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

**BELL BEND NUCLEAR POWER PLANT
ENVIRONMENTAL AUDIT NEED FOR
INFORMATION RESPONSES:
EIGHTH SUBMITTAL
BNP-2012-189 Docket No. 52-039**

The purpose of this letter is to formally document PPL Bell Bend, LLC's (PPL) responses to NRC Need for Information (NFI) requests that were discussed with the NRC at the Bell Bend Supplemental Environmental Audit held the week of May 14, 2012. Additional letters providing the remainder of NFI responses requested by NRC at the audit will be provided in coming weeks.

A response to the following NFI is included in this letter as Enclosure 1:

- RHH-01


There are no new regulatory commitments in this letter.

Should you have questions or need additional information, please contact the undersigned at 610.774.7552.

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

Executed on August 13, 2012.

Respectfully,


Rocco R. Sgarro

RRS/kw

Enclosure: Need for Information Response

D102
MRO

cc: (w/ Enclosure)

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Enclosure 1

Need for Information Response

RADIOLOGICAL HUMAN HEALTH (RHH)

RHH-01: Discuss the revised calculations used to generate the construction worker dose values from direct radiation, gas and liquid effluents. Also discuss the doses from SSES direct radiation sources and for gas and liquid effluents used in ER calculations as compared to the 2008 to 2011 data. Have available for review copies of calculation packages including input/output files, assumptions, and supporting documentation for the calculations, including the collective dose values. Collective dose values in ER Tables 4.5-17 and FSAR Table 12.3-14 differ. Follow up to RHH 4.5-1 and 4.5-2.

Audit Disposition

At the conclusion of the May 2012 environmental audit, the NRC requested that PPL document an evaluation of the significance of inclusion of dose data from 2007-2011 in response to the second item of the NFI: "Also discuss the doses from SSES direct radiation sources and for gas and liquid effluents used in ER calculations as compared to the 2008 to 2011 data." This response provides an evaluation of the inclusion of this data as requested.

Response

In 2008, as reported in Section 4.5 of BBNPP ER Revision 3, the collective construction worker dose was projected to be 6.175 person-rem. This was based on the dose and effluent measurements made by the operators of Susquehanna Units 1 and 2 from 2001 through 2006 for effluents, and through 2007 for TLD-measured doses. The projected construction worker dose was also based on the maximum annual doses for the three major source categories (direct, gaseous and liquid) for the construction period. Conservative assumptions regarding anticipated worker pathways, occupancies, and locations were applied to determine the collective dose.

In 2012 the worker doses were re-evaluated based on historical measurement and historical effluent data through 2011 in order to determine the significance of this additional data on the result. The direct and gaseous effluent dose contributions were bounded by the calculations done in 2008. The liquid dose contribution increased due to higher liquid effluent radionuclide concentrations in several years, particularly 2010.

As a preliminary estimate, the collective construction worker dose is projected to be approximately 12 person-rem. If construction was completed in the standard 66 - 72 month construction period, then this would average to approximately 2 person-rem per year. This is not of significance when compared to the average annual collective dose of 83 person-rem per year at operating nuclear power plants in 2010 as noted in NUREG-0713.

It should also be noted that these estimates will be formally updated in a forthcoming response to Bell Bend FSAR RAI 116.

Data Sources

NRC, 2012. "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities 2010," NUREG-0713, volume 32, date published 2012.

SSES, 2008. "Susquehanna Steam Electric Station Units 1 & 2, Annual Radiological Environmental Operating Report, 2007 Annual Report."

SSES, 2009a. "Susquehanna Steam Electric Station Units 1 & 2, Radioactive Effluent Release Report, 2008 Annual Report."

SSES, 2009b. "Susquehanna Steam Electric Station Units 1 & 2, Annual Radiological Environmental Operating Report, 2008 Annual Report."

SSES, 2010a. "Susquehanna Steam Electric Station Units 1 & 2, Radioactive Effluent Release Report, 2009 Annual Report."

SSES, 2010b. "Susquehanna Steam Electric Station Units 1 & 2, Annual Radiological Environmental Operating Report, 2009 Annual Report."

SSES, 2011a. "Susquehanna Steam Electric Station Units 1 & 2, Radioactive Effluent Release Report, 2010 Annual Report."

SSES, 2011b. "Susquehanna Steam Electric Station Units 1 & 2, Annual Radiological Environmental Operating Report, 2010 Annual Report."

SSES, 2012a. "Susquehanna Steam Electric Station Units 1 & 2, Radioactive Effluent Release Report, 2011 Annual Report."

SSES, 2012b. "Susquehanna Steam Electric Station Units 1 & 2, Annual Radiological Environmental Operating Report, 2011 Annual Report."

COLA Impact

Revisions to ER Section 4.5, due to the updated impacts described above, will be provided in the upcoming response to Bell Bend FSAR RAI 116.