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October 10, 2008

Submitted Pursuant to:

10 CFR 2.390
10 CFR 52.3(b)(3)
10 CFR 52.75

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

ATTN: Michael R. Johnson, Director
Office of New Reactors

NRC Project #762

BNP-2008-002

PPL Bell Bend, LLC – Bell Bend Nuclear Power Plant

APPLICATION FOR COMBINED LICENSE FOR THE BELL BEND NUCLEAR POWER PLANT

- References:
- 1) Letter from Sandra M. Sloan (AREVA NP) to U.S. Nuclear Regulatory Commission, "Application for Standard Design Certification of the U.S. EPR (Project No. 733)," dated December 11, 2007
 - 2) Letter from Ronnie L. Gardner (AREVA NP) to U.S. Nuclear Regulatory Commission, "U.S. EPR Final Safety Analysis Report, Supplement 1," dated February 7, 2008
 - 3) Letter from Ronnie L. Gardner (AREVA NP) to U.S. Nuclear Regulatory Commission, "U.S. EPR Final Safety Analysis Report, Supplement 2," dated February 18, 2008
 - 4) Letter from George Vanderheyden (UniStar Nuclear Energy) to U.S. Nuclear Regulatory Commission, "Submittal of Revision 3 to the Partial Combined License Application for the Calvert Cliffs Nuclear Power Plant, Unit 3," dated August 1, 2008
 - 5) Letter from T. L. Harpster (PPL Bell Bend, LLC) to U.S. Nuclear Regulatory Commission, "Proposed Bell Bend Nuclear Power Plant Physical Security Plan," BNP-2008-003, dated October 10, 2008

In accordance with 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," PPL Bell Bend, LLC hereby submits to the U.S. Nuclear Regulatory Commission (NRC), an application for a combined construction permit and operating license (COL) for an AREVA NP U.S. Evolutionary Power Reactor (U.S. EPR) to be located in Luzerne County, Pennsylvania. This new advanced reactor unit is to be designated Bell Bend Nuclear Power Plant. In addition, PPL Bell Bend, LLC is requesting special nuclear material licenses, by-product licenses, and source material licenses as required under 10 CFR Parts 30, 40, and 70.

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This COL application includes the information required by 10 CFR 52.77 to 52.80 and incorporates by reference the application for a Standard Design Certification for the U.S. EPR that was submitted to the NRC by AREVA NP on December 11, 2007 (Reference 1). The U.S. EPR Final Safety Analysis Report (FSAR) portion of the application for a Standard Design Certification was supplemented by AREVA on February 7, 2008 (Reference 2) and February 18, 2008 (Reference 3).

The attached COL application is based upon and linked, as explained in the application documents, to Revision 3 of the U.S. EPR Reference COL application for UniStar's Calvert Cliffs Nuclear Power Plant Unit 3 (Reference 4). The Bell Bend Nuclear Power Plant COL application utilizes, to the maximum practical extent, the standard content contained as such in the Calvert Cliffs Nuclear Power Plant Unit 3 COL application. Standard content is identified as such, primarily as outlined in FSAR Section 1.1, "Introduction", of the attached application. Information that is specific to Bell Bend Nuclear Power Plant is set forth in braces ({}). The terms "braces" and "brackets" are used interchangeably in this document. Minor changes may exist within the generic text not identified as site specific. These include figure and table numbers, which are organized sequentially within sections, and minor grammatical changes necessary to support introduction of site specific text. Tables and figures containing site specific information use the convention of brackets/braces around the table or figure title, not the entire table or figure contents. This convention indicates the entire table or figure is site specific.

This COL application comprises the following parts:

- Part 1 - General, Administrative and Financial Information
- Part 2 - Final Safety Analysis Report
- Part 3 - Environmental Report (ER)
- Part 4 - Technical Specifications
- Part 5 - Emergency Plan
- Part 6 - [Not Used - Reserved for applications requesting Limited Work Authorization]
- Part 7 - Departures and Exemption Requests
- Part 8 - Safeguards/Security Plans (contains Safeguards Information, provided under separate cover letter (Reference 5))
- Part 9 - Proprietary and Sensitive Unclassified Non-Safeguards Information (SUNSI)
- Part 10 - Proposed License Conditions, including Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)
- Part 11 - COLA Enclosures (e.g., Quality Assurance Program Description, Core Borings Logs, Wetlands Delineation Report, Cultural Resources Reports, etc.)

PPL Bell Bend, LLC will provide supplemental information from on-going evaluations for the following sections of the application:

- Part 3 - ER 2.3.1.2.3, Local and Site-Specific Hydrogeologic Descriptions:

Groundwater elevation and water quality data have been collected and examined for the months of October 2007 through June 2008. The results of these analyses are included in the COLA and indicate that groundwater characteristics are as expected for the BBNPP site and are consistent with what has been previously established for the adjacent SSES site. The remaining data (through September 2008) will be collated and submitted to the NRC by November 20, 2008 and incorporated into a future revision to the COLA.

- Part 3 - ER 5.3.1.2, Aquatic Ecosystems:

The impingement and entrainment studies for the BBNPP have been underway at the SSES River Intake Structure (located approximately 300 feet upstream of the proposed BBNPP River Intake Structure) since April 2008 and will proceed through April 2009. The results of the impingement and entrainment studies to date have identified no endangered, threatened or species of special concern. This is consistent with the previously performed impingement and entrainment studies performed for other electric generating stations along the Susquehanna River in the vicinity of the BBNPP. The remaining impingement and entrainment data (through April 2009) will be collated and submitted to the NRC by June 1, 2009 and incorporated into a future revision to the COLA.

- Part 3 - ER 2.5.3.5, Cultural Resources, Phase 1b Investigation:

In an effort to minimize construction impacts to on-site wetlands, additional land was purchased during the COLA preparation phase. The Cultural Resources Phase 1a study for the additional land has been completed and the Phase 1b study is nearing completion. Sampling and reporting methodologies for these supplemental Phase 1b investigations will be consistent with the Survey Methodologies described in ER Section 2.5.3.2. The remaining data (through September 2008) will be collated and submitted to the NRC by November 20, 2008 and incorporated into a future revision to the COLA.

This application contains no Restricted Data or other defense information requiring separation in accordance with 10 CFR 50.33(j). Part 8 of this application contains Safeguards Information, which is provided under separate cover (Reference 5) and is controlled pursuant to 10 CFR 73.21(c). Part 9 of this application contains certain financial and security-related information that PPL Bell Bend, LLC is requesting the NRC to withhold from public disclosure in accordance with the requirements of 10 CFR 2.390. An appropriate affidavit is included with this letter supporting proprietary treatment of PPL Bell Bend, LLC financial information pursuant to 10 CFR 2.390.

Consistent with common licensing practice, most of the application text is written in the present tense, including discussion of facilities and programs not yet built or implemented. Exceptions to this approach are the discussions of operating experience and completed studies and evaluations, which are written in the past tense. It should be understood, however, that statements regarding facilities (e.g., structures, systems and components), and pre-construction, pre-operational, and operational activities (e.g., procedures and programs) typically address activities that have not yet been performed, and will not be performed until it is reasonable and appropriate to do so.

A complete set of application documents (identified above) is provided in electronic file format on the two enclosed disks (Enclosures 1 and 2). Enclosure 1 contains a publicly available version of the COL application with the information requested to be withheld from public disclosure redacted; Enclosure 2 contains the COL application with the information requested to be withheld from public disclosure included in Part 9.

Appropriate pre-submission checks have been successfully performed on the files for both disks to ensure compliance with the guidelines provided on the NRC website and they have been found acceptable for electronic submittal. Each disk includes a "packing slip" describing its contents, pursuant to NRC instructions for electronic filing.

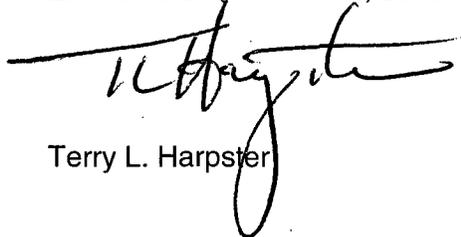
This submittal contains PDF files, one or more of which contains hyperlinks to other files or to the Internet. These hyperlinks are either inoperable or are not essential to the use of the filing. Any material referenced by hyperlinks to the Internet that was essential for use of this filing has been submitted as part of the filing. Any material referenced by a hyperlink to another PDF that was essential for the use of this filing has either been included by reference or submitted as part of this filing.

PPL Bell Bend, LLC understands the NRC will review this application to determine its sufficiency for docketing. It is also understood at the end of this review period, which is expected to take no more than 60 days, the NRC will issue a detailed schedule for review of this application in accordance with the combined licensing process.

If you have any questions or need additional information, please contact Mr. Rocky Sgarro, Manager-Nuclear Regulatory Affairs, at 570.802.8102. Counsel for the project is Mr. David A. Repka, Esq., Winston & Strawn LLP, 1700 K Street, NW, Washington, DC 20006-3817; (202) 282-5726; drepka@winston.com.

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

Executed on October 10, 2008



Terry L. Harpster

- Enclosures:
- 1) Bell Bend Nuclear Power Plant COL Application DVD (Public Version)
 - 2) Bell Bend Nuclear Power Plant COL Application DVDs (Non-Public Version)
 - 3) Affidavit

cc: (w/ attachments)

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

Bell Bend Nuclear Power Plant COL Application DVD (Public Version)

Bell Bend Nuclear Power Plant COL Application DVDs (Non-Public Version)

AFFIDAVIT OF TERRY L. HARPSTER

COMMONWEALTH OF PENNSYLVANIA)

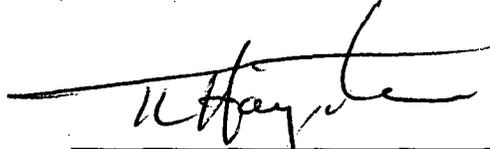
) ss

COUNTY OF LUZERNE)

I, Terry L. Harpster, Vice President, Bell Bend Project-Development, PPL Bell Bend, LLC, do hereby affirm and state:

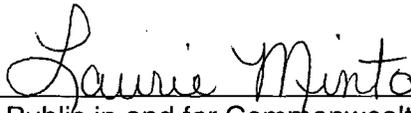
- 1) I am authorized to execute this affidavit on behalf of PPL Bell Bend, LLC. I am further authorized to review information submitted to the Nuclear Regulatory Commission ("NRC") and apply for the withholding of information from disclosure. I am making this affidavit in conformance with the provisions of the NRC's regulations at 10 CFR 2.390 and in support of PPL Bell Bend, LLC's request for proprietary treatment of certain financial information.
- 2) I have knowledge of the criteria used by PPL Bell Bend, LLC in designating information as sensitive, proprietary, or confidential.
- 3) Pursuant to the provision of paragraph (a)(4) of 10 CFR 2.390, the following is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
 - a. The information sought to be withheld from public disclosure is owned by PPL Bell Bend, LLC, its affiliates or third parties to whom PPL Bell Bend has an obligation to maintain its confidentiality and has been held in confidence by PPL Bell Bend, LLC.
 - b. The information sought to be protected is not available to the public to the best of my knowledge and belief.
 - c. The information is of the type that would customarily be held in confidence by PPL Bell Bend, LLC. The information that PPL Bell Bend, LLC is requesting to be withheld from public disclosure is PPL Bell Bend, LLC's cost projections for construction, fuel supply, and operating costs for the Bell Bend Nuclear Power Plant. PPL Bell Bend, LLC limits access to these cost projections to those with a "need to know" subject to maintaining confidentiality. Public disclosure of these cost projections is likely to harm PPL Bell Bend, LLC because it would allow other contractors, vendors, and competitors to understand PPL Bell Bend, LLC's competitive expectations and position prior to securing necessary contracts and services at competitive prices.
 - d. The proprietary information sought to be withheld from public disclosure is identified in Part 9 of the COL application and is marked as proprietary as it appears in the application.
 - e. The information is transmitted to the NRC in confidence and under the provisions of 10 CFR 2.390; it is to be received in confidence by the NRC.

Terry L. Harpster, being duly sworn, states that he is Vice President, Bell Bend Project-Development, PPL Bell Bend, LLC, that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this combined license application for the Bell Bend Nuclear Power Plant, and that all the matter and facts set forth herein are true and correct to the best of his knowledge.



Terry L. Harpster
Vice President
Bell Bend Project-Development
PPL Bell Bend, LLC

Subscribed and sworn to before me, a Notary Public, in and for the county and Commonwealth above named, this 10th day of October, 2008.



Notary Public in and for Commonwealth of Pennsylvania

My Commission Expires: July 24, 2010



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Laurie M. Minto, Notary Public
Salem Twp., Luzerne County
My Commission Expires July 24, 2010
Member, Pennsylvania Association of Notaries