

R. R. Sgarro
Manager-Nuclear Regulatory Affairs

PPL Bell Bend, LLC
38 Bomboy Lane, Suite 2
Berwick, PA 18603
Tel. 570.802.8102 FAX 570.802.8119
rrsgarro@pplweb.com



June 29, 2009

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

**BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI SET NO. 10
BNP-2009-113 Docket No. 52-039**

References: 1) M. Canova (NRC) to R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 10 (RAI No. 10) – CIB-2387, email dated June 5 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., (PPL). This RAI addresses the Initial Plant Test Program – Design Certification and New License Applicants, as discussed in Section 14.2 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Bell Bend Nuclear Power Plant Combined License Application (COLA).

The enclosure provides our response to RAI No. 10, Questions 03.09.06-01 through 03.09.06-5, which include revised COLA content. A Licensing Basis Document Change Request has been initiated to incorporate this change in a future revision of the COLA. This future revision of the COLA is the only new regulatory commitment.

If you have any questions, please contact the undersigned at 570-802-8102.

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

Executed on June 29, 2009

Respectfully,

Rocco R. Sgarro

Enclosure: As stated

RRS/cw

D079
NIK

cc: Mr. Samuel J. Collins
Regional Administrator
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. Michael Canova
Project Manager
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Enclosure 1

Response to NRC Request for Additional Information Set No. 10
Bell Bend Nuclear Power Plant

RAI Set No. 10

Question 03.09.06-1

Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints," in the Bell Bend EPR S-COLA FSAR, incorporates by reference the U.S. EPR Design Certification FSAR, and also provides plant-specific information on the Essential Service Water Emergency Makeup System (ESWEMS) for the Bell Bend Nuclear Power Plant (BBNPP). Bell Bend EPR S-COLA FSAR Subsection 3.9.6.1, "Functional Design and Qualification of Pumps, Valves, and Dynamic Restraints," provides general statements regarding the functional design and qualification of ESWEMS components, and states that there are no snubbers incorporated into the ESWEMS at BBNPP. With respect to the inservice testing (IST) program for ESWEMS pumps and valves, the Bell Bend EPR S-COLA FSAR states that Tables 3.9-1 and 2 identify additional site-specific ESWEMS pumps and valves, respectively, that are included within the scope of the IST program.

Please provide additional information regarding the application of the provisions for the functional design, qualification, and IST programs for pumps and valves, which are specified in the EPR Design Certification FSAR Section 3.9.6 and the Calvert Cliffs Unit 3 R-COLA FSAR Section 3.9.6, to the ESWEMS pumps and valves identified in Tables 3.9-1 and 2 of the Bell Bend EPR S-COLA FSAR.

Bell Bend EPR S-COLA FSAR Subsection 3.9.6.3, "Inservice Testing Programs for Valves," states that the ESWEMS Class 3 site-specific valves will be tested in accordance with ASME OM Code 2004, section ISTC, but does not address the other provisions of the EPR Design Certification FSAR and Calvert Cliffs Unit 3 R-COLA FSAR for IST and motor-operated valve (MOV) testing operational programs. Please confirm that the functional design, qualification, and IST (including MOV testing) programs in the EPR Design Certification FSAR and Calvert Cliffs Unit 3 R-COLA FSAR will be applied to the ESWEMS pumps and valves at BBNPP, or describe plant-specific functional design, qualification, and IST (including MOV testing) programs that will be implemented at BBNPP in these technical areas for the ESWEMS pumps and valves.

The Calvert Cliffs Unit 3 EPR R COLA FSAR, Section 3.9.6, describes an Ultimate Heat Sink (UHS) Makeup Water System as a site-specific safety-related system that is subject to PST and IST program requirements identified in 10 CFR 50.55a. Please revise the Bell Bend FSAR to clarify the applicability (if any) of a UHS Makeup Water at the BBNPP, and provide additional information on the PST and IST programs that will be used.

Response

1. Please provide additional information regarding the application of the provisions for the functional design, qualification, and IST programs for pumps and valves, which are specified in the EPR Design Certification FSAR Section 3.9.6 and the Calvert Cliffs Unit 3 R-COLA FSAR Section 3.9.6, to the ESWEMS pumps and valves identified in Tables 3.9-1 and 2 of the Bell Bend EPR S-COLA FSAR.

As discussed with the NRC at the U.S. EPR Design Center Working Group (DCWG) meeting held on March 4, 2009, the "fully described" inservice testing (IST) program is included within the U.S. EPR FSAR by the design certification applicant (AREVA). BBNPP FSAR Section 3.9.6 will be revised to reflect this. This response is consistent with the response to the R-COLA RAI-46.

COLA Impact

FSAR Section 3.9.6 will be updated as follows in a future COLA revision:

3.9.6 FUNCTIONAL DESIGN, QUALIFICATION, AND INSERVICE TESTING PROGRAMS FOR PUMPS, VALVES, AND DYNAMIC RESTRAINTS

The U.S. EPR FSAR includes the following COL Items in Section 3.9.6:

A COL applicant that references the U.S. EPR design certification will submit the PST program and IST program for pumps, valves, and snubbers as required by 10 CFR 50.55a.

A COL applicant that references the U.S. EPR design certification will identify the implementation milestones and applicable ASME OM Code for the preservice and inservice examination and testing programs. These programs will be consistent with the requirements in the latest edition and addenda of the OM Code incorporated by reference in 10 CFR 50.55a on the date 12 months before the date for initial fuel load.

These COL Items are addressed as follows:

{PPL Bell Bend, LLC} will implement the preservice testing (PST) and inservice testing (IST) programs for pumps, valves, and dynamic restraints described in Section 3.9.6 of the U.S. EPR FSAR. Because of site specific needs, the following supplements will be included in the programs.

{For BBNPP, the ESWEMS performs the function of the Ultimate Heat Sink (UHS) Makeup System. The ESWEMS is a site-specific safety-related system that is subject to ~~preservice testing (PST)~~ and ~~inservice testing (IST)~~ program requirements identified in 10 CFR 50.55a. This system's pumps, valves and piping components included in these testing programs are provided in Table 3.9-1 and Table 3.9-2. There are no snubbers in the ESWEMS.}

Response

2. Please confirm that the functional design, qualification, and IST (including MOV testing) programs in the EPR Design Certification FSAR and Calvert Cliffs Unit 3 R-COLA FSAR will be applied to the ESWEMS pumps and valves at BBNPP, or describe plant-specific functional design, qualification, and IST (including MOV testing) programs that will be implemented at BBNPP in these technical areas for the ESWEMS pumps and valves.

See response to 03.09.06-1, item 1.

COLA Impact

See response to 03.09.06-1, item 1.

Response

3. Please revise the Bell Bend FSAR to clarify the applicability (if any) of a UHS Makeup Water at the BBNPP.

For BBNPP, the ESWEMS performs the function of the Ultimate Heat Sink (UHS) Makeup System.

COLA Impact

FSAR Section 3.9.6 will be updated as described in the response to 03.09.06-1, item 1, in a future COLA revision.

Response

4. Provide additional information on the PST and IST programs that will be used.

Please see response to 03.09.06-1, item 1.

COLA Impact

Please see response to 03.09.06-1, item 1.

Question 03.09.06-2

Table 3.9-2, "Site-Specific Inservice Valve Testing Program Requirements," in the Bell Bend EPR S-COLA FSAR, provides IST provisions for the ESWEMS valves. As part of its review of the IST table in the U.S. EPR Design Certification FSAR the NRC staff requested additional information regarding the indication of stroke-time and fail-safe testing as part of exercise testing, and justification for a passive designation for valves having both open and closed safety positions. For individual ESWEMS valves in Bell Bend EPR S-COLA FSAR Table 3.9-2, where applicable, specify the performance of stroke-time testing and fail-safe testing, and identify active valves having open and closed safety positions.

Response

Stroke time testing will be added to Table 3.9-2 where applicable.

The ESWEMS valves identified do not require fail-safe testing to verify their ability to perform their respective safety functions.

The positions of active valves having open and closed safety positions will be identified in Table 3.9-2.

COLA Impact

FSAR Table 3.9-2 will be updated as follows in a future COLA revision:

Table 3.9-2 (Site-Specific Inservice Valve Testing Program Requirements)

(Page 1 of 2)

Valve Identification Number ¹	Description /Valve Function	Valve Type ²	Valve Actuator ³	ASME Code Class ⁴	ASME OM Code Category ⁵	Active/Passive ⁶	Safety Position ⁷	Test Required ⁸	Test Frequency ⁹	Comments
10GFA10 AA101	Train 1 ESWEMS Recirculation Control Valve	GB	MO	3	B	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA10 AA401	Train 1 ESWEMS Flushing Line Valve	GB	MO	3	A	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA10 AA001	Train 1 ESWEMS Pump Discharge Check Valve	CK	SA	3	C	A	<u>P-Q</u>	ET	Q	
10GFA20 AA101	Train 2 ESWEMS Recirculation Control Valve	GB	MO	3	B	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA20 AA101	Train 2 ESWEMS Flushing Line Valve	GB	MO	3	B	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA20 AA001	Train 2 ESWEMS Pump Discharge Check Valve	CK	SA	3	C	A	<u>P-Q</u>	ET	Q	
10GFA30 AA101	Train 3 ESWEMS Recirculation Control Valve	GB	MO	3	B	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA30 AA401	Train 3 ESWEMS Flushing Line Valve	GB	MO	3	B	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA30 AA001	Train 3 ESWEMS Pump Discharge Check Valve	CK	SA	3	C	A	<u>P-Q</u>	ET	Q	
10GFA40 AA101	Train 4 ESWEMS Recirculation Control Valve	GB	MO	3	B	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA40 AA401	Train 4 ESWEMS Flushing Line Valve	GB	MO	3	B	A	C	ET/ <u>ST</u> PI	Q 2Y	
10GFA40 AA001	Train 4 ESWEMS Pump Discharge Check Valve	CK	SA	3	C	<u>P-A</u>	<u>P-Q</u>	ET	Q	
	ESWEMS Makeup Water System Manual Valves	Various	MA	3	B	P	O/C	ET PI	5Y 2Y 2Y	See Note 10

Question 03.09.06-3

Bell Bend EPR S-COLA FSAR Table 3.9-2 identifies the Train 4 ESWEMS Pump Discharge Check Valve (Valve Identification Number 10GFA40-AA001) as a passive valve. Check valves are considered active valves for the purpose of the IST program at operating nuclear power plants. Provide justification for the classification of the Train 4 ESWEMS Pump Discharge Check Valve as a passive valve, or reclassify this and other check valves to be included in the Bell Bend IST program as active valves.

Response

This and other check valves will be included in the BBNPP IST program as active valves to be consistent with U.S. EPR Design Certification FSAR 3.9.6.3.3.

COLA Impact

FSAR Table 3.9-2 will be updated as follows in a future COLA revision:

See table developed in response to question 03.09.06-2.

Question 03.09.06-4

Note 10 in Bell Bend EPR S-COLA FSAR Table 3.9-2 states that table entries for ESWEMS manual valves will be developed during detailed design engineering. U.S. EPR Design Certification FSAR Tier 2, Table 3.9.6-2, "Inservice Valve Testing Program Requirements," includes table entries for manual valves in other EPR systems. Please provide additional information on the ESWEMS manual valves in Bell Bend EPR S-COLA FSAR Table 3.9-2 consistent with the IST program description in the U.S. EPR Design Certification FSAR, or justify the deferral of IST program information for the ESWEMS manual valves.

Response

The manual valves referenced in the U.S. EPR Design Certification FSAR are part of the generic text in the COLA. The manual valves in BBNPP FSAR Table 3.9-2 are for site specific valves. The details for these valves will be provided as soon as the detailed design for this system is complete.

The Test Frequency for Manual Valves will be changed to every 2 years (2Y) to be consistent with the U.S. EPR Design Certification FSAR section 3.9.6.3.7.

COLA Impact

FSAR Table 3.9-2 will be updated as follows in a future COLA revision:

See table developed in response to question 03.09.06-2.

Question 03.09.06-5

The last sentence of Bell Bend EPR S-COLA FSAR Section 3.9.6 (at top of page 3-207) states that the implementation milestones for the preservice testing (PST) and inservice testing (IST) programs shall be consistent with the requirements in the latest edition and addenda of the OM Code incorporated by reference in 10 CFR 50.55a (CFR, 2008) on the date 12 months before the date for initial fuel load. The NRC staff requests that the Bell Bend FSAR be revised to remove the reference to a specific year of the CFR.

Response

The relevant CFR and Regulatory Guide references to a specific year will be deleted.

COLA Impact

FSAR 3.9.6 will be updated as follows in a future COLA revision:

3.9.6 FUNCTIONAL DESIGN, QUALIFICATION, AND INSERVICE TESTING PROGRAMS FOR PUMPS, VALVES, AND DYNAMIC RESTRAINTS

{PPL Bell Bend, LLC} shall submit the PST and IST programs prior to performing the tests and following the start of construction and prior to the anticipated date of commercial operation, respectively. The implementation milestones for these programs are provided in Table 13.4-1. These programs shall include the implementation milestones and applicable ASME OM Code (ASME, 2004b) and shall be consistent with the requirements in the latest edition and addenda of the OM Code incorporated by reference in 10 CFR 50.55a (~~CFR, 2008~~) on the date 12 months before the date for initial fuel load.

3.9.6.6 REFERENCES

~~CFR, 2008. Codes and Standards, Title 10, Code of Federal Regulations, Part 50.55a, U. S. Nuclear Regulatory Commission, 2008.~~

5.2.4 INSERVICE INSPECTION AND TESTING OF THE RCPB

Preservice inspection and inservice inspection programs for the RCPB meet the requirements of 10 CFR 50.55a(g) (~~CFR, 2008~~), and comply with ASME Boiler and Pressure Vessel Code, Section XI, 2004 (ASME, 2004) edition. This code is consistent with that established in U.S. EPR FSAR Section 5.2.4. No relief requests or alternatives are required. The implementation milestones for the site-specific ASME Section XI preservice and inservice inspection programs for the RCPB are identified in Table 13.4-1.

The initial inservice inspection program shall incorporate the latest edition and addenda of the ASME Boiler and Pressure Vessel Code approved in 10 CFR 50.55a(b) on the date 12 months before initial fuel load. Inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) 12 months before the start of the 120-month inspection interval (or the optional ASME Code cases listed in Regulatory Guide 1.147 (~~NRC, 2007~~), that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b)).

5.2.6 REFERENCES

~~CFR, 2008. Codes and Standards, Title 10, Code of Federal Regulations, Part 50.55a, U.S. Nuclear Regulatory Commission, 2008.~~

~~NRC, 2007. Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Regulatory Guide 1.147, Revision 15, U.S. Nuclear Regulatory Commission, October 2007. }~~

5.4.2.5.2.2 TUBE INSPECTION

The Steam Generator Tube Inspection Program shall incorporate the latest edition and addenda of the ASME Boiler and Pressure Vessel Code approved in 10 CFR 50.55a(b) (~~CFR, 2008~~) on the date 12 months before initial fuel load. Inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) 12 months before the start of the 120-month inspection interval (or the optional ASME Code cases listed in Regulatory Guide 1.147 (~~NRC, 2007~~), that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b)).

5.4.15 REFERENCES

~~CFR, 2008. Codes and Standards, Title 10, Code of Federal Regulations, Part 50.55a, U.S. Nuclear Regulatory Commission, 2008.~~

~~NRC, 2007. Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Regulatory Guide 1.147, Revision 15, U.S. Nuclear Regulatory Commission, October 2007. }~~

6.6 INSERVICE INSPECTION OF CLASS 2 AND 3 COMPONENTS

The site-specific preservice inspection and inservice inspection programs for Class 2 and Class 3 components meet the requirements of 10 CFR 50.55a(g) (~~CFR, 2008~~), and comply with ASME Boiler and Pressure Vessel Code, Section XI, 2004 Edition (ASME, 2004a). This code is consistent with that established in U.S. EPR FSAR Section 6.6. No relief requests or alternatives are required. The implementation milestones for the site-specific ASME Section XI preservice and inservice inspection programs for Class 2 and Class 3 components are identified in Table 13.4-1.

The initial inservice inspection program shall incorporate the latest edition and addenda of the ASME Boiler and Pressure Vessel Code approved in 10 CFR 50.55a(b) (~~CFR, 2008~~) on the date 12 months before initial fuel load. Inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) 12 months before the start of the 120-month inspection interval (or the optional ASME Code cases listed in Regulatory Guide 1.147 (~~NRC, 2007~~), that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b)).

6.6.9 REFERENCES

~~CFR, 2008. Codes and Standards, Title 10 Code of Federal Regulations, Part 50.55a U.S. Nuclear Regulatory Commission, 2008.~~

~~NRC, 2007. Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Regulatory Guide 1.147, Revision 15, U.S. Nuclear Regulatory Commission, October 2007. }~~