UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 20, 2010

LICENSEE: FPL Energy Point Beach, LLC

FACILITY: Point Beach Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF JANUARY 27, 2010, MEETING WITH FPL ENERGY POINT BEACH, LLC, ON OUTSTANDING ISSUES AND SCHEDULE CHANGES TO THE ALTERNATE SOURCE TERM, EXTENDED POWER UPRATE, AND AUXILIARY FEEDWATER AMENDMENT REVIEWS (TAC NOS. ME0219, ME0220, ME1044, ME1045, ME1081, AND ME1082)

On January 27, 2010, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of FPL Energy Point Beach, LLC, at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss the outstanding issues on the Alternative Source Term (AST), Extended Power Uprate (EPU), Auxiliary Feedwater (AFW) amendments. Also, the licensee planned to discuss a change in schedule and how this was to effect these reviews.

A list of attendees is attached as Enclosure 1. The licensee presentation is attached as Enclosure 2.

Discussion

The licensee started off the presentation by talking about their revised implementation schedules for the AST and EPU amendment request. The licensee stated that following the fall 2009 outage on Unit 2, they re-evaluated their implementation schedules and realized they could no longer be met. During the fall 2009 outage, a number of modifications and improvements were made, but the work took longer than planned, specifically on the AFW modifications. The new schedule will conduct work on Unit 1 over an additional cycle, and Unit 2 is now scheduled to be the lead unit. The licensee is now requesting that the NRC staff complete the AST, AFW, non-conservative setpoints, and EPU amendments on a schedule to support implementation during the spring 2011 outage on Unit 2. The licensee stated although they do not need the AST, AFW, and non-conservative setpoint amendments prior to spring of 2011, they would like the ability to implement these, if possible, prior to this outage to resolve long standing safety issues. The NRC staff agreed these items will continue to be worked on a schedule that would allow implementation prior to the spring 2011 outage.

The next portion of the meeting focused on the AST amendment and the licensee's proposed responses to Requests for Additional Information (RAIs) from the NRC staff. The licensee presented a draft version of proposed technical specifications (TSs) to the control room emergency filtration system (CREFS) system. The NRC staff mentioned that for one portion of the proposed TSs, the licensee still had not resolved the NRC staff's concern that the TS allowed for the possibility of the CREFS system being out of service during an accident with no compensatory measures in place. Following the discussion that took place between the licensee and the NRC staff, the licensee said they now understood the NRC staff's concern and would incorporate that into their formal response.

Following the discussion on AST, the meeting moved on to discuss outstanding issues with the AFW review. The first part of the AFW discussion was focused on RAI questions issued to the licensee by the NRC Electrical Engineering Branch. The licensee discussed how they intended to answer these questions. The NRC staff provided some clarifying feedback. The remainder of the AFW discussion focused on the staff asking clarifying questions on the systems design, mostly dealing with the service water suction cross over.

A member of the public was in attendance. Public Meeting Feedback forms were not received.

Please direct any inquiries to me at 301-415-2048, or Justin.Poole@nrc.gov.

Justin C. Poole, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures:
1. List of Attendees
2. Licensee Handout

cc w/encls: Distribution via Listserv

LIST OF ATTENDEES

FOR MEETING WITH POINT BEACH NUCLEAR PLANT

REGARDING EPU/AST/AFW

FOR UNITS 1 AND 2

NAME	TITLE	ORGANIZATION
Stanley Gardocki	Reactor System Eng.	NRC/DSS/BOP
Harold Walker	Sr. Reactor System Engr.	NRC/DSS/SCVB
Nageswara R. Karipineni	Reactor Systems Eng.	NRC/DSS/SCVB
Bruce Heida	Reactor System Eng.	NRR/DSS/SCVB
Kamal Manoly	Sr. Technical Advisor	DE/NRR
Benjamin Parks	Reactor Systems Engr.	NRR/DSS/SRXB
Samuel Miranda	Reactor Systems Engr.	NRR/DSS/SRXB
Alexander Tsirigotis	Mech. Engineer	NRR/DE/EMCB
Meena Khanna	Branch Chief/DE/EMCB	NRR/DE/EMCB
Edward Smith	Reactor Engr.	NRR/DSS/SNPB
Evan Davidson	General Eingineer	NRR/DSS/SNPB
Greg Casto	Branch Chief, Bal. of Plt	NRR/DSS/SBPB
Subinoy Mazumdai	EICB Engineer	NRR/DE/EICB
Samir Darbali	I&C Engineer	NRR/DE/EICB
Dylanne Duvigneaud	Reactor Engineer	NRR/DR/AADB
Danielle Burgoyne	Nuclear Specialist	American Electric Power
Tom Alexion	Sr. Project Manager	NRC/NRR/DPR
G. Singh Matharu	Sr. Elect. Eng.	NRC/NRR/DE/EEEB
Gerald Waig	Sr. Reactor Sys Eng.	NRR/DIRS/ITSB
James Connolly	FPL-St. Lucie EPU LAR Mgr.	FPL/St. Lucie
Jim Peschez	FPL & NextrEra Energy Licensing Manager	FPL/NextEra
Aleem Boatright	Nuclear Engineer	NRR/DRA/AADB
Justin Poole	Project Manager	NRR/DORL/LPL3-1
Robert Pascarelli	Branch Chief	NRR/DORL/LPLIII-1

Point Beach Extended Power Uprate
Alternate Source Term
NRC Meeting

January 27, 2010

Enclosure 2

Point Beach - Agenda

- Opening
- Purpose
- Alternate Source Term (AST) and Extended Power Uprate (EPU) Schedules
- AST Ventilation System Technical Specifications
- Electrical Branch Auxiliary Feedwater (AFW) RAI Response Clarifications
- BOP Branch RAI Response Clarifications
- Clarifying Questions Related to AFW and Reactor Protection System/Engineered Safety Features Actuation System (RPS/ESFAS) RAIs and RAI Responses
- Closing/Action Items

NEXTera ENERGY RESOURCES

Point Beach - Opening

- **FPL has worked cooperatively and successfully with key stakeholders to make improvements at Point Beach**
  - When NextEra acquired Point Beach, we worked with NRC staff to fully understand concerns with longstanding equipment and margin issues at the site
  - NextEra proposed a plan to address concerns and improve overall margin through EPU
  - NextEra developed an aggressive schedule to make improvements
    - -- Improve design basis
    - -- Improve licensing basis
    - -- Improve overall safety margin
  - We have been able to make progress where it hadn't previously been made

We appreciate the support and work of the NRC staff.

NEXTera ENERGY RESOURCES

Point Beach - Opening

- **The Point Beach EPU project has proven to be very complex**
  - The project team recognized that they might uncover issues that would impact the ability to achieve project milestones
  - The scope of the project has grown from somewhat limited to complex modifications
- **Recent Unit 2 outage provided additional insight**
  - A number of modifications and improvements were made during the outage
  - Work took longer than originally planned to ensure quality and no challenge to operational safety
- **We are revising the schedule:**
  - NextEra will conduct work on Unit 1 over an additional cycle
  - Will allow for greater organizational focus on safety improvement modifications
  - Will allow more planning time for EPU modifications

NextEra is committed to responding, supporting and facilitating efficient LAR reviews with a priority on safety improvements.

NEXTera ENERGY RESOURCES

Point Beach - Purpose

- **Summarize the revised implementation schedules for the AST and EPU LARs**
- **Discuss potential solutions to the remaining technical issue on the AST LAR**
  - Proposed Auxiliary Building Ventilation (VNPAB) and Control Room Emergency Filtration (CREFS) System TSACs
- **Technical Discussion Regarding Electrical Branch AFW RAI Response Clarifications**
- **Technical Discussion Regarding BOP Branch RAI Response Clarifications**
- **Provide Clarifications Regarding Other RAIs and RAI Responses for AFW and RPS/ESFAS**
  - Mechanical/Civil Branch
  - I&C Branch
  - Tech. Spec. Branch
  - Reactor Systems Branch

NEXTera ENERGY RESOURCES

Point Beach – AST Schedule

- **Resolve remaining technical issue – January/February 2010**
- **Issue SE – April 2010**
- **Implement Spring 2011 vs. Spring 2010 (targeting end of 2010 for actual completion if possible)**

NEXTera ENERGY RESOURCES

Point Beach – EPU Schedule

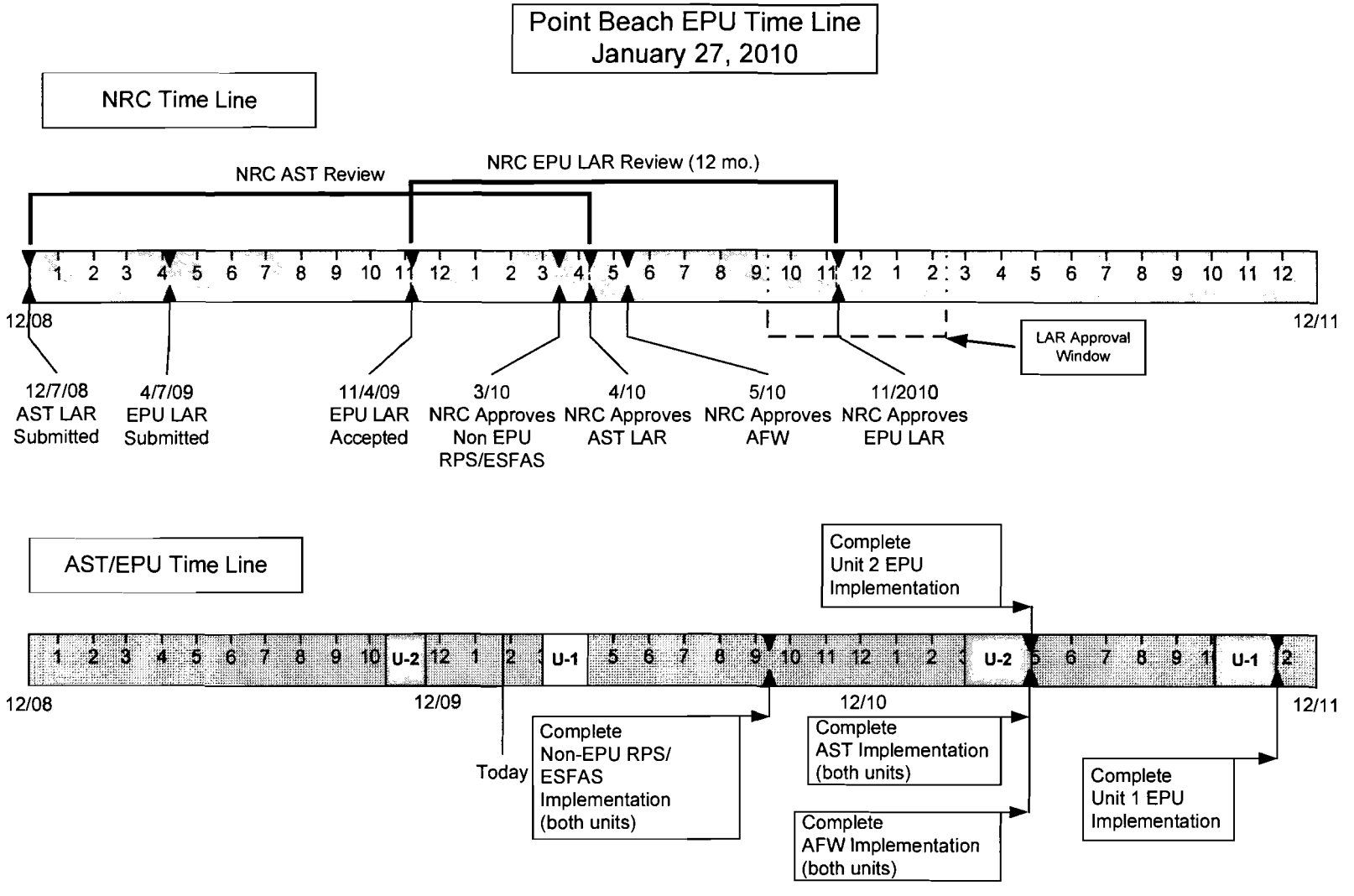
- **Non-EPU RPS/ESFAS**
  - RAIs issued
    - -- NextEra to identify which setpoints to be approved
    - -- Need agreement on interim form of RPS/ESFAS tables before balance of EPU approved
  - Anticipated NRC Approval – First Quarter 2010
  - Implement on both units within 180 days of NRC approval
- **AFW**
  - RAIs issued
  - Technical Issues associated with Electrical Branch clarifications to RAI responses
  - Anticipated NRC Approval – Second Quarter 2010
  - Will issue letter requesting approval under either current licensing basis or EPU
  - AFW-Implement Spring 2011 vs. Spring 2010 (targeting end of 2010 for actual completion if possible)

Point Beach – EPU Schedule

- **Balance of EPU**
  - Expedited Review Request (TS for Unit 1 Modifications) Submitted – 9/09
  - LAR Accepted November 2009
  - Anticipated NRC RAIs per LIC-112 – March 2010
  - Anticipated NRC Approval – November 2010
  - EPU-Implement Fall 2011 vs. Spring 2010 for Unit 1, Spring 2011 for Unit 2 (no change)
- **Will issue letter withdrawing the Expedited Review Request and requesting change to schedule, commitments, and licensing conditions reflecting the above implementation schedules**

NEXTera ENERGY RESOURCES

Point Beach - Schedule



Point Beach – AST Ventilation System Technical Specifications

- **Auxiliary Building Ventilation System (VNPAB)**
  - Proposed 7 day TSAC
  - System configuration
    - -- See handout
    - -- Redundant active components
    - -- Certain maintenance work could require redundant portions of the system to be taken out of service
      - Example: Filter Fans are located inside the plenum to the Stack Fans
  - Maintenance
    - -- Filter and Stack fans, preventative maintenance every 6 months
    - -- Filter maintenance/testing every 18 months
    - -- Maintenance history past 6 years
      - W-21A & B – 12 work orders on each, minor support modifications, fan guard repairs/adjustments, belt replacements, fan balancing, minor frame repairs
      - W-30A & B – 6 work orders on one, 4 on the other, install vibration pads, minor duct repairs

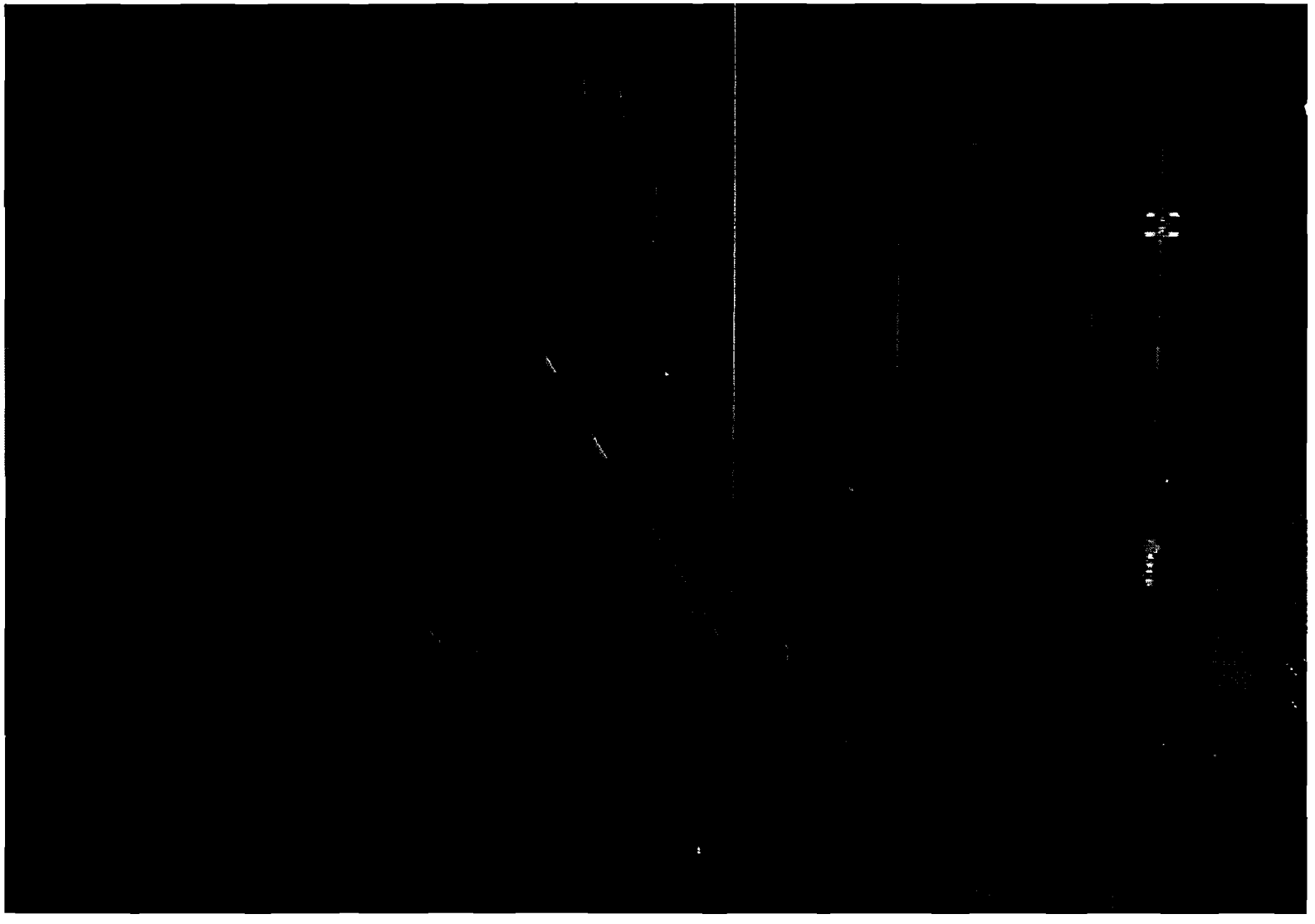
NEXTera ENERGY RESOURCES

Point Beach – AST Ventilation System Technical Specifications

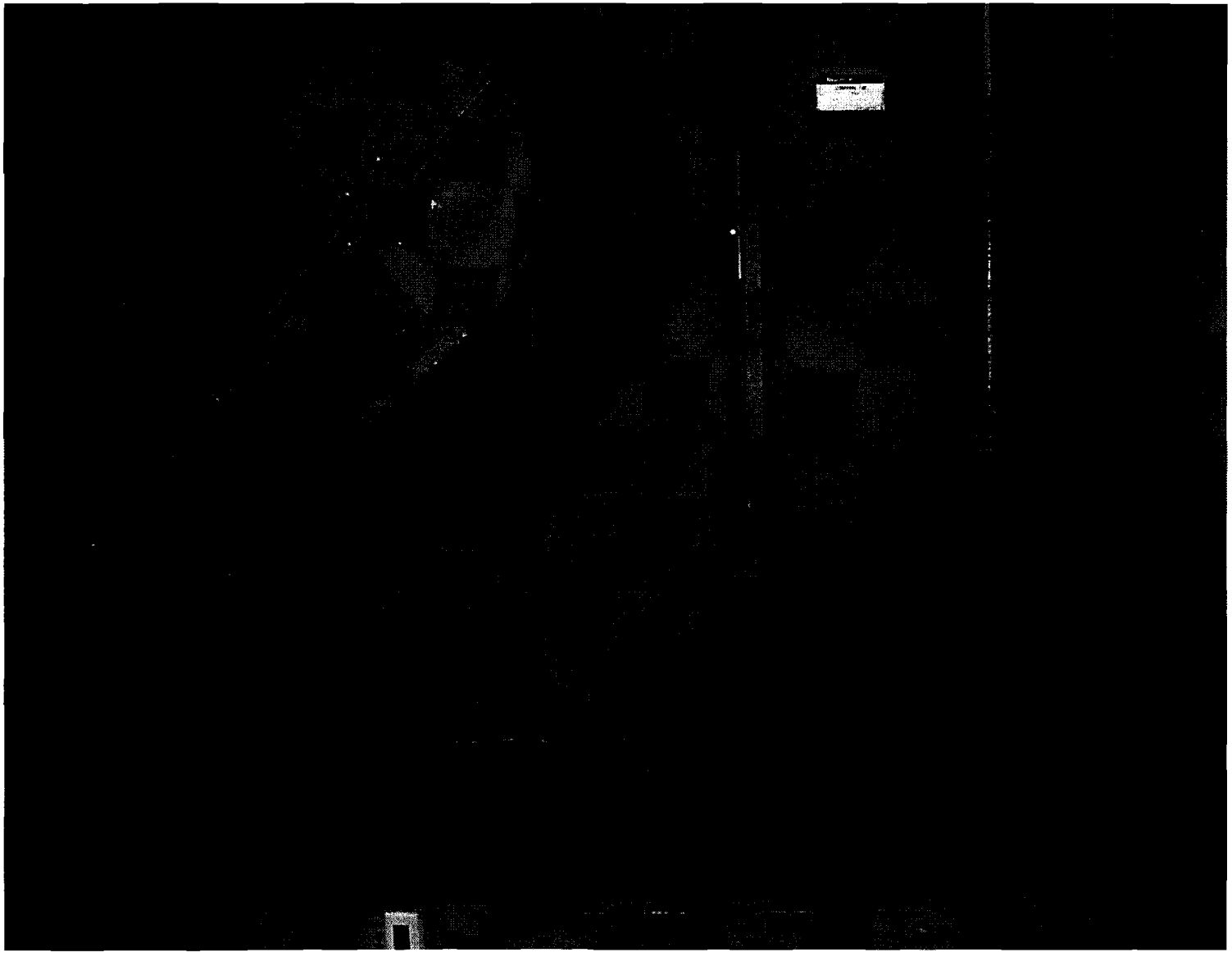
- **VNPAB**
  - Performed dose analysis without credit for VNPAB for LBLOCA
    - -- Using flashing fractions based on sump temperature
      - Control Room TEDE dose is 4.2 Rem
      - Methodology has been accepted by NRC at other sites as part of the AST licensing basis calculation
    - -- Using actual ECCS leakage limit and ½ unfiltered in-leakage test limit (bounds actual tested value)
      - Control Room TEDE dose is 4.3 Rem
    - -- Combining both of the above
      - Control Room TEDE dose is 2.1 Rem
  - Analysis provides basis for 7 day TSAC

NEXTera ENERGY RESOURCES

Point Beach – Filter Fan W21A



Point Beach – Filter Fan W21B



Point Beach – Stack Fans W30A & B

NEXTera ENERGY RESOURCES

Point Beach – AST Ventilation System Technical Specifications

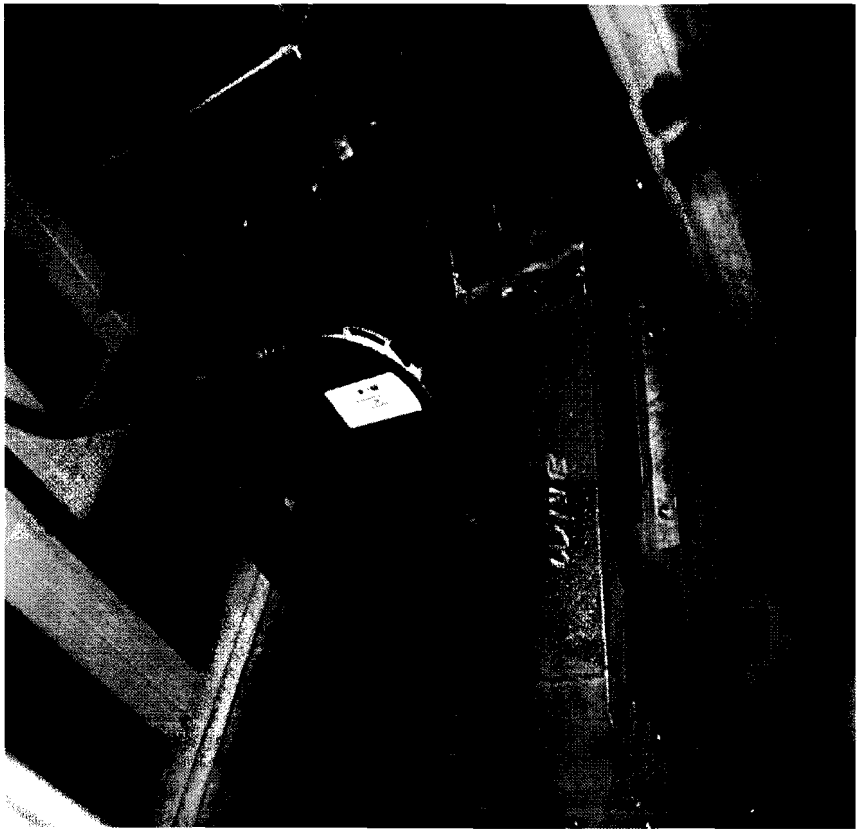
- **Control Room Emergency Filtration System (CREFS)**
  - Proposed 7 day TSAC
  - System configuration
    - -- See handout
    - -- Redundant active components
    - -- Certain maintenance work could require redundant portions of the system to be taken out of service
  - Maintenance
    - -- Emergency fans, preventative maintenance every 12 months
    - -- Recirculation fans, preventative maintenance every 6 months
    - -- Filter maintenance/testing every 18 months
    - -- Fan/Filter cubicle general inspection every 12 months
    - -- Maintenance Rule Performance over 2 year period from 10/1/07 to 9/30/09
      - 1 Fan component failure
      - 111 total equipment unavailable hours
  - Analysis without credit for CREFS will result in control room doses > 5 Rem even with KI
  - Probability of a DBE at the same time CREFS is out of service is very low

NEXTera ENERGY RESOURCES

Point Beach – AST Ventilation System Technical Specifications

- **CREFS**
  - Prepared proposed Technical Specifications
    - -- Reviewed Technical Specifications of other older plants with approved AST having similar Control Room ventilation system configuration as Point Beach
    - -- Drafted Point Beach version based on this review
    - -- Separate TSACs for active and passive components

Point Beach – Emergency Fans W-14A & B



Point Beach – AST Ventilation System Technical Specifications

3.7 PLANT SYSTEMS

3.7.9 Control Room Emergency Filtration System (CREFS)

LCO 3.7.9 CREFS shall be OPERABLE with:

a. Two control room recirculation fans,

b. Two control room emergency fans,

c. One filter train

d. Two control room emergency fan control dampers, and

e. Two isolation dampers in the kitchen area exhaust duct

NOTE
The control room envelope boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One control room recirculation fan, one control room emergency fan, and/or one control room emergency fan control damper inoperable	A.1 Restore inoperable fan and/or damper to OPERABLE status	7 days
B. One isolation damper in the kitchen area exhaust duct inoperable	B.1 Restore isolation damper to OPERABLE status OR B.2 Place and maintain the other isolation damper in the same duct in the closed position.	7 days 7 days

Point Beach – AST Ventilation System Technical Specifications

3.7.9 CREFS

C. With the filter train inoperable for reasons other than an inoperable Control Room Envelope boundary	C.1 Restore filter train to OPERABLE status	84 hours
D. With the filter train inoperable due to an inoperable Control Room Envelope boundary	D.1 Initiate actions to implement mitigating actions, and	Immediately
	D.2 Verify mitigating actions to ensure Control Room Envelope occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and	84 hours
	D.3 Restore Control Room Envelope boundary to OPERABLE status	90 days
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1. Be in MODE 3 AND E.2. Be in MODE 5	6 hours 36 hours

Point Beach – AST Ventilation System Technical Specifications

3.7.9 CREFS

APPLICABILITY: During movement of irradiated fuel assemblies

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One control room recirculation fan, one control room emergency fan, and/or one control room emergency fan control damper inoperable	A.1 Restore inoperable fan and/or damper to OPERABLE status	7 days
B. One isolation damper in the kitchen area exhaust duct inoperable	B.1 Restore isolation damper to OPERABLE status OR B.2 Place and maintain the other isolation damper in the same duct in the closed position.	7 days 7 days
C. With the filter train inoperable	C.1 Suspend movement of irradiated fuel assemblies	Immediately
D. Required Action and associated Completion Time of Condition A, or B not met.	E.1. Suspend movement of irradiated fuel assemblies	Immediately

Point Beach – Technical Discussion Regarding Electrical Branch RAI Response Clarifications

1. In response to staff's RAI dated August 26, 2009, regarding the EDG voltage dip below the acceptance limit of 75 percent nominal voltage during motor start, the licensee stated that the EDGs are capable of starting safeguard loads and the voltage recovers quickly to the acceptable level. Based on staff's review of the dynamic loading calculations, the staff notes that under certain loading conditions for Train "A" EDG, the frequency is outside 2 percent margin, the worst-case voltage dip is 45-48 percent and the voltage overshoot is 129.5 percent. Train "A" voltage and frequency variations are outside the industry accepted standards and guidance Provide detailed analyses regarding the downstream effects on components such as contactors, control fuses, inverters, battery chargers, solenoids, MOVs, solid state devices, etc., and the basis to show that all required loads will start and continue to run with sufficient margins after accounting for any uncertainties. Provide justification for the performance capabilities of the EDG "A" regulator and excitation systems to support shutdown equipment within design basis requirements during a DBA. The staff notes that Train "B" EDG bus voltages remain above 75% of nominal voltage, consistent with NRC Regulatory Guide 1.9, throughout the motor starting sequence in all postulated loading conditions. Provide a summary of all bus voltages for the 'B' train distribution system.

NEXTera ENERGY RESOURCES

Point Beach – Technical Discussion Regarding Electrical Branch RAI Response Clarifications

2. The cables for new AFW pump motors are planned to be routed through the existing duct banks and manholes which are susceptible to moisture, wet or flooding conditions. The staff's review of Point Beach's operating experience indicates that, since 1997, numerous corrective action documents were generated to capture concerns associated with cable submergence and water ingress through underground cableways and manholes. Provide cable design specifications and manufacturer's certification to provide assurance that these cables are designed for the environment they will be subjected to. Also, provide details of the proposed initial tests and periodic tests for these cables including the type of tests and the frequency.

3. In response to staff's RAI dated August 26, 2009, regarding EDG/loss of voltage relay time delays, the licensee stated that the EDG output breaker closure within 14 seconds is consistent with accident analysis. The staff notes that this is inconsistent with the design/licensing basis for the EDGs. Specifically, FSAR Section 8.8.1, Design Basis, states that the EDGs are required to start and be ready for loading within 10 seconds after receiving a start signal. In addition, Section 8.8.3 states that the time from receipt of start signal to EDG ready to accept load shall not exceed 10 seconds (reaches its rated speed and voltage and the associated breaker closes automatically to reenergize the safeguard buses). The staff notes that the existing EDG design (time delays for output breaker closure is 14 seconds) is inconsistent with chapter 8 design basis requirements. Explain the inconsistency and identify all the loads that are started on the safety bus at 10 seconds in accordance with Chapter 8 design basis.

NEXTera ENERGY RESOURCES

Point Beach – Technical Discussion Regarding Electrical RAI Response Clarifications

4. Explain how the EDG fuel oil consumption and volume calculation accounted for additional fuel oil requirements for AFW and other plant modifications. What is the basis for removing 10% margin from the original fuel oil consumption calculation? Provide details on how instrument uncertainties, instrument errors, temperature effects and specific gravity variations were accounted for in the calculation?

5. In response to staff's RAI dated August 26, 2009, regarding environmental parameters for the AFW motor location, the licensee stated that the normal radiation level is 1300 RAD for 60-year TID and the AFW pumps and associated equipment will not be included in the EQ program since they are not credited in the accident analysis although they are sequenced loads used in a LOCA. Please identify all electronic components installed in this area and the effects of these components on other safety related components if they are not qualified in accordance with 10 CFR 50.49.

NEXTera ENERGY RESOURCES

Point Beach – Technical Discussion Regarding Electrical RAI Response Clarifications

6. In response to staff's RAI dated June 2, 2009, regarding the surveillance tests for EDGs, the licensee proposed new TS surveillance SR 3.8.1.7 requirement (the performance of a 24-hour endurance and load margin test of each EDG). The staff notes that the proposed EDG endurance and margin test does not envelop the accident loads for the entire duration of the 24-hr run. Specifically, EDGs G-01 and G-02 are loaded to 98.2% to 100.9% of the 2000-hour load rating for ≥ 2 hours and 90 to 100% of the 2000-hour load rating for the remaining 22 hours; G-03 and G-04 EDGs are loaded to 97.4% to 100% of the 200-hour load rating for ≥ 2 hours and 90 to 100% of the 2000-hour load rating for the remaining 22 hours with EDGs operating at the highest end of the 2-hour load range for 5 minutes. This is not consistent with RG 1.9 recommendations. The intent of the 24-hr test is to demonstrate that the EDG can operate at maximum postulated accident loads for extended duration. The 2-hour test requirement at a higher loading demonstrates design margins. Therefore, staff requests the licensee to provide basis why the proposed loading ranges are adequate to demonstrate the capability of the EDGs to operate for its intended mission time. Also, explain why EDGs designated for each unit cannot be tested during modes other than modes 1 and 2 as recommended in NUREG-1431.

NEXTera ENERGY RESOURCES

Point Beach – Discussion of Clarifications Related to AFW and RPS/ESFAS RAIs and Responses

- **BOP Branch**
  - AFW
    1. Licensee establishes 25.5 seconds as the max allowable time delay for the pump to trip. Provide the details on how 25.5 seconds was determined, Include such assumptions as pump flow, volume of water in piping, any confirmation from vendor that can support their premise that no damage will be done to the pump if tripped prior to some point. (calculation).
    2. The calculation is based upon keeping the suction to the pump covered with water. However, if the pump draws down water in the pumping from where the service water ties in, then a slug of air will be introduced into the pump ahead of the service water. Maybe the calculation needs to be based on keeping the tie in covered with water.
    3. Is the signal to turn off the timers the same signal to turn on? Does it take the 3 seconds for pressure to be restored in the piping after Test Switchover is actuated (18.4)? Concern is there is only a 1/2 second margin until the pump trip signal would actuate (18.9 sec). Is there any significant delay from switch actuation to cancel timer?
    4. At T=0, is the calculation based upon the lowest pressure to activate the switch.
  - HELB

Point Beach – Discussion of Clarifications Related to AFW and RPS/ESFAS RAIs and Responses

- **Mechanical/Civil Branch**
  - AFW
- **I&C Branch**
  - AFW
  - RPS/ESFAS
- **Tech. Spec. Branch**
  - AFW
  - RPS/ESFAS
- **Reactor Systems Branch**
  - LOCA
  - Non-LOCA

NEXTera ENERGY RESOURCES

Point Beach – Summary

- **SE for AST LAR – April 2010**
  - Pending resolution of ventilation system technical specifications
- **SE for non-EPU RPS/ESFAS – March 2010**
- **SE for AFW – April/May 2010**
  - Pending resolution of electrical clarifications
- **Balance of EPU LAR**
  - Formal RAIs by March 2010
  - ACRS in Summer 2010
  - Approval in November 2010
- **NextEra stands ready to support the staff in its review**
  - Prompt replies to RAIs, tabletops, breakout meetings, etc.
  - Quick identification and resolution of technical issues
  - Site audits, access to records

NEXTera ENERGY RESOURCES

Following the discussion on AST, the meeting moved on to discuss outstanding issues with the AFW review. The first part of the AFW discussion was focused on RAI questions issued to the licensee by the NRC Electrical Engineering Branch. The licensee discussed how they intended to answer these questions. The NRC staff provided some clarifying feedback. The remainder of the AFW discussion focused on the staff asking clarifying questions on the systems design, mostly dealing with the service water suction cross over.

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Justin C. Poole, Project Manager **/RA/**
Plant Licensing Branch III-1
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1. List of Attendees
2. Licensee Handout

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OFFICE	DORL/LPL3-1/PM	DORL/LPL3-1/LA	DORL/LPL3-1/BC	DORL/LPL3-3/PM
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DATE	05/20/10	05/20/10	05/20/10	05/20/10

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