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October 29, 2009

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI No. 49
BNP-2009-335 Docket No. 52-039**

References: 1) M. Canova (NRC) to R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 49 (RAI No. 49) – CTSB - 3367, email dated September 29, 2009

The purpose of this letter is to respond to the request for additional information (RAI) identified in the referenced NRC correspondence to PPL Bell Bend, LLC. This RAI addresses Plant Systems – Inspections, Tests, Analyses, and Acceptance Criteria, as submitted in Part 10 of the Bell Bend Nuclear Power Plant Combined License Application (COLA).

The enclosure provides our responses to RAI No. 49, Questions 14.03.07-1 through 14.03.07-10, which include revised COLA content. Please note that Question 14.03.07-3 was deleted in Reference 1. A Licensing Basis Document Change Request has been initiated to incorporate these changes in a future revision of the COLA. This future revision of the COLA is the only new regulatory commitment.

Should you have questions or need additional information, please contact the undersigned at 570.802.8102.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 29, 2009

Respectfully,


Rocco R. Sgarro

RRS/kw

Enclosure: As stated

D079
NEO

cc: (w/o Enclosures)

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Enclosure 1

Response to NRC Request for Additional Information No.49
Bell Bend Nuclear Power Plant

Question 14.03.07-1

ITAAC Item 3a in Table 2.4-2 of BBNPP Application, Part 10

What is the fire protection hour rating of the penetration seals in sub-step 3 for this ITAAC? The penetration seals have no hour ratings as do other equipment. This RAI question is also applicable to the following ITAAC:

ITAAC Item 4a.6 in Table 2.4-7 of BBNPP Application, Part 10

Response:

The referenced fire barriers are 3-hour rated fire barriers. The appropriate changes will be made to the BBNPP COLA, Part 10 as identified below.

COLA Impact:

The BBNPP COLA, Part 10, ITAAC, will be changed as follows:

Table 2.4-2 {ESWEMS Pumphouse Inspections, Tests, Analysis, and Acceptance Criteria}

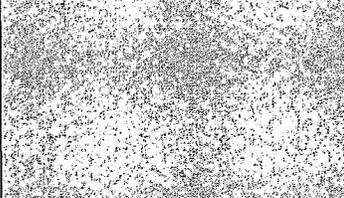
	Commitment Wording		Acceptance Criteria
3	3. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with rated penetration seal assemblies.		a. 3. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with <u>3-hour rated fire barrier</u> penetration seal assemblies.

Table 2.4-7 {Switchgear Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording		Acceptance Criteria
4	6. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with rated penetration seal assemblies.		a. 6. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with <u>3-hour rated fire barrier</u> penetration seal assemblies.

Question 14.03.07-2

ITAAC Items 3, 4, and 5 in Table 2.4-4 of BBNPP Application, Part 10

Items 3 and 4 perform analyses on the as-designed components, and Item 5 performs an inspection on the as-built duct banks and pipes. Please identify why there is no analysis of the as-built duct banks and pipes to ensure they can withstand design basis loads. This RAI question is also applicable to the following ITAAC in regard to them requiring an analysis in addition to the required inspection.

ITAAC Item 2 in Table 2.4-5

ITAAC Items 6 and 7 in Table 2.4-19 of BBNPP Application, Part 10

Response:

In Table 2.4-4, a new line item will be added to identify that analysis will be performed on the as-built duct banks and pipes to ensure that the language in the Commitment Wording is satisfied.

Table 2.4-5, Item 2 will be revised to include both an analysis of the as-designed Fire Protection Building and an inspection of the as-built Fire Protection Building. Documentation of the conclusions will be created.

Table 2.4-19 will be revised for Items 6 and 7 to identify that an analysis of the as-designed equipment and an inspection of the as-built equipment will be performed and documented.

COLA Impact:

The BBNPP COLA, Part 10, ITAAC Tables identified below will be revised as follows:

Table 2.4-4 {Buried Duct Banks and Pipes Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
<u>6</u>	<u>The Seismic Category I electrical duct banks and pipes will be designed in accordance with ACI 349-2001, including the exceptions specified in Regulatory Guide 1.142.</u>	<u>Analysis of the Seismic Category I electrical duct banks and pipes will be performed.</u>	<u>A report exists and concludes that the as-designed Seismic Category I electrical duct banks and pipes conform to ACI 349-2001, including the exceptions specified in Regulatory Guide 1.142.</u>

Table 2.4-5 {Fire Protection Building Inspections, Tests, Analyses, and Acceptance Criteria}

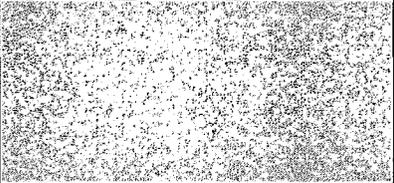
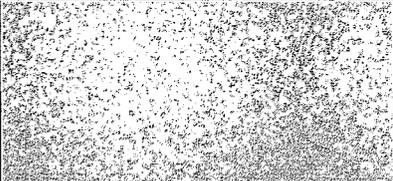
	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
<u>2</u>	The Fire Protection Building is classified as Seismic Category II-SSE, and can withstand the <u>applicable structural seismic</u> design basis loads without losing its structural integrity and will remain functional during and after an SSE.	a. <u>An inspection analysis of the as-designed built structure will be conducted.</u>	a. <u>A report exists and concludes that the as-designed built Fire Protection Building design and can withstand the applicable structural seismic design basis loads without loss of structural integrity.</u>
		b. <u>An inspection of the as-built structure will be conducted.</u>	b. <u>A report exists and concludes that the as-built Fire Protection Building conforms to the approved design.</u>

Table 2.4-19 {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
6	The ESWEMS piping and equipment which could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Seismic Category II, and can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. <u>An analysis will be conducted of the as-designed piping and equipment.</u>	a. <u>A report exists and concludes that the as-designed ESWEMS piping and equipment designated as Seismic Category II can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.</u>
		b. <u>Inspections will be conducted of the as-built piping and equipment.</u>	b. <u>A report exists and concludes that the as-built ESWEMS piping and equipment conforms to the approved design.</u>

7	The ESWEMS Pumphouse bar screens are designated as Seismic Category II, and can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. <u>An analysis will be conducted of the as-designed equipment.</u>	a. <u>A report exists and concludes that the as-designed ESWEMS Pumphouse bar screens designated as Seismic Category II can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.</u>
		b. <u>Inspections will be conducted of the as-built equipment.</u>	b. <u>A report exists and concludes that the as-built ESWEMS Pumphouse bar screens conform to the approved design.</u>

Question 14.03.07-4

ITAAC Item 1 in Table 2.4-7 of BBNPP Application, Part 10

The term contiguous is used in the Commitment Wording and AC of this ITAAC. Clarify to avoid confusion in the use of the term "contiguous." This RAI question is also applicable to any other ITAAC in Part 10 that use the term contiguous.

Response:

The term “contiguous” will be removed from the BBNPP COLA, Part 10, ITAAC. Table 2.4-7 Items 1 and 4 are the only locations where the term is used.

It is important to note that the Turbine Building and Switchgear Building are one combined structure. While they have different building designations (Turbine Building –UMA; Switchgear Building-UBA), the two buildings share not only a common column line, but they also share a common base mat.

COLA Impact:

The BBNPP COLA, Part 10, ITAAC, will be changed as follows:

Table 2.4-7 {Switchgear Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test or Analysis	Acceptance Criteria
4	The Switchgear Building is located adjacent to and contiguous with the Turbine Building.	An inspection of the as-built structure will be conducted.	The as-built Switchgear Building is located adjacent to and contiguous with the as-built Turbine Building.
1	<u>The Switchgear Building will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.</u>	a. <u>An analysis of the Switchgear Building structure design will be performed to determine that it will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.</u>	a. <u>A report exists and concludes that the design of the Switchgear Building structures will withstand the design basis loads so that it will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.</u>

		b. <u>An inspection of the as-built Switchgear Building will be performed and all deviations from the approved design will be reconciled with the design.</u>	b. <u>A report exists and concludes that the as-built Switchgear Building conforms to the approved design.</u>
4	3. 2-hour rated fire barriers separate all other <u>contiguous inter-connected</u> areas, as well as redundant trains within those areas.		3. 2-hour rated fire barriers separate all other <u>contiguous inter-connected</u> areas, as well as redundant trains within those areas.

Question 14.03.07-5

ITAAC Item 2 in Table 2.4-18 of BBNPP Application, Part 10

The Acceptance Criteria (AC) states that the ventilation system maintains the temperature within a range that supports operation of equipment within the Fire Protection Building. What is that range in quantitative terms?

Response:

The final design is not complete, therefore, the values cannot be provided at this time. Since the final specifications for diesel engines and other heat-generating equipment have not been identified, the ITAAC Table 2.4-18 Item 2, "Inspection, Test, or Analysis" requires that tests, analyses, or a combination of tests and analyses be performed to determine if the acceptance criteria are satisfied based on final heat loads in the Fire Protection Building. There will be an analysis that ensures that the final design and as-built configuration can operate satisfactorily in the worst-case room temperatures.

COLA Impact:

The BBNPP COLA will not be changed as a result of this RAI response.

Question 14.03.07-6

ITAAC Item 14 in Table 2.4-19 of BBNPP Application, Part 10

The AC refers to a minimum required flow through the bar screens. What is the range of that minimum required flow in quantitative terms?

Response:

The final design is not complete, therefore, the values cannot be provided at this time. Since the final specifications for grating size in the inlet openings have not been identified, the ITAAC Table 2.4-19 Item 14, "Inspection, Test, or Analysis" requires that tests, analyses, or a combination of tests and analyses be performed to determine if the acceptance criteria are satisfied based on final inlet opening sizes, installed bar sizes and minimum flow requirements for the installed pumps. There will be an analysis that ensures that the final design and as-built configuration can operate satisfactorily with adequate inlet flow rates.

COLA Impact:

The BBNPP COLA will not be changed as a result of this RAI response.

Question 14.03.07-7

ITAAC Item 20 in Table 2.4-19 of BBNPP Application, Part 10

Revise the AC to be as detailed as the Commitment Wording since the words in the AC determine whether the design requirement stated in the Commitment Wording is met.

Response:

The Acceptance Criteria will be revised to be as detailed as the Commitment Wording in Table 2.4-19.

COLA Impact:

The BBNPP COLA Part 10, ITAAC will be revised as follows:

Table 2.4-19 {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
20	In response to control inputs from the associated ESWS cooling tower basin, the ESWEMS control valves, in conjunction with the ESWS valves that isolate ESWEMS flow, modulate the flow of water back to the ESWEMS Retention Pond, so that the ESWEMS pumps can operate within their optimum range.	Tests of the as-built system will be conducted.	<u>The ESWEMS control valves in each as-built division modulates ESWEMS flow in conjunction with the ESWS valves that isolate flow. In response to control inputs from the associated ESWS cooling tower basin, the ESWEMS control valves, in conjunction with the ESWS valves that isolate ESWEMS flow, modulate the flow of water back to the ESWEMS Retention Pond, so that the ESWEMS pumps can operate within their optimum range.</u>

Question 14.03.07-8

ITAAC Item 3 in Table 2.4-21 of BBNPP Application, Part 10

Why does the Inspection, Tests or Analysis (ITA) for ITAAC 3b only refer to inspections of equipment instead of equipment and piping?

Response:

ITAAC Item 3 in Table 2.4-21 will be revised to include inspections of piping.

COLA Impact:

The BBNPP COLA Part 10, ITAAC will be revised as follows:

Table 2.4-21 {Fire Water Distribution System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	Fire Water Distribution System equipment and piping that could impact the capability of Seismic Category I Structures to perform its safety function are designated as Seismic Category II, and can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	b. Inspections will be conducted of the as-built equipment <u>and piping.</u>	b. <u>A report exists and concludes that</u> the as-built Fire Water Distribution System equipment and piping that are designated as Seismic Category II are installed as designed <u>conforms to the approved design.</u>

Question 14.03.07-9

ITAAC Item 2 in Table 2.4-24 of BBNPP Application, Part 10

Why is there no inspection performed to determine whether the circuits sized per the analysis are the actual circuits installed? This inspection would be of the ratings of the equipment not their location.

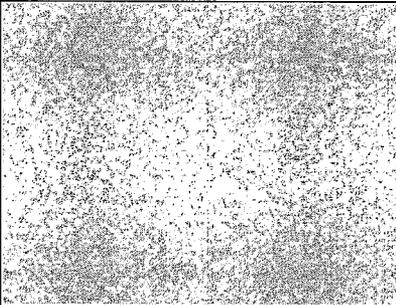
Response:

Inspections will be added to this section of ITAAC as shown below.

COLA Impact:

The BBNPP COLA Part 10, ITAAC will be revised as follows:

Table 2.4-24 {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
2	Each offsite power circuit shall be sized to supply the station safety-related and non-safety-related loads during normal and off normal operation. The Emergency Auxiliary Transformers and Normal Auxiliary Transformers shall be sized to supply their load requirements.	a. <u>An analysis of as-designed built station safety-related and non-safety-related loads will be performed to determine their load requirements during normal and off normal operation.</u>	a. <u>A report exists and concludes that each as-designed built offsite power circuit from the transmission network through the main step-up transformer and including the Emergency Auxiliary Transformers and Normal Auxiliary Transformers is sized to meet the load requirements during normal and off normal operation.</u>
		b. <u>An inspection of the as-built station safety-related and non-safety-related offsite power circuit ratings will be performed.</u>	b. <u>A report exists and concludes that each as-built offsite power circuit from the transmission network through the main step-up transformer and including the Emergency Auxiliary Transformers and Normal Auxiliary Transformers conforms to the as-designed system.</u>

Question 14.03.07-10

ITAAC Item 3 in Table 2.4-24 of BBNPP Application, Part 10

Why does this ITAAC not have an analysis to size the circuits from emergency auxiliary transformers (EATs) to the four Emergency Power Supply System divisions? If the ITAAC is only to verify the connection of the EATs to the emergency buses then state that. But if the ITAAC is also being used to state that the connections from the EATs to those emergency buses are sized correctly, then it would seem that an analysis would be appropriate to determine the correct ratings of those circuits.

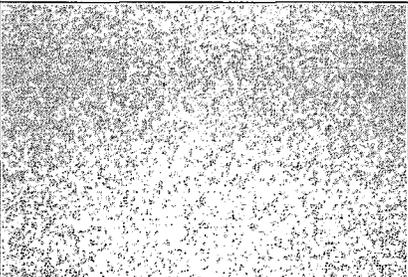
Response:

The ITAAC will be changed to include an analysis of the circuit design and inspection of the as-built system.

COLA Impact:

The BBNPP COLA Part 10, ITAAC will be revised as follows:

Table 2.4-24 {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	Each Emergency Auxiliary Transformer shall be connected to the Switchyard via an independent circuit, sized to supply the four Emergency Power Supply System divisions.	a. <u>An analysis inspection of the as-built designed system will be conducted.</u>	a. <u>A report exists and concludes that eEach as-designed built Emergency Auxiliary Transformer is connected to the as-built designed Switchyard via an independent circuit, sized to supply the four Emergency Power Supply divisions.</u>
		b. <u>An inspection of the as-built system will be conducted.</u>	b. <u>A report exists and concludes that each as-built Emergency Auxiliary Transformer conforms to the as-designed configuration and is connected to the as-built Switchyard via an independent circuit, sized to supply the four Emergency Power Supply divisions.</u>