BellBendCOLPEm Resource

From: Sgarro, Rocco R [rrsgarro@pplweb.com]
Sent: Friday, November 13, 2009 2:42 PM
To: Canova, Michael
Cc: 'Freels, James'; Kirkwood, Jon K; Woodring, Kathryn L
Subject: RAI #62
Attachments: BNP-2009-363 (RAI 62 Response).PDF

Mike,

Attached please find an advance electronic copy of PPL's response to RAI #62. If you have questions, please advise.

thanks

Rocky

R. R. Sgarro
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Recipients:
"'Freels, James'" <James.Freels@unistarnuclear.com>
Tracking Status: None
"Kirkwood, Jon K" <Jon.Kirkwood@constellation.com>
Tracking Status: None
"Woodring, Kathryn L" <KFitzpatrick@pplweb.com>
Tracking Status: None
"Canova, Michael" <Michael.Canova@nrc.gov>
Tracking Status: None

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November 13, 2009

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Washington, DC 20555-0001

BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI No. 62
BNP-2009-363 Docket No. 52-039

Reference: 1) M. Canova (NRC) to R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 62 (RAI No. 62) – SPCV -3628, e-mail dated October 15, 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 addressed Engineered Safety Feature Ventilation Systems as discussed in Chapter 2 of the Final Safety Analysis Report (FSAR) and submitted in Part 2 of the Bell Bend Nuclear Power Plant (BBNPP) Combined License Application (COLA).

Enclosure 1 provides the response for RAI 62, Question 09.04.05-2. The only new regulatory commitment in this letter is to update the BBNPP COLA in a future revision.

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 November 13, 2009

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure: As stated

cc: (w/o Enclosures)

Mr. Samuel J. Collins
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Enclosure 1

Response to NRC Request for Additional Information No. 62
Bell Bend Nuclear Power Plant

Question 09.04.05-2

Sizing of the HVAC System

In section 9.4.15 of the FSAR, the applicant has provided the performance requirements for the essential service water emergency makeup system (ESWEMS) pumphouse HVAC system, but has not provided detailed design information related to the sizing of the HVAC system. Adequate sizing of the system is assured through the ITAAC, which are used to verify the capability of the system to control temperature and remove the design heat load. Please provide a description in the FSAR of how the system's capability to remove the design heat load will be verified. The applicant should describe the method for verification (by testing and/or analysis) and the methods for determining the design heat loads, including the limiting or bounding assumptions for all modes of operation including normal operation and outage, and during all anticipated occurrences, including postulated accident events.

Response:

The required ESWEMS Pumphouse HVAC System heating and cooling capacities will be determined by analysis using industry standard calculation methods, conservative bounding assumptions, appropriate margins and vendor equipment heat rejection data, when available. A description of the calculation methods and assumptions will be added to FSAR 9.4.15.2.1. System functional capability is assured through ITAAC. Testing will be performed prior to and after system installation to ensure that ITAAC requirements are met.

COLA Impact:

The following change will be made to FSAR 9.4.15.2.1:

9.4.15.2.1 General Description

The ESWEMS Pumphouse HVAC System is depicted on Figure 9.4-1.

Each division of the ESWEMS Pumphouse HVAC System functions to maintain the temperature in its associated ESWEMS pump bay within the range of minimum and maximum design temperatures during normal, abnormal, and accident conditions. Each division of the ESWEMS Pumphouse HVAC System provides the capability to supply outside air to and exhaust from the rooms. Each division also includes four recirculating unit heaters and an Emergency Air Conditioning System. The normal supply air flow path includes a missile protected outside air intake, a safety-related intake damper, a non safety-related recirculation air control damper, a normal supply fan, duct accessories and instrumentation and controls. The exhaust air flow path consists of a safety-related exhaust air backdraft damper and a missile protected exhaust air outlet. The Emergency Air Conditioning System consists of an Emergency Air Conditioning (AC) Unit, ductwork, duct accessories and instrumentation and controls.

<u>The cooling loads in the ESWEMS Pumphouse are calculated using methods described in the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Handbook – Fundamentals (ASHRAE, 2009). This handbook is an industry accepted reference for HVAC design methodology. The calculations will be performed</u>

using maximum expected heat rejection loads during the most severe mode of operation from equipment, lights, and other internal heat rejection loads. Building envelope loads and outside air loads will be calculated based on the design outdoor air conditions (temperature and humidity). The calculated loads will be summed and appropriate margins will be added to ensure adequate capacity.

The following change will be made to FSAR 9.4.15.6:

9.4.15.6 References

ASME, 2004. ASME Boiler and Pressure Vessel Code, Section III, Class 3, 2004 Edition, no Addenda, American Society of Mechanical Engineers, 2004.}

ASHRAE, 2009. ASHRAE Handbook – Fundamentals, American Society of Heating Refrigeration and Air Conditioning Engineers, 2009.

CFR, 2008a. Title 10, Part 50, Appendix A, General Design Criterion 2, Design Bases for Protection Against Natural Phenomena, Code of Federal Regulations, 2008.