BellBendCOLPEm Resource

From: Canova, Michael
Sent: Friday, January 15, 2010 4:18 PM
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Cc: BellBendCOL Resource
Subject: RE: Bell Bend COLA - Draft Request for Information No. 78 (RAI No. 78)- CTSB - 2204
Attachments: Letter 78 - RAI 2204 CTSB.doc

Attached is DRAFT RAI No. 78 for the Bell Bend COL Application. You have ten working days to review this request and to decide whether you need a conference call to discuss it. Please notify me of your decision in this regard.

After the call, or after ten days, the RAI will be finalized and sent to you. The schedule for response submittal will be established prior to formalizing this RAI .

If you have any questions, please contact me.

Michael A. Canova
Project Manager - Bell Bend COL Application
Docket 52-039
EPR Project Branch
Division of New Reactor Licensing
Office of New Reactors
301-415-0737

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Letter 78 - RAI 2204 CTSB.doc	53754	

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Request for Additional Information No.78
Application Revision 0

DRAFT

1/15/2010

Bell Bend
PPL Bell Bend LLC.
Docket No. 52-039
SRP Section: 14.03 - Inspections, Tests, Analyses, and Acceptance Criteria
Application Section: Part 10, Section 2.4, Table 2.4-1

QUESTIONS for Technical Specification Branch (CTSB)

14.03-1

ITAAC Items 1, 2, and 3 in Table 2.4-1

These ITAAC require inspections to validate the physical characteristics of the materials (fill, concrete, or bedrock) that support the seismic category I structures, the retention pond liner, and the seismic category II structures. Please provide the analyses and tests, in addition to the inspections, that will be used to validate and verify that the materials (fill, concrete, or bedrock) that support these structures and liner meet their seismic requirements.

14.03-2

ITAAC Item 4, 5, 6, 7, and 8 in Table 2.4-1

The acceptance criteria of these ITAAC are general in that they all state that what must be met are the minimum requirements or requirements stated in a design specification. Please provide the specific requirements, for example a measureable value, for bounding the design requirements stated in each of the Design Commitments. More specificity is required in the AC of these ITAAC in order to implement these ITAAC and for the design requirement to be met.

14.03-3

ITAAC Items 1 and 2 in Table 2.4-2
ITAAC Item 1 in Table 2.4-3
ITAAC Item 5 in Table 2.4-23
ITAAC Item 8 in Table 2.4-23
ITAAC Item 9 in Table 2.4-23
ITAAC Item 3 in Table 2.4-24

Please provide a bounding analysis for each of these ITAAC, in addition to the inspection, that establishes that the (1) Essential Service Water Emergency Makeup System (ESWEMS) pumphouse can withstand design basis seismic loads without loss of structural integrity, and (2) the pumpwell of the ESWEMS pumphouse can withstand water surge and wave forces. First, the structures must be designed in accordance with

an analyses, and then they must be inspected to determine if they are constructed to meet those design requirements.

14.03-4

ITAAC Item 3 in Table 2.4-2

The ITA for Item 3a. states that type tests, analyses, or a combination of type tests and analyses will be performed. Type tests are typically done at vendor facilities, and they would be applicable to the 3hr fire rated doors and dampers and also the penetration seal assemblies. Please provide the combination of analyses and type tests that will be used to verify that the entire installation meets the desired separation requirements in the ESWEMS pumphouse.

14.03-5

ITAAC Item 4 in Table 2.4-2

Please amend the acceptance criteria for items 4.a. and 4.b. by adding the following words at the end of their present sentences: " so as to prevent any water leakage through them."

14.03-6

(1) ITAAC Item 1 in Table 2.4-4
(2) ITAAC Item 2 in Table 2.4-4
(3) ITAAC Item 5 in Table 2.4-4
(4) ITAAC Item 10 in Table 2.4-17
(5) ITAAC Item 5 in Table 2.4-19
(6) ITAAC Item 6 in Table 2.4-19
(7) ITAAC Item 7 in Table 2.4-19
(8) ITAAC Item 19 in Table 2.4-19
(9) ITAAC Item 20 in Table 2.4-19
(10) ITAAC Item 1 in Table 2.4-20
(11) ITAAC Item 2 in Table 2.4-21 .

The acceptance criterion for these ITAAC are less definitive than their Commitment Wordings in Part 10 of the Bell Bend application. The acceptance criteria should always be more definitive or have the same definition as the Commitment Wording. Please provide the following for each of the items above Item (1) where duct banks tranverse to and from, Item (2) what piping is buried, Item (3) the loads buried duct banks and piping can withstand, Item (4) that HVAC is initiated automatically , Item (5) the list of ESWEMS equipment and that they can withstand design basis seismic loads without loss of safety function, Item (6) similar words to what is stated in Commitment Wording, Item (7) similar words to what is stated in Commitment Wording, Item (8) that check valve opens when ESWEMS pump is energized and flow is established, and shuts when pump is de-energized, Item (9) similar words to what is stated in Commitment Wording, Item (10) identify fire water distribution system's fire water storage tanks and NFPA code 804 requirement, and Item (11) identify the equipment and piping as stated in the Commitment Wording.

14.03-7

ITAAC Item 2 in Table 2.4-6
ITAAC Item 2 in Table 2.4-7
ITAAC Item 1 in Table 2.4-8
ITAAC Item 1 in Table 2.4-9
ITAAC Item 1 in Table 2.4-10
ITAAC Item 1 in Table 2.4-11
ITAAC Item 1 in Table 2.4-12
ITAAC Item 1 in Table 2.4-13
ITAAC Item 1 in Table 2.4-14
ITAAC Item 1 in Table 2.4-15
ITAAC Item 1 in Table 2.4-16

Please revise these ITAAC to include inspections, in addition to the analyses, of the as-built installations to verify the installed equipment conforms and is bounded by the analyses.

14.03-8

ITAAC Item 4 in Table 2.4-17
ITAAC Item 4 in Table 2.4-19

Typically, electrical independence is demonstrated by a combination of analysis and inspections or by tests. An analysis in combination with an inspection could be used to demonstrate that electrical independence exists between two Class divisions and a between Class 1E division and non-Class 1E divisions. Electrical independence is different from physical separation. Inspection can be used to verify that physical separation exists, but electrical independence is verified by a test or by analyzing the isolating medium that will be used to provide the electrical independence between two circuits. If an analysis is used to analyze the properties of the isolating medium, then an inspection is required to verify that the isolating medium identified in the analysis was installed in the field. A test could introduce a signal into one Class 1E division, and then verify that the signal exists only in that Class 1E division and no other Class 1E division or non-Class 1E division. Please provide for these ITAAC either a test or a combination of an analysis and an inspection as applicable to verify that electrical independence exists between the circuits in question.

14.03-9

ITAAC Item 8 in Table 2.4-17

Please provide for this ITAAC the inspections required to determine whether the supports and restraints for the equipment, piping, and ducting are installed per the analysis.

14.03-10

ITAAC Item 3 in Table 2.4-18

Please identify in the acceptance criterion for this ITAAC the signal that causes the Fire Protection Building ventilation system to initiate.

14.03-11

ITAAC Item 5 in Table 2.4-17
ITAAC Item 2 in Table 2.4-19
ITAAC Item 1b. in Table 2.4-24

Typically a low-voltage signal is placed in the division under test since it is easier to measure a low-voltage signal than full voltage (powering) at the equipment in a particular division. Please revise the inspections, tests, and analyses section of each of these ITAAC to introduce a test signal into each Class 1 E division one at a time, and the AC to verify that the test signal exists in only the Class 1E division under test.

14.03-12

ITAAC Item 8 in Table 2.4-19
ITAAC Item 9 in Table 2.4-19

Please revise these ITAAC to have the format agreed upon for the EPR design certification application of three ITAAC each for both the components and the piping in the ESWEMS. First ITAAC is that ASME components are designed per ASME Code Section III as verified by a ASME Code design report, second ITAAC is for reconcilation of as-built components with ASME Code Section III as verified by an ASME Code design report, and third ITAAC is for fabrication, inspection, and installation of the components as verified by an ASME Code data report. The table below shows all three ITAAC for components with the one for piping being similar.

a1.) The components identified in Table XXX as ASME Code Section III are designed in accordance with ASME Code Section III requirements and seismic Category I requirements.	Inspection of ASME Code Design Reports (NCA-3550) and required documents will be conducted.	ASME Code Design Report(s) (NCA-3550) (certified, when required by ASME Code) exist and conclude that the design of the YYY components identified in Table XXX as ASME Code Section III complies with the requirements of the ASME Code, Section III, including for those stresses and loads related to fatigue (including environmental effects), thermal expansion, seismic, and combined.
a2.) The components identified in Table XXX as ASME Code Section III shall be reconciled with the design requirements.	A reconciliation analysis of the components using as-design and as-built information and ASME Code certified Design Reports (NCA-3550) will be	An ASME Code Design Report(s) (certified, when required by ASME Code) exists and concludes that design reconciliation has been

	performed.	completed in accordance with the ASME Code for asbuilt reconciliation of the YYY components identified in Table XXX as ASME Code Section III. The report documents the results of the reconciliation analysis.
a3.) The components identified in Table XXX as ASME Code Section III are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	Inspection of the components will be conducted.	ASME Code Data Report(s) (including N-5 Data reports, where applicable) (certified, when required by ASME Code) and inspection reports exist and document conclude that the YYY components identified in Table XXX as ASME Code Section III are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.

14.03-13

ITAAC Items 12 and 13 in Table 2.4-19

Please revise the inspections, tests, and analyses section of these ITAAC to include the tests that will be used to verify the components or piping maintained their integrity at the stated design pressure. To check components and piping per ASME for structural integrity usually involves a hydrostatic test. That would seem appropriate here given that water is what is being transferred by the ESWEMS.

14.03-14

ITAAC Item 2 in Table 2.4-24

Please revise the inspections, tests,and analyses section of this ITAAC to indicate that the analyses are to verify the sizing of each offsite power circuit, emergency auxiliary transformer, and normal auxiliary transformer.

14.03-15

ITAAC Items 1, 2, 3, and 4 in Table 2.4-27

Please revise the acceptance criteria of these ITAAC to include the words: "to prevent leakage out of the room(s)."