

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



December 15, 2009

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

**BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI NO. 72
BNP-2009-364 Docket No. 52-039**

References: 1) M. Canova (NRC) to R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 72 (RAI No. 72) – SPBA-3774, email dated November 20, 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 Reactor Coolant Pressure Boundary Leak Detection, as discussed in Section 5.2.5 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Bell Bend Nuclear Power Plant Combined License Application (COLA).

Enclosure 1 provides our response to RAI No. 72, Questions 05.02.05-1 and 05.02.05-2.

Our response to RAI 72 does not include any new regulatory commitments.

If you have any 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 December 15, 2009

Respectfully,


Rocco R. Sgarro

RRS/kw

Enclosure: As stated

D079
NRD

cc: (w/o Enclosures)

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
11545 Rockville Pike, Mail Stop T6-E55M
Rockville, MD 20852

Enclosure 1

Response to NRC Request for Additional Information Set No. 72
Bell Bend Nuclear Power Plant

Question 05.02.05-1:

The review of Bell Bend SCOL application is affected by the parallel review of US EPR design certification (DC). RG 1.45 Revision 1 (dated May 2008), "Guidance on Monitoring and Response to Reactor Coolant System Leakage," Regulatory Position C.3, indicates that procedures for converting various indications to a common leakage equivalent should be available to the operators. In the response to RAI 2958-11908 Question 05.02.05-6 (ADAMS No. ML091950755), dated July 14, 2009, relating to US EPR FSAR Section 5.2.5, "Reactor Coolant Pressure Boundary (RCPB) Leakage Detection," to address the above regulatory position, AREVA indicated that the reactor coolant leakage detection procedures for instrument indication and alarm set points are to be developed by the COL Applicant. Therefore, the staff requests the COL applicant to provide the following information relating to the above RAI.

- Provide procedures to convert the instrument indications of various leakage detection paths (e.g., containment radioactivity monitors, containment sump level monitor, containment air cooler condensate flow rate monitor) into common leakage rate (gpm).
- In order to support the procedures described in RAI Question 05.02.05-2 for prolonged low-level unidentified leakage, the applicant is requested to define the alarm setpoints and demonstrate the setpoints are sufficiently low to provide an early warning for operator actions prior to Technical Specification (TS) limits.

Response:

The procedures that provide conversion of instrument indications of various leakage detection instruments into common leak rate (gpm) will be prepared as operating and emergency operating procedures, as described in BBNPP FSAR Section 13.5.2.1. U.S. EPR Technical Specifications (TS) 3.4.12 and 3.4.14, which are incorporated by reference in BBNPP FSAR Chapter 16, contain operability and surveillance requirements for reactor coolant system (RCS) operational leakage and RCS leakage detection indication instrumentation, respectively. The alarm set-points are determined by considering factors such as sensor capability, background counts for radiation monitors, providing an early warning for operator actions prior to TS limit attainment, and development of the surveillance procedures.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 05.02.05-2:

The review of Bell Bend SCOL application is affected by the parallel review of US EPR design certification. In the response to RAI 2958-11909 Question 05.02.05-7 (ADAMS No. ML091950755), dated July 14, 2009, relating to US EPR FSAR Section 5.2.5, "Reactor Coolant Pressure Boundary (RCPB) Leakage Detection," AREVA indicated that leakage detection procedures for prolonged low-level leakage are to be developed by COL Applicant. Therefore, the staff requests the COL applicant to provide such information relating to the above RAI.

The operating experience at Davis Besse indicated that prolonged low-level unidentified leakage inside containment could cause material degradation such that it could potentially compromise the integrity of a system leading to the gross rupture of the reactor coolant pressure boundary. The applicant is requested to provide operating procedures that specify operator actions in response to prolonged low level leakage conditions that exist above normal leakage rates and below the Technical Specification (TS) limits to provide operator sufficient time to take actions before the TS limit is reached. The procedures would include identifying, monitoring, trending, and repairing prolonged low-level leakage. The guidance about developing such procedures for ensuring effective management of leakage, including low-level leakage, is available in Regulatory Guide 1.45, Revision 1 (dated May 2008), "Guidance on Monitoring and Response to Reactor Coolant System Leakage," Regulatory Position C.3.

Response:

PPL Bell Bend, LLC will establish procedures that specify operator actions in response to leakage rates less than the limits set forth in the plant technical specifications (TS). The procedures to specify operator actions for abnormal conditions will be prepared as operating and emergency operating procedures described in BBNPP FSAR Section 13.5.2.1 (see the Response to Question 05.02.05-1). Additionally, Section 5.2.5 of U.S. EPR FSAR Tier 2, Revision 1 indicates the reactor coolant pressure boundary (RCPB) leakage detection system conforms to the guidance in Regulatory Guide (RG) 1.45, Revision 1. Section 5.2.5 of the U.S. EPR FSAR is incorporated by reference with no departures or supplements in the BBNPP FSAR.

Also included in the BBNPP COLA Part 10, ITAAC, is a License Condition that addresses COL Item 3.6.3. This License Condition states that:

{PPL Bell Bend, LLC} shall confirm that the design Leak-Before-Break (LBB) analysis remains bounding for each applicable as-built piping system. A summary of the results of the actual as-built, plant-specific LBB analysis, including material properties of piping and welds, stress analyses, leakage detection capability, and degradation mechanisms will be provided prior to fuel load.

This report will discuss the elements of the leakage detection program.

COLA Impact:

The COLA will not be revised as a result of this response.