the original LAR, the licensee stated that no other work that impacts risk will be planned to take place during the time the units are in the two separate 16 day extended CTs. As a result, the licensee took credit for zero-maintenance term in their probabilistic risk assessment. The licensee responded in letter dated, May 15, 2008, that they have changed their safety monitor and their method of assessing allowed work during the maintenance period. In their initial risk assessment, the licensee reported that both units would be in a yellow risk level during the extended CT. In their RAI response, the licensee reported their new risk assessment shows the risk level as green. Additionally, the licensee has changed their maintenance plan for the time the units are in the extended CT, from performing no maintenance or surveillance that impact risk, to performing no maintenance or surveillance during the extended CT that would result in a yellow risk condition, i.e. if persisted for seven days would result in an increase in core damage probability of 1.0 E-06 or an increase in large early release probability of 1.0 E-07.

In order to assess the adequacy of their defense-in-depth strategy, the staff requests information on the proposed maintenance and surveillance activities that are planned to occur, or likely to occur, during the extended CT and their plant impact. The staff is especially concerned about any activities that have the potential to impact the ability of AFW system or its support systems to provide their function, and compensatory actions the licensee plan to implement. Additionally, the staff request information on the changes made to the safety monitor, which reduced the risk profile from yellow to green condition while in the extended CT.

- b) In a letter dated April 18, 2008, the staff asked the licensee to describe areas where work being performed during the modification could impact other risk important equipment and their proposed actions to prevent inadvertent impacts. The licensee cited the controls for both MDAFWPs are co-located inside control room panel C-01. The licensee stated there was physical and electrical separation of the wiring. However, the licensee did not address whether work was being performed inside this panel and the appropriate compensatory measures to be enacted to prevent inadvertent action on the wrong train.
- c) The licensee proposes to credit the use of thermography in selected fire areas to add assurance that a fire initiator is not imminent. The licensee proposes to initially baseline thermography of potential fire initiators in the seven fire areas of concern within seven days prior to starting the modification, and the licensee proposes to repeat weekly readings thereafter until restoration. The best estimate for the duration of the modification is only seven days; therefore, the seven-day time interval the licensee plans to implement for this compensatory action will not provide any added benefit during the CT. The staff requests the licensee provide their basis for crediting the use thermography for a reduction in risk during the CT based upon a seven-day interval between thermography

readings, when the work should be complete before the first reading is scheduled to be taken.

SBPB ARAI-3

Part of the staff's responsibility under RG 1.177 is to ensure the proposed change maintains sufficient safety margins. According to the Design Basis Document for AFW, the sizing of the original MDAFWP was limited to 250 brake-horse-power motors by diesel loading restraints. The proposed replacement pumps are rated at 300 brake-horse-power. The licensee states that the increase in diesel loading had been found acceptable when factored into the station electrical analysis under a review performed in accordance with the 10 CFR 50.59 process. Since the modification will be implemented at power, and the diesel start, load, and sequencing test only occurs during shutdown, the staff needs to assess if there is sufficient margin available to encompass any uncertainty in the proposed modifications.

In order to assess the impact on the safety margins for the extended AOT, the staff asked the licensee to identify how the safety margins on the safety-related buses will be affected due to the modification, which have an impact on the affected buses, sequencing, and logics. (An RAI was previously asked in a letter dated April 18, 2008, but no information was provided that would allow the staff to assess the impact of the modification on the available safety margin for the emergency bus.)

AFPB Questions for FPL with respect to Point Beach's One Time AFW AOT Extension request:

1. Please provide a technical basis for the frequency of periodic thermography (once every 7 days) committed to in the 12/29/07 submittal.
2. Your 7/3/08 response to PRA RAI-8 included commitments to limit hot work and planned transient combustibles in 11 additional fire areas. Please provide a justification for why these 11 fire areas are receiving different treatment than the 7 fire areas originally identified. Explain why fire watch patrols and thermography would not be an effective compensatory action in these fire areas as well as the original 7. Based on the importance of feed and bleed, it appears that applying all proposed compensatory actions on all 18 fire areas would be more appropriate.
3. The 5/29/08 FPL response to AFPB RAI 1 states that five fire areas have feasible and reasonable compensatory manual actions.

Please describe the feasible and reasonable compensatory manual actions:

1. Provide the component whose fire damage requires mitigation
2. Provide the type of component, its normal position, loss of air position and loss of electric power position
3. If the component is a Motor Operated Valve, state whether the valve is susceptible to permanent fire-induced damage (fire damage can bypass the actuator torque and limit switches resulting in mechanical failure of valve or actuator)
4. A description of the manual action
5. A description of the environmental aspects of the manual action (presence of smoke, toxic fumes, etc.)
6. List the instrumentation needed for the manual action
 - a. Instrumentation used as a cue for the need to perform the action
 - b. Instrumentation needed to enable the performance of the action
 - c. Instrumentation needed to verify satisfactory completion of the manual action
7. The time required to perform the manual action
8. The time available before a non-recoverable condition is reached
9. The presence or absence of Emergency Lighting for the egress route and the task itself (manual action)
10. The availability and need for communication to perform the manual action
11. Whether or not the egress route or the location of the manual action is in the fire area of concern
12. Total timeline that demonstrates sufficient operators on-shift to meet all required actions throughout the fire event
13. Documentation of actual demonstration of the capability

Note: Treatment of the proposed compensatory measures in accordance with NUREG-1852 is one acceptable approach

4. Your 5/29/08 response to AFPB RAI 1 states that personnel designated as performing the augmented compensatory actions will receive a pre-job brief on required actions. Please explain the basis for the use of a pre-job briefing rather than formal classroom or on-the-job training. Based on the importance of restoring AFW during a fire event, the fact that these are new requirements on the operators, and that they must be performed

in a limited amount of time under the stress of a fire event, training appears to be a more appropriate delivery method than a pre-job briefing.

5. Based on your 5/29/08 response, two fire areas could still potentially result in the total loss of AFW. These two areas continue to rely on prevention and suppression of fires, should they occur. During the 7/29/08 telephone conference, FPL stated that an additional compensatory action was being considered to address these areas. We understood that a pump was being obtained such that the AFW function could be provided independent of the fire area. Please provide a description of this proposed compensatory measure:
 1. Provide a general description of the independent feedwater pump
 2. Provide the details of the independent pump
 - a. Power source
 - b. Control scheme
 - i. Location of controls
 - ii. Communications with Control Room and any other required areas
 - iii. Instrumentation
 - c. Piping design pressure and classification (ANSI/ASME)
 - d. Tie-ins
 - e. Design flow rate, temperature and pressure
 - f. Suction source
 - g. Time required to set up and establish flow
 - h. Task lighting (battery powered emergency lights)
 - i. Provide a summary of the procedure to be used to operate the pump
 - j. Describe how the independent pump will be operated by the normal shift complement of operators, excluding the fire brigade
 - k. Describe the training to be provided to the personnel performing set-up and to the operators that will operate the pump
 - l. Provide the details of the testing to be performed to assure that the pump set-up is sufficient to meet the functional requirements of the AFW system during a fire event
 6. FPL recently submitted an Emergency Notification (EN) to the NRC Operations Center in accordance with 10CFR 50.72(b)(3)(ii)(B) – Unanalyzed Condition regarding the potential for a fire in the South Area of the Auxiliary Feedwater (AFW) Room to propagate to the Vital Switchgear (VSG) Room. The event described would cause a significant increase in the scope of fire damage compared with that postulated in the Appendix R safe shutdown analysis. Please describe how the situation described in the recent EN is being addressed with respect to the proposed AFW AOT extension request.
-

PRA

In the area of risk assessment, the staff asked the licensee if they had evaluated making the temporary diesel AFW pump permanently available, thereby reducing risk over the remaining life of the plant. Doing so would provide a permanent risk reduction to compensate for the increased AOT for having a motor-driven AFW pump out of service, given that the potential fire risk reduction could also provide a basis for the staff to consider the qualitative assessment provided by the licensee, rather than a more rigorous quantitative assessment of fire risk. The staff also re-iterated its previous request for additional information regarding the requirement that recovery actions added to the cutset results needed to have a firm analytical basis and peer review when the success criteria of the baseline PRA model is changed, and that simulator runs and existence of emergency operating procedures (EOPs) did not constitute a sufficient basis for new recovery actions.

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ADAMS Package Accession No.: ML082250315 Summary: ML082250330
 Licensee Handouts: ML082320491 Staff draft information needs: ML082320567

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