

November 13, 2008

MEMORANDUM TO: Joseph Colaccino, Chief
EPR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

FROM: Michael A. Canova, Project Manager */RA/*
EPR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: MEETING WITH PPL BELL BEND LLC TO DISCUSS INFORMATION
NEEDED TO ADDRESS ISSUES REGARDING THE BELL BEND
NUCLEAR POWER PLANT FSAR COMBINED LICENSE APPLICATION
(TAC RC4813)

DATE & TIME: Thursday, November 20, 2008
1:00 p.m. - 3:30 p.m.

LOCATION: U.S. Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike, Room T2-B1 (Next to the ACRS Conf. Room)
Rockville, Maryland 20852

PURPOSE: To discuss the information needed to supplement the Geotechnical and
Geoscience information contained in the Bell Bend Nuclear Power Plant
Combine License Application's Final Safety Analysis Report (FSAR)
Section 2.5.

CATEGORY 1: * This is a Category 1 Meeting. The public is invited to observe this
meeting and will have one or more opportunities to communicate with the
NRC after the business portion, but before the meeting is adjourned.

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J. Colaccino

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PARTICIPANTS: NRC PPL
 M. Canova, NRO R. Sgarro, et al
 R. Karas, NRO
 A. Stieve, NRO

Project: 762

Enclosure: Agenda
cc w/encl: See next page

* Commission's Policy Statement on "Enhancing Public Participation in NRC Meetings"
(67 FR 36920), May 28, 2002

J. Colaccino

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PARTICIPANTS:

NRC

M. Canova, NRO
R. Karas, NRO
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PPL

R. Sgarro, et al

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Enclosure 1: Agenda

Enclosure 2: Technical Sufficiency and Quality Issues in Geology and Seismology

cc w/encl: See next page

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DATE	11/13/2008	11/13/2008	11/13/2008	11/13/2008

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Agenda for Public Meeting between PPL Bell Bend LLC and the NRC
MEETING TO DISCUSS APPROACH IN ADDRESSING FSAR SECTION 2.5
COMBINED LICENSE APPLICATION ISSUES

November 20, 2008

<u>Time</u>	<u>Topic</u>	<u>Led by</u>
1:00 P.M.	Introductory remarks and identification of issues*	NRC/PPL
1:15 P.M.	Presentation of PPL Section 2.5 approach	PPL
2:15 P.M.	Break **	
2:30 P.M.	NRC reaction to proposed response and and any necessary discussion to clarify issues	NRC
3:30 P.M.	Adjourn**	

* *Enclosure 2*

** *The public will be given the opportunity to comment at these points in the meeting.*

ENCLOSURE 2

Bell Bend Nuclear Power Plant Combined License Application - Technical Sufficiency and Quality Issues in Geology and Seismology (Application Sections 2.5.1, 2.5.2 and 2.5.3)

Background:

During the acceptance review of the Bell Bend Nuclear Power Plant (BBNPP) combined license application (COLA), the NRC staff identified several completeness and technical sufficiency issues with the information provided in Sections 2.5.1, 2.5.2 and 2.5.3, dealing with geologic and seismic siting criteria. In addition, the staff identified several quality related issues in the application. The staff conveyed these issues to the applicant's representatives in several phone calls held during the acceptance review phase of the COLA.

Description of the Issues:

The issues found by the staff have been categorized as follows:

1. Insufficient information regarding geologic and tectonic characterization of the plant site and the region.

Section 2.5.1 includes only broad and generic discussions of geologic and tectonic information and lacks specific details. A sufficient review of up-to-date, primary-source, professional literature is missing. There is minimal integration of recently published research literature and compilation studies are relied upon. Section topics typically do not relate the regional aspects of the discussion back to the Bell Bend site. There is also a lack of integration of material in the COLA. In other cases, the discussion does not relate the topic to specific site conditions (e.g., state of stress to regional seismicity, state of stress to fault and structure geometries, etc.). The Regional Stratigraphy and Regional Tectonic Setting sections are repeated from earlier section discussions and provide insufficient discussion of the intended topics. In the Site Geology section, the FSAR states that literature reviews, interviews with experts, and geologic reconnaissance were performed. However, the COLA provides little detailed description of these efforts, so the documentation of the fieldwork is insufficient.

2. Incomplete input data for the Probabilistic Seismic Hazard Analysis (PSHA) sensitivity study.

The earthquake catalog provided in Section 2.5.2 is complete through 2007 for the region within the 200-mi. (320-km) site radius. Beyond the site radius, the earthquake catalog terminates in 2001, leaving almost seven years of seismic activity in the region that is unaccounted. This is a significant void in data coverage because many of the seismic source zones contributing to the site PSHA extend beyond the 200-mi. site radius. Regulatory Guide 1.208 specifies that sources outside the 200-mile radius that contribute significantly to the PSHA should be updated.

3. The most up-to-date information available in the scientific literature for several seismic sources was not considered as part of the applicant's seismic source modeling.

The applicant did not adequately describe or justify the conclusion to not update the seismic source models of the Electric Power Research Institute Seismicity Owners

Group (EPRI-SOG). The COLA does not describe an independent evaluation of new information with respect to the EPRI-SOG seismic sources and does not provide numerical evaluations of newer studies, where necessary, with respect to the EPRI-SOG seismic source models and associated parameters (e.g., Mmax distribution, geometry, seismicity rate, and probability of activity) as described in Regulatory Guide 1.208.

Examples of seismic source zones that are not sufficiently described or justified with respect to the potential need to update the EPRI-SOG seismic source model are:

- The St. Lawrence Rift System (e.g., Wallach, 2002).
 - The Charlevoix Seismic Zone.
 - The interpreted seismic zone which intersects the Ramapo shear zone near Peekskill, NY (e.g., Sykes et al., 2008).
 - Potential New England seismic source zones (e.g., Ebel et al., 2000; Ebel, 2006; and Ebel, 1996).
4. Insufficient details included to fully evaluate the potential for surface faulting within a 40-km (25-mi.) radius around the site.

In Section 2.5.3, various work performed for analyzing evidence for or against the existence of surface faulting within the proposed site vicinity is only very briefly described in the COLA, and details and results are not adequately discussed. There is minimal integration of basic geologic and seismic information. Interpretation of seismic refraction data and the correlation with local geology is not described. Additionally, the explanation and details of field reconnaissance and aerial photography interpretations are incomplete.

5. General Quality Issues noted by staff:

The application does not include proper explanations, maps, figures, and figure annotations in Sections 2.5.1 and 2.5.3. This prevents the staff from performing a detailed evaluation of the information that is provided in the application.

Some examples of the issues identified are:

- Figures that are difficult to read and/or have inadequate figure explanations (e.g., legends): 2.5-2, 2.5-5, 2.5-14, 2.5-23, 2.5-24, and 2.5-25.
- Figures 2.5-15, 2.5-87, 2.5-89, 2.5-90, 2.5-91 and 2.5-95 are insufficient to support the discussion in the text.
- Figures show inconsistent interpretations of the subsurface geology:
 - Figures 2.5-28, 2.5-29, 2.5-30, 2.5-31, 2.5-32, and 2.5-33 show the Mahantongo Formation as flat lying.

- Figures 2.5-19 and 2.5-26 show the Mahantongo Formation as dipping, and on page 2-1466 the COLA describes the formation as “steeping dipping Devonian stratigraphy.”

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(Revised 11/12/2008)

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