Exelon Generation®

PROPRIETARY INFORMATION – WITHHOLD UNDER 10 CFR 2.390

10 CFR 50.90
10 CFR 2.390

December 6, 2013

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

Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Extended Power Uprate License Amendment Request – Supplement 15
Response to Request for Additional Information

Reference:

1. Exelon letter to the NRC, "License Amendment Request - Extended Power Uprate," dated September 28, 2012 (ADAMS Accession No. ML122860201)

2. NRC letter to Exelon, "Request for Additional Information Regarding License Amendment Request for Extended Power Uprate (TAC Nos. ME9631 and ME9632)," dated October 1, 2013 (ADAMS Accession No. ML13268A263)

3. Exelon Letter to NRC, "Extended Power Uprate License Amendment Request - Supplement 14, Response to Request for Additional Information," dated October 31, 2013 (ADAMS Accession No. ML13308A331)

In accordance with 10 CFR 50.90, Exelon Generation Company, LLC (EGC) requested amendments to Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station (PBAPS) Units 2 and 3, respectively (Reference 1). Specifically, the proposed changes would revise the Renewed Operating Licenses to implement an increase in rated thermal power from 3514 megawatts thermal (MWt) to 3951 MWt. During their technical review of the application, the NRC Staff identified the need for additional information. Reference 2 provided the Request for Additional Information (RAI). Reference 3 provided the EGC response to EMCB-SD-RAIs 1, 2, 3, 4, 6, 7, 9, 11, 12 and 14. This letter provides the response to request EMCB-SD-RAI-10. Additional time has been granted for the responses to requests EMCB-SD-RAIs 8, 13 and 15. Responses to those requests will be provided in a separate letter

Attachment 1 contains the response to EMCB-SD-RAI-10. Westinghouse Electric Company (WEC) and Continuum Dynamics, Incorporated (CDI) consider portions of the information provided in the response to be proprietary and, therefore, exempt from public

Attachment 1 contains Proprietary Information.
When separated from Attachment 1, this document is decontrolled.

disclosure pursuant to 10 CFR 2.390. In accordance with 10 CFR 2.390 and in support of this request for withholding, affidavits executed by the respective parties are provided in Attachment 3.

EGC has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the U. S. Nuclear Regulatory Commission in Reference 1. The supplemental information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. Further, the additional information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), EGC is notifying the Commonwealth of Pennsylvania and the State of Maryland of this application by transmitting a copy of this letter along with the non-proprietary attachments to the designated State Officials.

There are no regulatory commitments contained in this letter.

Should you have any questions concerning this letter, please contact Mr. David Neff at (610) 765-5631.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 6th day of December 2013.

Respectfully,

Kevin F. Borton
Manager, Licensing – Power Uprate
Exelon Generation Company, LLC

Attachments:
1. Response to Request for Additional Information – EMCB-SD - Proprietary
2. Response to Request for Additional Information – EMCB-SD
3. Affidavits in Support of Request to Withhold Information

cc:	USNRC Region I, Regional Administrator	w/attachments
	USNRC Senior Resident Inspector, PBAPS	w/attachments
	USNRC Project Manager, PBAPS	w/attachments
	R. R. Janati, Commonwealth of Pennsylvania	w/o proprietary attachment
	S. T. Gray, State of Maryland	w/o proprietary attachment

Attachment 2

Peach Bottom Atomic Power Station Units 2 and 3

NRC Docket Nos. 50-277 and 50-278

Response to Request for Additional Information – EMCB-SD

Note

This attachment includes the non-proprietary version of the response; brackets identify where proprietary information has been redacted.

Response to Request for Additional Information

Mechanical and Civil Engineering Branch (EMCB) - Steam Dryer (SD)

By letter dated September 28, 2012, Exelon Generation Company, LLC (Exelon) submitted a license amendment request for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. The proposed amendment would authorize an increase in the maximum power level from 3514 megawatts thermal (MWt) to 3951 MWt. The requested change, referred to as an extended power uprate (EPU), represents an increase of approximately 12.4 percent above the current licensed thermal power level.

The NRC staff has reviewed the information supporting the proposed amendment and, by letter dated October 1, 2013 (NRC Accession No. ML13268A263), has requested additional information. Exelon provided a response to EMCB-SD-RAIs 1, 2, 3, 4, 6, 7, 9, 11, 12 and 14 in a letter dated October 31, 2013 (NRC Accession No. ML13308A331). A response to EMCB-SD-RAI-10 is provided below. Additional time has been granted for the responses to Requests EMCB-SD-RAIs 8, 13 and 15. Responses to those requests will be provided in a separate letter.

EMCB-SD-RAI-10

In the Executive Summary in WCAP-17611-P, it states that the [

]^{a,c} The resonances of both valves are excited by the first shear layer mode, which is known to be a strong excitation source; this is similar to the acoustic resonances and subsequent steam dryer degradation experienced at Quad Cities Nuclear Power Station Unit 2 (QC2). In addition, the Target Rock SRV is expected to start resonance before CLTP conditions, which is, again, similar to the QC2 valve resonance. The scale model tests (SMTs) do not seem to replicate the PBAPS Units 2 and 3 plant data at CLTP. Although in-plant MSL measurements were performed at several power levels up to CLTP, you do not discuss the evolution of the standpipe resonance behavior with the power level. To develop more appropriate bump-up factors for EPU MSL signal estimates, please submit the following:

a) Power-spectral densities (PSDs) of in-plant MSL measurements at 80 percent, 85 percent, 90 percent, 95 percent, 97 percent, and 100 percent of CLTP. The PSDs provided as part of this response should be clearly labeled.

b) In-plant data trends related to pressure RMS amplitude for the total PSD and for individual resonance peaks of the aforementioned safety valves and blind flanges. In trending the amplitudes of the resonance peaks, the integration frequency range must be sufficiently narrow and centered at the resonance frequency so that the broadband noise does not affect the trends (i.e., it does not artificially reduce growth rate of the resonance peaks).

c) For each standpipe resonance frequency, please provide a plot of dimensionless pressure in the MSLs (i.e., $P_{rms}/ \frac{1}{2} V^2$) against the reduced velocity in the MSL (i.e., $V/f_r D$). In these dimensionless forms, all parameters refer to the MSLs data (e.g.,

P_{rms} is the RMS amplitude of acoustic pressure, V and are the steam velocity and density, f_r is the standpipe resonance frequency, and D is the standpipe diameter).

d) Provide data and plots from SMT, similar to those described in item (c), above.

e) Provide data and plots from in-plant measurements obtained from QC2, similar to those described in item (c), above.

f) Compare the trends of the data obtained in items (c) through (e), above.

g) Explain the method used to develop conservative bump-up factors for the SRV resonance peaks from CLTP to EPU conditions.

RESPONSE

Each item of the RAI is reiterated and addressed individually below.

a) Power-spectral densities (PSDs) of in-plant MSL measurements at 80 percent, 85 percent, 90 percent, 95 percent, 97 percent, and 100 percent of CLTP. The PSDs provided as part of this response should be clearly labeled.

RESPONSE

The power spectral densities (PSDs) for plant data at power levels of 80% current licensed thermal power (CLTP), 85% CLTP, 90% CLTP, 95% CLTP, 98% CLTP, and 100% CLTP at Peach Bottom Unit 2 are provided in Figures RAI-10-1 through RAI-10-4. [

]^{a,c}

[

] a,c

Figure RAI-10-1: Peach Bottom Unit 2 Plant Data PSDs, MSL A

[

] [a,c]

Figure RAI-10-2: Peach Bottom Unit 2 Plant Data PSDs, MSL B

[

]^{a,c}

Figure RAI-10-3: Peach Bottom Unit 2 Plant Data PSDs, MSL C

[

]a,c

Figure RAI-10-4: Peach Bottom Unit 2 Plant Data PSDs, MSL D

The PSDs for plant data taken at power levels of 80% CLTP, 85% CLTP, 90% CLTP, 95% CLTP, 98% CLTP, and 100% CLTP at Peach Bottom Unit 3 are provided in Figures RAI-10-5 through RAI-10-8. [

]a,c

[

]^{a,c}

Figure RAI-10-5: Peach Bottom Unit 3 Plant Data PSDs, MSL A

[

]^{a,c}

Figure RAI-10-6: Peach Bottom Unit 3 Plant Data PSDs, MSL B

[

]a,c

Figure RAI-10-7: Peach Bottom Unit 3 Plant Data PSDs, MSL C

[

]a,c

Figure RAI-10-8: Peach Bottom Unit 3 Plant Data PSDs, MSL D

b) In-plant data trends related to pressure root mean square (RMS) amplitude for the total PSD and for individual resonance peaks of the aforementioned safety valves and blind flanges. In trending the amplitudes of the resonance peaks, the integration frequency range must be sufficiently narrow and centered at the resonance frequency so that the broadband noise does not affect the trends (i.e., it does not artificially reduce growth rate of the resonance peaks).

RESPONSE

The total RMS pressure trends for Peach Bottom Unit 2 and Peach Bottom Unit 3 are shown in Figure RAI-10-9. In each figure, the RMS pressures were calculated [

]^{a,c}

[

]^{a,c}

Figure RAI-10-9: Peach Bottom Units 2 & 3 Total RMS Pressure Trends

The [ ]^{d} SRV RMS pressure trends for Peach Bottom Unit 2 and Peach Bottom Unit 3 are shown in Figure RAI-10-10. The RMS pressure P'_{RMS} is determined by [

]^{a,c}

[

]^{a,c}

Figure RAI-10-10: Peach Bottom Units 2 & 3 [ ]^{d} SRV RMS Pressure Trends

The [ ]^{d} SSV RMS pressure trends for Peach Bottom Unit 2 and Peach Bottom Unit 3 are shown in Figure RAI-10-11. The RMS pressure P'_{RMS} is determined by
[

]^{a,c}

[

]^{a,c}

Figure RAI-10-11: Peach Bottom Units 2 & 3 [ ]^{d} SSV RMS Pressure Trends

The [ ]^{d} RMS pressure trends for Peach Bottom Unit 2 and Peach Bottom Unit 3 are shown in Figure RAI-10-12. The RMS pressure P'_{RMS} is determined by [

]^{a,c}

[

Figure RAI-10-12: Peach Bottom Units 2 & 3 [ ]^{d} RMS Pressure Trends

]^{a,c}

c) For each standpipe resonance frequency, please provide a plot of dimensionless pressure in the MSLs (i.e., $P_{RMS}/½\rho V^2$) against the reduced velocity in the MSL (i.e., V/f_rD). In these dimensionless forms, all parameters refer to the MSLs data (e.g. P_{RMS} is the RMS amplitude of acoustic pressure, V and ρ are the steam velocity and density, f_r is the standpipe resonance frequency, and D is the standpipe diameter).

RESPONSE

Main steam line (MSL) data are examined in the vicinity of the expected standpipe resonances to determine the reduced velocity (V/f_rD) and the normalized RMS pressure ($2P_{RMS}/\rho V^2$). The velocity V is found from the test Mach number and the plant acoustic speed of sound; the resonant frequency f_r is found from the data, and the standpipe diameter D is known from plant drawings. **[[**

]] The frequency intervals selected for the calculation of P_{RMS} for each standpipe are identical to those reported in part (b) above.

Peach Bottom plant data are compared for the eight MSL strain gage locations in Figures RAI-10-13 (MSL A upstream and downstream), RAI-10-14 (MSL B upstream and downstream), RAI-10-15 (MSL C upstream and downstream), and RAI-10-16 (MSL D upstream and downstream).

To facilitate the comparison to Quad Cities plant data and in response to item (e) of this RAI, the Quad Cities data is also included in the Figures RAI-10-13 through RAI-10-16. In each of these figures, the leftmost symbols for each plant/standpipe type location represent OLTP for QC2 and 80% CLTP for PB2 and PB3, while the rightmost symbols represent EPU for QC2 and CLTP for PB2 and PB3.

[[

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Figure RAI-10-13: MSL A upstream (top) and downstream (bottom) comparisons between Quad Cities Unit 2 (solid circles) and Peach Bottom Unit 2 (open triangles pointed upward) and Peach Bottom Unit 3 (open triangles pointed downward)
LEGEND: red = Target Rock; green = Electromatic;
blue = Dresser; black = blind flange

[[

]]

Figure RAI-10-14: MSL B upstream (top) and downstream (bottom) comparisons between Quad Cities Unit 2 (solid circles) and Peach Bottom Unit 2 (open triangles pointed upward) and Peach Bottom Unit 3 (open triangles pointed downward)
LEGEND: red = Target Rock; green = Electromatic;
blue = Dresser; black = blind flange

[[

]]

Figure RAI-10-15: MSL C upstream (top) and downstream (bottom) comparisons between Quad Cities Unit 2 (solid circles) and Peach Bottom Unit 2 (open triangles pointed upward) and Peach Bottom Unit 3 (open triangles pointed downward)
LEGEND: red = Target Rock; green = Electromatic;
blue = Dresser; black = blind flange

[[

]]

Figure RAI-10-16: MSL D upstream (top) and downstream (bottom) comparison between Quad Cities Unit 2(solid circles) and Peach Bottom Unit 2 (open triangles pointed upward) and Peach Bottom Unit 3 (open triangles pointed downward)

LEGEND: red = Target Rock; green = Electromatic;
blue = Dresser; black = blind flange

d) Provide data and plots from SMT, similar to those described in item (c), above.

RESPONSE

Data from the subscale model testing (SMT) are compared to plant data for Peach Bottom Units 2 and 3 in Figures RAI-10-17 through RAI-10-20:

[[

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Figure RAI-10-17: MSL A upstream (top) and downstream (bottom) comparisons between Peach Bottom Unit 2 (triangles pointing upward) and Unit 3 (triangles pointing downward) for subscale data (solid triangles) and plant data (open triangles) LEGEND: red = Target Rock; blue = Dresser; black = blind flange

[[

]]

Figure RAI-10-18: MSL B upstream (top) and downstream (bottom) comparisons between Peach Bottom Unit 2 (triangles pointing upward) and Unit 3 (triangles pointing downward) for subscale data (solid triangles) and plant data (open triangles) LEGEND: red = Target Rock; blue = Dresser; black = blind flange

[[

]]

Figure RAI-10-19: MSL C upstream (top) and downstream (bottom) comparisons between Peach Bottom Unit 2 (triangles pointing upward) and Unit 3 (triangles pointing downward) for subscale data (solid triangles) and plant data (open triangles) LEGEND: red = Target Rock; blue = Dresser; black = blind flange

[[

]]

Figure RAI-10-20: MSL D upstream (top) and downstream (bottom) comparisons between Peach Bottom Unit 2 (triangles pointing upward) and Unit 3 (triangles pointing downward) for subscale data (solid triangles) and plant data (open triangles) LEGEND: red = Target Rock; blue = Dresser; black = blind flange

e) Provide data and plots from in-plant measurements obtained from QC2, similar to those described in item (c), above.

RESPONSE

The Quad Cities data are included in the plots presented in item (c) above.

f) Compare the trends of the data obtained in items (c) through (e), above.

RESPONSE

Several observations may be made with regard to the comparison of the plant data between Peach Bottom and Quad Cities (referring to Figures RAI-10-13 through RAI-10-16.) The plots from the response to items a) and b) are also referenced in this discussion when appropriate.

Specifically for the Peach Bottom data the following observations are made:

1. Referring to Figures RAI-10-13 through RAI-10-16, Peach Bottom Units 2 and 3 demonstrate **[[**

   ]] This relationship can also be seen in Figures RAI-10-9 through RAI-10-12.

2. Comparison of actual onset power levels vs. analytical predictions for each of the three side branches provides the following observations:

   Table RAI-10-5 summarizes the predicted onset power levels for Peach Bottom (from Table 2-3 in Reference 10-1). Actual onset power levels are discussed individually for the three types of side branches.

Table RAI-10-5: Predicted Onset Power Levels for Peach Bottom Units 2 and 3 (Reference 10-1)

[[

]]

- Blind Flange
  [[

  ]]

- Dresser
  [[

  ]]

- Target Rock
  [[

  ]]

Comparison of Peach Bottom to Quad Cities data provides the following observations:

1. The figures show that Quad Cities Unit 2 normalized Dresser RMS pressures are [[

   ]]

2. An examination of the standpipe layout between Peach Bottom and Quad Cities suggests that the Quad Cities excitation [[

   ]] The plant layouts are summarized in Table RAI-10-6.

Table RAI-10-6: Standpipe Distribution in the Flow Direction from the Steam Dome, with T = Target Rock, E = Electromatic, D = Dresser, and B = blind standpipe.

[[

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[[

]]

3. [[

]]

4. An exact comparison of amplitude between Peach Bottom and Quad Cities plant data for Target Rock and Dresser must be made carefully, as pressure amplitudes and frequency are location specific; [[

]]

Several observations are made regarding the subscale test data for Peach Bottom Units 2 and 3 (refer to Figures RAI-10-17 through RAI-10-20):

1. [[

]]

2. [[

]] See response to RAI item g).

3. [[

]] It is believed that simplification in the Target Rock valve internals chamber (constructed for the model used in the subscale testing) has led to overly conservative responses.

4. [[

]]

g) Explain the method used to develop conservative bump-up factors for the SRV resonance peaks from CLTP to EPU conditions.

RESPONSE

The method used to develop the bump-up factors (i.e., scaling spectra) is described in Sections 4.7 and 6 of WCAP-17611-P. The scaling spectra were derived by using the following equation:
[

]^{a,c}

Note that [ ]^{a,c} were performed at the two power levels [ ]^{a,c} to obtain the best representative set of data.

The subscale test report (Reference 10-1) contains plots of the bump-up factors (scaling spectra) to be applied between [ ]^{a,c} at Peach Bottom Units 2 and 3. The maximum factors at the [ ]^{d} excitation frequencies can then be compared with the maximum factors computed from Figures RAI-10-17 to RAI-10-20. These results are summarized in Table RAI-10-7 and Table RAI-10-8:

Table RAI-10-7: Maximum Scaling Factor (Bump-up Factor) for Each Standpipe Peach Bottom Unit 2

[

]^{b}

Table RAI-10-8: Maximum Scaling Factor (Bump-up Factor) for Each Standpipe Peach Bottom Unit 3

[

]^{b}

The values in the above two tables were generated using the following approach, using as an example the Peach Bottom Unit 2 [ ]^{d} MSL D upstream data:

1. [

]^{a,c}

3. For the [ ]^{d} valve, reduced velocities are [

]^{a,c} Thus:

[ ]a,c

Table RAI-10-7 and Table RAI-10-8 demonstrate that the method to determine the scaling spectra described in the subscale test report produces results that are conservative, in several cases by more than a factor of two, over the present analysis (using the reduced velocity plots). Accordingly, Exelon has concluded that the scaling spectra generated via subscale testing are reasonable and conservative.

Summary: The bump-up factors developed from the above equation are appropriate and conservative for the [ ]d as discussed below:

– [

]a,c,d

References:

10-1: Rowland, A. 2012. "Peach Bottom Unit 2 and Unit 3 Replacement Steam Dryer Four-Line Subscale Acoustic Test Data Evaluation and Derivation of CLTP-to-EPU Scaling Spectra". Westinghouse Report No. WCAP-17611-P (Rev. 1).

10-2: S. Ziada and S. Shine. 1999. "Strouhal Numbers of Flow-Excited Acoustic Resonance of Closed Side Branches". Journal of Fluids and Structures 13(1): 127-142.

10-3: Hayes, F. 2012. "Peach Bottom Atomic Power Station Unit 2 and Unit 3 Replacement Steam Dryer Comprehensive Vibration Assessment Program (CVAP)". Westinghouse Report No. WCAP-17635-P (Rev. 1).

Attachment 3

Peach Bottom Atomic Power Station Units 2 and 3

NRC Docket Nos. 50-277 and 50-278

AFFIDAVIT

Note

Attachment 1 contains proprietary information as defined by 10 CFR 2.390. WEC and CDI, as the owners of the proprietary information, have executed the enclosed affidavits, which identify that the proprietary information has been handled and classified as proprietary, is customarily held in confidence, and has been withheld from public disclosure. The proprietary information has been faithfully reproduced in the attachment such that the affidavit remains applicable.

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CAW-13-3863

December 3, 2013

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: Attachment 1 "Response to Request for Additional Information – EMCB-SD - Proprietary," attached to Exelon Generation submittal to the NRC "Extended Power Uprate License Amendment Request – Supplement 15, Response to Request for Additional Information"

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-13-3863 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The Affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Exelon Generation.

Correspondence with respect to the proprietary aspects of the application for withholding or the accompanying Affidavit should reference CAW-13-3863 and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, Suite 310, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Very truly yours,

Bradley F. Maurer, Principal Engineer
Plant Licensing

Enclosures

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

Before me, the undersigned authority, personally appeared Bradley F. Maurer, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

Bradley F. Maurer, Principal Engineer
Plant Licensing

Sworn to and subscribed before me
this 3rd day of December 2013

Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Anne M. Stegman, Notary Public
Unity Twp., Westmoreland County
My Commission Expires Aug. 7, 2016
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

(1) I am Principal Engineer, Plant Licensing, in Engineering, Equipment and Major Projects, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's

competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

(iii) There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.

(v) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(vi) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in Attachment 1 "Response to Request for Additional Information – EMCB-SD - Proprietary," attached to Exelon Generation submittal to the NRC "Extended Power Uprate License Amendment Request – Supplement 15, Response to Request for Additional Information" for submittal to the Commission, being transmitted by Exelon Generation letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is to assist the NRC in their review of the Peach Bottom Atomic Power Station, Units 2 and 3, License Amendment Request for Extended Power Uprate and may be used only for that purpose.

(a) This information is part of that which will enable Westinghouse to:

(i) Assist Exelon Generation in obtaining NRC review of the Peach Bottom Atomic Power Station Units 2 and 3 License Amendment Request.

(b) Further this information has substantial commercial value as follows:

(i) Westinghouse plans to sell the use of this information to its customers for purposes of plant specific replacement steam dryer analysis for licensing basis applications.

(ii) Its use by a competitor would improve their competitive position in the design and licensing of a similar product for BWR steam dryer analysis methodology.

(iii) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

Proprietary Information Notice

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the Affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

Copyright Notice

Continuum Dynamics, Inc.

(609) 538-0444 (609) 538-0464 fax 34 Lexington Avenue Ewing, NJ 08618-2302

4 December 2013

Mr. Ronald Janowiak
Exelon Corporation
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: C.D.I. White Paper No. 13-07P "Main Steam Line Pressure Behavior at Standpipe Excitation Frequencies for Peach Bottom Units 2 and 3 Compared to Quad Cities Unit 2," Revision 1

To Whom It May Concern:

Enclosed please find a copy of the above referenced document which is being submitted to Exelon Corporation in accordance with the Non-Disclosure Secrecy Agreement between Continuum Dynamics, Inc. and Exelon Corporation dated June 26, 2007. Should the document be submitted to the Nuclear Regulatory Commission, we have also enclosed an Affidavit requesting withholding of disclosure, in accordance with 10 CFR 2.390.

Very truly yours,

Alan Bilanin

Dr. Alan J. Bilanin
President & Senior Associate

AJB/epb
Enclosure – as stated
13091

Continuum Dynamics, Inc.

(609) 538-0444 (609) 538-0464 fax 34 Lexington Avenue Ewing, NJ 08618-2302

AFFIDAVIT

Re: C.D.I. White Paper No. 13-07P "Main Steam Line Pressure Behavior at Standpipe Excitation Frequencies for Peach Bottom Units 2 and 3 Compared to Quad Cities Unit 2," Revision 1

I, Alan J. Bilanin, being duly sworn, depose and state as follows:

1. I hold the position of President and Senior Associate of Continuum Dynamics, Inc. (hereinafter referred to as C.D.I.), and I am authorized to make the request for withholding from Public Record the Information contained in the document described in Paragraph 2. This Affidavit is submitted to the Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 2.390(a)(4) based on the fact that the attached information consists of trade secret(s) of C.D.I. and that the NRC will receive the information from C.D.I. under privilege and in confidence.

2. The Information sought to be withheld, as transmitted to Exelon Corporation as attachment to C.D.I. Letter No. 13091 dated 4 December 2013, C.D.I. White Paper No. 13-07P "Main Steam Line Pressure Behavior at Standpipe Excitation Frequencies for Peach Bottom Units 2 and 3 Compared to Quad Cities Unit 2," Revision 1. The proprietary information is identified by its enclosure within pairs of double square brackets ("[[ ]]"). In each case, the superscript notation $^{(3)}$ refers to Paragraph 3 of this affidavit that provides the basis for the proprietary determination.

3. The Information summarizes:

   (a) a process or method, including supporting data and analysis, where prevention of its use by C.D.I.'s competitors without license from C.D.I. constitutes a competitive advantage over other companies;
   (b) Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;
   (c) Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

   The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs 3(a), 3(b) and 3(c) above.

4. The Information has been held in confidence by C.D.I., its owner. The Information has consistently been held in confidence by C.D.I. and no public disclosure has been made and it is not available to the public. All disclosures to third parties, which have been limited, have been

made pursuant to the terms and conditions contained in C.D.I.'s Nondisclosure Secrecy Agreement which must be fully executed prior to disclosure.

5. The Information is a type customarily held in confidence by C.D.I. and there is a rational basis therefore. The Information is a type, which C.D.I. considers trade secret and is held in confidence by C.D.I. because it constitutes a source of competitive advantage in the competition and performance of such work in the industry. Public disclosure of the Information is likely to cause substantial harm to C.D.I.'s competitive position and foreclose or reduce the availability of profit-making opportunities.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to be the best of my knowledge, information and belief.

Executed on this 4th day of December 2013.

Alan J. Bilanin
Continuum Dynamics, Inc.

Subscribed and sworn before me this day: December 4, 2013

Eileen P. Burmeister, Notary Public

EILEEN P BURMEISTER
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires May 06 , 2017