NEXTera ENERGY POINT BEACH

September 1, 2010

NRC 2010-0132
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

License Amendment Request 261
Extended Power Uprate
Response to Request for Additional Information

References:
(1) FPL Energy Point Beach, LLC letter to NRC, dated April 7, 2009, License Amendment Request 261, Extended Power Uprate (ML091250564)
(2) NRC electronic mail to NextEra Energy Point Beach, LLC, dated June 3, 2010, Draft – Request for Additional Information from Containment and Ventilation Branch on HELB RE: EPU (ML101540509)
(3) NextEra Energy Point Beach, LLC letter to NRC, dated July 27, 2010, License Amendment Request 261, Extended Power Uprate, Response to Request for Additional Information (ML102160163)

NextEra Energy Point Beach, LLC (NextEra) submitted License Amendment Request (LAR) 261 (Reference 1) to the NRC pursuant to 10 CFR 50.90. The proposed amendment would increase each unit's licensed thermal power level from 1540 megawatts thermal (MWt) to 1800 MWt, and revise the Technical Specifications to support operation at the increased thermal power level.

Via Reference (2), the NRC staff determined that additional information is required to enable the staff's continued review of the request. Enclosure 1 provides the NextEra response to Question 1 of the NRC staff's request for additional information. Attachment 1 to Enclosure 1 provides a summary of the COMPARE Model versus the GOTHIC™ EPU Model for High Energy Line Break (HELB) Outside of Containment. Reference (3) previously provided the NextEra response to Questions 2 and 3 of Reference (2).

This letter contains no new Regulatory Commitments and no revisions to existing Regulatory Commitments.

A001
NRR

DESIGNATE AS ORIGINAL PER PM TERRY BELTZ 9/28/2010

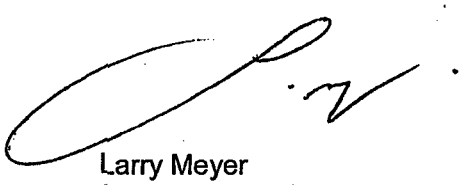
The information contained in this letter does not alter the no significant hazards consideration contained in Reference (1) and continues to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements of an environmental assessment.

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

I declare under penalty of perjury that the foregoing is true and correct.
Executed on September 1, 2010.

Very truly yours,

NextEra Energy Point Beach, LLC



Larry Meyer
Site Vice President

Enclosure

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

ENCLOSURE 1

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

LICENSE AMENDMENT REQUEST 261
EXTENDED POWER UPRATE
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The NRC staff determined that additional information was required (Reference 1) to enable the Containment and Ventilation Branch to complete its review of License Amendment Request (LAR) 261, Extended Power Uprate (EPU) (Reference 2). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's request.

Question 1

Please provide a table which compares the values of input parameters in the current licensing basis (CLB) analysis which used COMPARE code, and the proposed analysis which used GOTHIC code. Provide justification for the parameters values that are different in the proposed analysis from the CLB analysis. At least the values of the following inputs parameters should be listed: (a) volumes, (b) initial conditions in each volume, (c) heat sinks along with their shape, material, surface areas and thickness, (d) break sizes and locations considered, (e) boundary conditions, (f) component parameters.

NextEra Response

Attachment 1 provides a summary comparison of input parameters and the resulting peak temperature and pressure values in the current licensing basis (CLB) high energy line break (HELB) analysis using the COMPARE code and the proposed EPU HELB analysis using the GOTHIC™ code. The CLB HELB analysis using COMPARE analyzed selected volumes of the turbine building and the primary auxiliary building (PAB), while the EPU HELB analysis using GOTHIC analyzed selected volumes of the turbine building, PAB, and the containment facades. The containment facade HELB harsh environment parameters for the CLB utilized the peak temperature and pressure values from the limiting PAB rooms (Unit 1 and 2 heating ventilation and air conditioning (HVAC) fan rooms) adjacent to the facades, since those PAB rooms vent the steam from a HELB into the facades. However, the GOTHIC code for EPU was utilized to explicitly analyze HELB conditions for different elevations of the facades.

Differences in the values for the CLB COMPARE model and results and the EPU GOTHIC model and results are explained as follows:

General (Applicable to All HELB Rooms): The gross room volumes for the CLB COMPARE model were reduced by 15% to account for volume occupied by plant equipment, piping, ducts, etc. The EPU GOTHIC model volumes were determined using plant layout and walkdown measurements, resulting in somewhat higher net volumes for each HELB room.

The initial temperature values for each HELB room in the CLB COMPARE model were based on maximum summer design temperature during normal operation. The EPU GOTHIC model initial temperatures were based on recorded temperatures in the PAB and assumed temperatures in the turbine building and facades.

The initial pressure and relative humidity value for each HELB room in the CLB COMPARE model was a constant 14.7 psia and 70%, respectively. The EPU GOTHIC model adjusted the initial pressure in each HELB room based on the room volume mid-height relative to mean sea level and used a default value of 37% for the initial relative humidity.

PAB Component Cooling Water (CCW) Heat Exchanger (HX) Room: Both the CLB COMPARE and EPU GOTHIC models analyzed a 3" auxiliary steam line break in this room, which is enclosed by HELB barriers. The steam from a HELB is vented in both models through a blowout panel, which opens to the turbine building. The heat slabs for the two models are similar, but have a different level of detail.

PAB HVAC Fan Room: Both the CLB COMPARE and EPU GOTHIC models analyzed a 30" Main Steam line crack in these rooms (equivalent rooms for Unit 1 and Unit 2). The steam from a HELB is vented in both models through two doors, which open with a small differential pressure to the containment facades for each unit. The heat slabs for the two models are similar, but have a different level of detail.

Turbine Building: The turbine building is modeled with several break sizes in the volumes above and below the el. 44' operating floor for both the CLB COMPARE and the EPU GOTHIC models. The steam from a HELB is vented when the sheet metal siding of the turbine building blows off at 0.6 psid for the CLB COMPARE model and 0.5 psid for the EPU GOTHIC model. The heat slabs for the two models are again similar, but have a different level of detail.

Containment Facades on Both Units: No CLB COMPARE analysis was performed for the facades, so only the EPU GOTHIC model parameters are shown in Attachment 1.

References

(1) NRC electronic mail to NextEra Energy Point Beach, LLC, dated June 3, 2010, Draft – Request for Additional Information from Containment and Ventilation Branch on HELB RE: EPU (ML101540509)

(2) FPL Energy Point Beach, LLC letter to NRC, dated April 7, 2009, License Amendment Request 261, Extended Power Uprate (ML091250564)

ENCLOSURE 1
ATTACHMENT 1

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

LICENSE AMENDMENT REQUEST 261
EXTENDED POWER UPRATE
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

SUMMARY OF THE COMPARE CLB MODEL VS THE GOTHIC™ EPU MODEL FOR HELB OUTSIDE CONTAINMENT

4 pages follow

ATTACHMENT 1 - Summary of the COMPARE CLB Model vs. GOTHIC EPU Model for HELB Outside Containment

Code	Room	Building	Net Volume (ft3)	Initial Temperature (°F)	Initial Pressure (psia)	Initial R.H. (%)	Heat Sinks / Thermal Conductors	Heat Sink/Thermal Conductor Net Surface Area (ft2)	Heat Sink/Thermal Conductor Materials	Break Size (ft2)	Peak Temperature (°F)	Peak R.H. (%)	Peak Pressure (psia)
PAB CCWHX Room													
Compare (CLB)	Component Cooling Water Heat Exchanger/Boric Acid Tank Room (CCW HX Room)	Primary Auxiliary Building (PAB)	55,918	85	14.7	70	North-Wall	843	2' concrete	0.0513 (3" Aux Steam Line Break)	309.5	100	15.15
							South-Wall	843	2' concrete				
							East-Wall	1443	2' concrete				
							West-Wall	1242	1.5' concrete				
							Ceiling	3556	1.5' concrete				
							Floor	3507	1.5' concrete				
GOTHIC (EPU)	Component Cooling Water Heat Exchanger/Boric Acid Tank Room (CCW HX Room)	Primary Auxiliary Building (PAB)	59,208	94.5	14.3808	37	Floor (Rm 187)	3369.77	1.5' concrete	0.0513 (3" Aux Steam Line Break)	267	100	14.837
							Floor (Rm 187)	85.57	1/4 in steel plate				
							Ceiling (Rm 271N)	1086.67	1.5' concrete				
							Ceiling (Rm 271S)	2273.45	1.5' concrete				
							North Wall (Rm 246)	843.42	2 ft concrete				
							North Wall (Rm 187)	45.72	1/4 in steel plate				
							East Wall (Control & Comp. Room)	1443.00	3.5' concrete				
							South Wall (Rm 245)	843.42	2' concrete				
							South Wall (Rm 187)	45.72	1/4 in steel plate				
							West Wall (Rm 238)	792.43	1.5' concrete				
							West Wall (Rm 238)	21.00	steel / air gap / steel				
							West Wall (Rm 238)	446.31	1.5' concrete				
							West Wall (Rm 187)	102.59	1/4 in steel plate				
							West Wall (Rm 187)	49.00	steel / air gap / steel				
PAB HVAC Fan Rooms													
Compare (CLB)	U1 HVAC Fan Room - 66' Elevation	Primary Auxiliary Building (PAB)	249,873	85	14.7	70	North-Wall	2534	Insulated panel partition	0.044 (30" Main Steam Line Crack)	298	100	14.86
							South-Wall	2685	Insulted metal fascia panel				
							East-Wall	4599	Insulated siding				
							West-Wall	4547	Insulated siding				
							Ceiling	6999	roofing				
							Floor	3289	0.5' concrete				
							Floor	3407	0.5' concrete				
Compare (CLB)	U2 HVAC Fan Room - 66' Elevation	Primary Auxiliary Building (PAB)	249,873	85	14.7	70	North-Wall	2685	Insulated metal fascia panel	0.044 (30" Main Steam Line Crack)	298	100	14.86
							South-Wall	2534	Insulated panel partition				
							East-Wall	4599	Insulated siding				
							West-Wall	4547	Insulated siding				
							Ceiling	6999	roofing				
							Floor	3289	0.5' concrete				
							Floor	3407	0.5' concrete				
GOTHIC (EPU)	U1 HVAC Fan Room - 66' Elevation.	Primary Auxiliary Building (PAB)	258,090	90	14.3596	37	Floor (Rm 245)	3416.29	0.5' concrete	0.0444 (30" Main Steam Line Crack)	363	100	14.477
							Floor (Rm 250)	3350.74	0.5' concrete				
							Floor (Rm 180)	64.44	boot seal				
							Ceiling (Outside)	6720.75	roofing				
							North Wall (Rm 271s)	2409.82	Insulated panel partition				
							North Door (Rm 271s)	42	steel / air gap / steel				
							East wall (Turb. Bldg)	4440.5	Insulated siding				
							South Wall (Outside)	2680.07	Insulted metal fascia panel				
							West Wall (Rm 524)	4398.5	Insulated siding				
							West Door (Rm 524)	42	steel / air gap / steel				

ATTACHMENT 1 - Summary of the COMPARE CLB Model vs. GOTHIC EPU Model for HELB Outside Containment

Code	Room	Building	Net Volume (ft3)	Initial Temperature (°F)	Initial Pressure (psia)	Initial R.H. (%)	Heat Sinks / Thermal Conductors	Heat Sink/Thermal Conductor Net Surface Area (ft2)	Heat Sink/Thermal Conductor Materials	Break Size (ft2)	Peak Temperature (°F)	Peak R.H. (%)	Peak Pressure (psia)
Turbine Building - Operarting Floor at 44' Elevation and Above													
Compare (CLB)	Unit 1 and 2 Turbine Building Operating Floor - 44' Elevation and Above	Turbine Bldg	3,665,000	115	14.7	70	North/South/East/West Wall (Outdoors) North Wall (North Service Bldg) West Wall (Aux Bldg) North/South/East/West Wall (Outdoors) West Wall (Service & Aux Bldg) West Wall (Aux Bldg) North/South/East/West Wall (Ops Office) North/South/West Wall (Control/Comp Rm) Ceiling (Outdoors) Floor (U1 Area 316) Floor (U2 Area 316) Floor (Ops Office) Floor (Control/Comp Rm) Floor (Rm 319)	58556 3933 11093 1729 886 1558 2639 5460 68577 16549 24411 2123 4100 2050	insulated metal siding insulated siding partition insulated siding partition 12" concrete block 12" concrete block 8" concrete block 8" concrete block 1.5' concrete roofing 8" concrete 8" concrete 8" concrete 1.5' concrete 8" concrete	0.5	306.3	100	15.3
GOTHIC (EPU)	Unit 1 and 2 Turbine Building Operating Floor - 44' Elevation and Above	Turbine Bldg	2,025,000	115	14.3947	37	Operating Floor Siding Steel Walls Roof	60000 56900 122600 69400	Concrete Siding Steel Concrete	2.6552 (24" MS Line Break)	231	100	14.984

ATTACHMENT 1 - Summary of the COMPARE CLB Model vs. GOTHIC EPU Model for HELB Outside Containment

Code	Room	Building	Net Volume (ft3)	Initial Temperature (°F)	Initial Pressure (psia)	Initial R.H. (%)	Heat Sinks / Thermal Conductors	Heat Sink/Thermal Conductor Net Surface Area (ft2)	Heat Sink/Thermal Conductor Materials	Break Size (ft2)	Peak Temperature (°F)	Peak R.H. (%)	Peak Pressure (psia)
Turbine Building - Below Operating Floor at 44' Elevation													
Compare (CLB)	U1 Turbine Building Mezzanine - 26' Elevation	Turbine Bldg	379,165	115	14.7	70	West Wall (Service bldg)	2703	12" concrete block	0.5	396.5	100	15.3
							West Wall (Aux Bldg)	901	1.5' concrete				
							North Wall (Cable Spreading Room)	867	1.5' concrete				
							South Wall (outdoors)	524	12" concrete				
							East Wall (outdoors)	2929	insulated metal siding				
							North Wall (Electrical Rm)	478	steel barrier - 1/4" plate				
							West Wall (Elect. Rm)	1421	8" concrete block				
							North Wall (Turb. Bldg. Mezz)	332	8" concrete block				
							South/East Wall (Offices)	2007	8" concrete block				
							South/West/East Wall (Ops/Maint Shops)	2499	insulated panel partition				
							North Wall (Rm 313)	70	1' concrete				
							East Wall (Rm 313)	229	6" concrete				
							North Wall (U2 Area 314)	52	1' concrete				
							North Wall (Rm 315)	118	1' concrete				
							West Wall (Rm 315)	241	6" concrete				
							Floor (Rm 313)	191	concrete (assumed 6")				
							Floor (Rm 314)	191	concrete (assumed 6")				
							Floor (Rm 315)	303	concrete (assumed 6")				
							Floor (Rm 308)	1345	1.5' concrete				
							Floor (Rm 309)	1311	1.5' concrete				
							Floor (Rm 310)	554	1.5' concrete				
							Ceiling (Rm 322)	16549	8" concrete				
							Floor (Rm 301)	15318	6" concrete				
Compare (CLB)	U2 Turbine Building Mezzanine - 26' Elevation	Turbine Bldg	406,118	115	14.7	70	North Wall (North Service Bldg)	2132	Insulated metal partitions	0.5	396.5	100	15.3
							West Wall (Aux Bldg)	901	1.5' concrete				
							South Wall (Cable Spreading Room)	867	1.5' concrete				
							West Wall (Pretreat & Boiler)	1178	12" concrete block				
							East Wall (Outdoors)	3951	Insulated metal siding				
							West Wall (Outdoors)	1872	12" concrete block				
							South Wall (Rm 319)	478	8" concrete block				
							South Wall (U1 Area 316)	332	8" concrete block				
							South Wall (Rm 313)	70	6" concrete				
							South Wall (Rm 314)	52	1' concrete				
							South Wall (Rm 315)	118	6" concrete				
							West Wall (Battery Room)	120	1.5' concrete				
							Ceiling (Rm 322)	24411	8" concrete				
							Floor (Rm 542)	18573	6" concrete				
Compare (CLB)	Unit 1 Turbine Building Ground - 8' Elevation	Turbine Bldg	361,999	115	14.7	70	West Wall (Aux Bldg)	2275	1'+2' concrete	0.5	439.7	100	15.4
							South/East/West Wall (Ground)	4200	1' concrete				
							East Wall (Maint Shop)	1715	1' concrete				
							South/West Wall (Elect. Shop)	1341	8" concrete block				
							North Wall (Rm 308)	837	1.5' concrete				
							North Wall (Rm 305)	443	1.5' concrete				
							North Wall (Rm 304)	731	1.5' concrete				
							North Wall (AFW Tunnel)	120	double doors				
							Ceiling (Turbine Bldg Mezz)	15318	6" concrete				
							Ceiling (Office)	3245	6" concrete				
							Floor (Ground)	27711	6" concrete slab				
Compare (CLB)	Unit 2 Turbine Building Ground - 8' Elevation	Turbine Bldg	361,589	115	14.7	70	West Wall (Aux Bldg)	2135	1' + 2' concrete	0.5	439.7	100	15.4
							North/East/West Wall (Ground)	5021	1' concrete				
							East Wall (Outdoors)	1365	1' concrete				
							North/East Wall (Oil Storage Area)	1327	10" concrete block (model as 8")				
							South Wall (Rm 306/307)	443	1.5' concrete				
							South Wall (Rm 310)	837	1.5' concrete				
							South Wall (Rm 304)	731	1.5' concrete				
							South Wall (AFW Tunnel)	120	double doors				
							Ceiling (U2 Area 316)	18573	6" concrete				
							Floor (Ground)	27683	6" concrete slab				
GOTHIC (EPU)	Unit 1 Turbine Hall Below 44' Elevation	Turbine Bldg	3,931,000	115	14.3947	37	Ground	65000	Concrete	0.201	243	100	
							Siding	16300	Siding				
							Steel Walls	244000	Steel				
							Operating Floors	60000	Concrete				

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Code	Room	Building	Net Volume (ft3)	Initial Temperature (°F)	Initial Pressure (psia)	Initial R.H. (%)	Heat Sinks / Thermal Conductors	Heat Sink/Thermal Conductor Net Surface Area (ft2)	Heat Sink/Thermal Conductor Materials	Break Size (ft2)	Peak Temperature (°F)	Peak R.H. (%)	Peak Pressure (psia)
Containment Facades on Both Units													
GOTHIC (EPU)	Facade - Upper Elevation from 86' to 159'	Containment Facade	251,041	90	14.3781	37	Walls, Ceiling and Floor	45,455	Concrete, siding and steel	4.3303 (30" MS Break)	360	100	
GOTHIC (EPU)	Facade - Middle Elevation from 39' to 86'	Containment Facade	391,852	90	14.3781	37	Walls, Ceiling and Floor	51,433	Concrete, siding and steel	0.0513 (3" Aux Steam Line Break)	200	100	-
GOTHIC (EPU)	Facade - Lower Elevation from 6.5" to 39'	Containment Facade	801,174	90	14.3781	37	Walls, Ceiling and Floor	90,721	Concrete, siding and steel	0.021 (2" SG Blowdown Break)	230	100	-