

R. R. Sgarro
Director - Regulatory Affairs

PPL Bell Bend, LLC
Two North Ninth Street
Allentown, PA18101-1179
Tel. 610.774.7552 Fax 610.774.2618
rrsgarro@pplweb.com



December 20, 2012

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

**BELL BEND NUCLEAR POWER PLANT
SUPPLEMENTAL RESPONSE FOR RAI ENV-01
BNP-2012-296 Docket No. 52-039**

Reference: BNP-2012-208, R. R Sgarro (PPL Bell Bend, LLC) to U.S. NRC, "Response to Draft ER RAIs, Third Submittal" dated August 29, 2012.

The purpose of this letter is to provide supplemental information related to RAI ENV-01. The initial response to RAI ENV-01 was provided in BNP-2012-208 (Reference) and included the response to Environmental Audit Need for Information (NFI) ACC-05, Part A.

At the request of NRC, the response to NFI ACC-05 Part A has been updated to include additional SAMDA Sensitivity Cases in Tables 7.3-2 and 7.3-3. Associated updates to a future revision of the Combined License Application (COLA) Environmental Report (ER) are provided as an Enclosure to this letter.

The future revision of the COLA is the only commitment in this letter.

Should you have any questions, please contact the undersigned at 610.774.7552.

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

Executed on December 20, 2012

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure: Bell Bend Nuclear Power Plant COLA ER Revisions Associated with RAI ENV-01
(NFI ACC-05)

D102
MRO

cc: (w/ Enclosure)

Ms. Laura Quinn-Willingham
Project Manager
U.S. Nuclear Regulatory Commission
11545 Rockville Pike Mailstop: T-6 C32
Rockville, MD 20852

(w/o Enclosure)

Mr. William Dean
Regional Administrator
U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd., Suite 100
King of Prussia, PA 19406-2713

Enclosure

Bell Bend Nuclear Power Plant COLA ER Revisions Associated with RAI ENV-01 (NFI ACC-05)

ACCIDENTS

RAI ENV-1, EIS 5.11-15 (Draft RAI ACC-05)

Provide in the Bell Bend COL environmental report (ER) an updated site-specific SAMDA averted cost using replacement power costs based on the expected capacity factor for the U.S. EPR reactor design.

Supporting Information:

ESRP Section 7.3 directs the staff to evaluate and independently confirm an applicant's severe accident mitigation design alternatives (SAMDA) analysis presented in the ER Section 7.3 that applies design and site specific information based on the guidance provided in NUREG/BR-0184. In response to SAMDA questions at the site audit, PPL provided in BNP-2012-167 (dated July 12, 2012 ML12214A589) the results of a sensitivity analysis to show there would not be any cost-benefit SAMDA even by using a 95% plant capacity factor, rather than 60% (the capacity factor that is the basis in NUREG/BR-0184). However, PPL concludes in BNP-2012-167 that "[n]o change is required to the BBNPP COLA as a result of this response." Therefore, the staff is requesting that PPL update the BBNPP ER with the results that are summarized in BNP-2012-167. This was Info Need ACC-5.

Response:

The Bell Bend Nuclear Power Plant (BBNPP) Combined License Application (COLA) Part 3 Environmental Report (ER) will be updated to include the results of the SAMDA sensitivity analysis as requested, including revision of Tables 7.3-2 and 7.3-3.

COLA Impact:

Section 7.3 of the BBNPP COLA Part 3 ER will be updated in a future revision to incorporate the changes shown on the markup on the following pages.

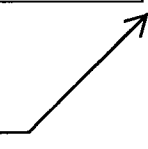
7.3.3 Sensitivity Studies

...

The sixth case investigated the impact on the SAMDA analysis if the replacement power costs were based on the 95% capacity factor stated in Section 3.4.1.3.1 of the Bell Bend ER (rather than the assumed 60%, as assumed in NUREG/BR-0184, from which the analysis was based). Using a capacity factor of 95%, the maximum benefit for Bell Bend exceeded the value reported in Section 7.3.2 of the BBNPP ER by about \$28,000 (point estimate core damage frequency, CDF) and by about \$38,000 ~~\$30,000~~ (mean value CDF). These increased values do not change the findings contained in the Section 7.3.4, "~~Results and Summary~~" that ~~no additional plant modifications are cost beneficial to implement~~ due to the robust design of the U.S. EPR with respect to prevention and mitigation of severe accidents.

Table 7.3-2— Maximum Benefit for Sensitivity Cases (Point Estimate CDF with 2008 Replacement Power Costs)

Case	Sensitivity Case 1: Discount Rate 3%	Sensitivity Case 2: Discount Rate - 5%	Sensitivity Case 3: High Estimated Dose (On-Site)	Sensitivity Case 4: High On-site Cleanup Costs	Sensitivity Case 5: Increase Replacement Power Cost via Inflation for 2015 Dollars
Immediate Dose Savings (On-site)	\$97	\$66	\$209	\$49	\$49
Long Term Dose Savings (On-site)	\$510	\$317	\$322	\$215	\$215
Total Accident Related Occupational Exposure (AOE)	\$607	\$384	\$531	\$264	\$264
Cleanup/ Decontamination Savings (On-site)	\$19,110	\$13,053	\$8,045	\$10,727	\$8,045
Replacement Power Savings (On-site)	\$129,243	\$62,524	\$36,835	\$36,835	\$73,675
Averted Costs of On-site Property Damage (AOSC)	\$148,353	\$75,577	\$44,880	\$47,562	\$81,720
Total On-site Benefit	\$148,960	\$75,960	\$45,411	\$47,826	\$81,984
Averted Public Exposure (APE)	\$12,354	\$8,438	\$6,248	\$6,248	\$6,248
Averted Offsite Damage Savings (AOC)	\$5,565	\$3,801	\$2,814	\$2,814	\$2,814
Total Offsite Benefit	\$17,918	\$12,239	\$9,062	\$9,062	\$9,062
Total Benefit (On-site + Offsite)	\$166,878	\$88,199	\$54,473	\$56,888	\$91,046
Total Benefit (On-site + Offsite + External Events)	\$221,947	\$117,305	\$72,449	\$75,611	\$121,091

INSERT B 

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<u>Sensitivity Case</u>
6: Increase Replacement Power Costs for 95% Capacity Factor
\$49
\$215
\$264
\$8,045
\$58,322
\$66,367
\$66,631
\$6,248
\$2,814
\$9,062
\$75,693
\$100,672

Table 7.3-3— Maximum Benefit for Sensitivity Cases (Mean Value CDF with 2008 Replacement Power Costs)

Case	Sensitivity Case 1: Discount Rate 3%	Sensitivity Case 2: Discount Rate - 5%	Sensitivity Case 3: High Estimated Dose (On-Site)	Sensitivity Case 4: High On-site Cleanup Costs	Sensitivity Case 5: Increase Replacement Power Cost via Inflation for 2015 Dollars
Immediate Dose Savings (On-site)	\$136	\$93	\$292	\$69	\$69
Long Term Dose Savings (On-site)	\$712	\$443	\$449	\$300	\$300
Total Accident Related Occupational Exposure (AOE)	\$847	\$535	\$741	\$368	\$368
Cleanup/ Decontamination Savings (On-site)	\$26,682	\$18,225	\$11,233	\$14,977	\$11,233
Replacement Power Savings (On-site)	\$180,452	\$87,298	\$51,430	\$51,430	\$102,867
Averted Costs of On-site Property Damage (AOSC)	\$207,134	\$105,522	\$62,663	\$66,407	\$114,100
Total On-site Benefit	\$207,981	\$106,058	\$63,404	\$66,775	\$114,468
Averted Public Exposure (APE)	\$12,354	\$8,438	\$6,248	\$6,248	\$6,248
Averted Offsite Damage Savings (AOC)	\$5,565	\$3,801	\$2,814	\$2,814	\$2,814
Total Offsite Benefit	\$17,918	\$12,239	\$9,062	\$9,062	\$9,062
Total Benefit (On-site + Offsite)	\$225,900	\$118,297	\$72,466	\$75,837	\$123,530
Total Benefit (On-site + Offsite + External Events)	\$289,151	\$151,420	\$92,756	\$97,072	\$158,118

INSERT C



Insert C

Sensitivity Case 6: Increase Replacement Power Costs for 95% Capacity Factor
\$69
\$300
\$368
\$11,233
\$81,431
\$92,664
\$93,032
\$6,248
\$2,814
\$9,062
\$102,094
\$130,680

FSAR Subsection 9.2.5.3.2, Insert:

The UHS Makeup water traveling screen wash isolation valve, 30PED10/20/30/40 AA005 is closed during normal plant operation. The traveling screen wash isolation valve opens on a differential water level across the screens or on a timer basis, once the UHS Makeup pump has established the minimum required pump flow. With the traveling screen wash isolation valve open, pressurized water cleans the traveling screens of debris as the screens rotate.