Exelon Generation®

PROPRIETARY INFORMATION – WITHHOLD UNDER 10 CFR 2.390

10 CFR 50.90
10 CFR 2.390

May 6, 2014

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 26
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)

In accordance with 10 CFR 50.90, Exelon Generation Company, LLC (EGC) requested amendments to Renewed 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. The NRC has provided Requests for Additional Information (RAI) related to the replacement steam dryer (RSD). Proprietary and non-proprietary versions of the responses to the outstanding requests (EMCB-SD-RAIs 44 and 57) are provided in Attachments 1 and 2.

In accordance with discussions with the NRC staff, a new license condition related to the replacement steam dryer is proposed for each unit in Attachment 3. These license conditions are responsive to three RAIs (EMCB-SD-RAIs 41 through 43).

Westinghouse Electric Company (WEC) considers portions of the information provided in the Attachment 1 responses proprietary and therefore exempt from public disclosure pursuant to 10 CFR 2.390. In accordance with 10 CFR 2.390 and in support of this request for withholding, an affidavit executed by WEC is provided in Attachment 4.

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

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

A001
NRR

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 May 2014.

Respectfully,

Craig W. Lambert
Vice President, Power Uprates
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. Proposed License Conditions related to the Replacement Steam Dryer
4. Affidavit 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

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 has requested additional information.

The responses to EMCB-SD-RAIs 44 and 57 are provided below.

EMCB-SD-RAI-44

With regard to the license condition noted in EMCB-SD-RAI-42, Section C(15)(b)(1) (i.e., RMS strain), please provide general criteria for selecting dominant frequency peaks and frequency ranges in PBAPS Unit 2 and PBAPS Unit 3 dryer maximum stress regions that address the following items:

a) Apply these criteria to the PBAPS Unit 2 instrumented dryer strain gages, provide list(s) of dominant peaks to be bounded, and propose license condition(s) for how Exelon will ensure that measured PBAPS Unit 2 on-dryer strains will be bounded at dominant frequencies by simulations (including application of bias errors and uncertainties (B/Us)).

b) Provide a license condition which includes the list of dominant frequencies for PBAPS Unit 3. Following re-benchmarking of the overall dryer stress simulation methodology after data are acquired for PBAPS Unit 2 at the current licensed thermal power (CLTP), reapply the criteria to PBAPS Unit 2 and PBAPS Unit 3 and update the list of dominant frequencies that must be bounded.

RESPONSE

a) At a power level [

]^{a,c}

To provide a consistent approach to [

]^{a,c}

A license condition will be provided in response to EMCB-SD-RAI-42 (see Attachment 3) that will ensure that measured PBAPS Unit 2 on-dryer strains will be bounded at dominant frequencies.

b) For PBAPS Unit 3, [

]^{a,c} The Unit 3 dominant frequencies will be submitted 90 days prior to the start of the Unit 3 EPU outage, in accordance with the proposed license condition contained in response to EMCB-SD-RAI-43 (see Attachment 3).

[

]^{a,b,c}

Figure RAI-44-1 PBAPS Unit 2 Stress PSD [ ]^{a,c}

[

]^{a,c}

[

Figure RAI-44-2 PBAPS Unit 2 Stress PSD [ ]^{a,c}]^{a,b,c}

EMCB-SD-RAI-57

PBAPS steam dryer stresses in WCAP-17609-P, Revision 2 dated March 2014 are based on Monticello (MNGP) end-to-end benchmark based Bias errors and Uncertainties (B/Us) for the upper (hood) portion. These MNGP based B/Us were affected by a recently discovered error in mis-labeling of MNGP MSL-C upper and lower Strain gage leads to the Data Acquisition System (DAS). Therefore, the NRC staff requests the following:

(d) Determine the impact of any changes to MNGP B/Us on the PBAPS steam dryer stresses.
(e) Verify and confirm that the PBAPS dryer qualifications are based on proper scale factor settings in data acquisition and free of any inadvertent errors in labeling of the leads.
(f) Provide guidance to the data acquisition personnel acquiring data during the upcoming PBAPS Unit 2 specific benchmarking at CLTP and subsequent power ascension from CLTP to EPU regarding DAS scale factor settings and verification of labeling of the various leads to the DAS.

RESPONSE

a) WCAP-17590-P Rev. 2, "Peach Bottom Units 2&3 Replacement Steam Dryer Acoustic Load Definition" provided the [
]^{a,c} The [

]^{a,c}

The new [
]^{a,c}

Table RAI-57-1 [ ]^{a,c}

[

]^{a,c}

The [

]^{a,c}

b) The labeling and verification of the PBAPS MSL strain gauge leads to the DAS was performed in accordance with the Exelon configuration control process. The PBAPS DAS scale factor measurement range was not adjusted, and a review of the baseline data documentation confirmed the data was taken at the appropriate range and gain settings. In addition, a review of the PBAPS Units 2 and 3 plant data was performed which indicates a consistency between the upper strain gauge locations for all four main steam lines and between the lower strain gauge locations for all four main steam lines. The above controls and verifications confirm the data acquisition was based on the proper scale factor settings and free of inadvertent errors in labeling the leads.

c) Industry Operating Experience (OPEX) regarding recent data acquisition errors will be included in the PBAPS replacement steam dryer instrumentation cabling / DAS installation and data acquisition personnel briefings. In addition, installation and data acquisition procedures and guidance documents will continue to include verifications regarding proper settings and labeling of MSL instrumentation, replacement steam dryer instrumentation, and DAS equipment in accordance with PBAPS configuration control practices. Finally, the DAS measurement range setting will be verified by DAS operators prior to acquisition of each data set during power ascension.

Attachment 3

Peach Bottom Atomic Power Station Units 2 and 3

NRC Docket Nos. 50-277 and 50-278

PROPOSED LICENSE CONDITIONS RELATED TO THE REPLACEMENT STEAM DRYER

PROPOSED LICENSE CONDITIONS RELATED TO THE REPLACEMENT STEAM DRYER

New license condition for PBAPS Unit 2 Renewed License No. DPR-44

A new License Condition Section 2.C(15) to the PBAPS Unit 2 Renewed Operating License is proposed below. The license condition is responsive to EMCB-SD-RAIs 41 and 42.

(15) Potential Adverse Flow Effects

In conjunction with the license amendment to revise paragraph 2.C(1) of Renewed Facility Operating License No. DPR-44, for Peach Bottom Unit 2, to reflect the new maximum licensed reactor core power level of 3951 megawatts thermal (MWt), the license is also amended to add the following license condition. This license condition provides for monitoring, evaluating, and taking prompt action in response to potential adverse flow effects as a result of power uprate operation on plant structures, systems, and components (including verifying the continued structural integrity of the steam dryer). This license condition is applicable to the initial power ascension from 3514 MWt to the extended power uprate (EPU) power level of 3951 MWt:

(a) The following requirements are placed on the initial operation of the facility, above the thermal power level of 3514 MWt, for the power ascension to 3951 MWt. These conditions are applicable until the first time full EPU conditions (3951 MWt) are achieved. If the number of active main steam line (MSL) strain gauges is less than two strain gauges (180 degrees apart) at any of the eight MSL locations, Exelon Generation Company will stop power ascension and repair/replace the damaged strain gauges and only then resume power ascension. In addition, sufficient on-dryer strain gauges must remain in working order to monitor all dryer peak stress locations with a minimum alternating stress ratio (MASR) less than 1.5. In the event there are no working on-dryer strain gauges, with coherence of greater than 0.5 with any peak stress location, Exelon Generation Company will: (1) stop power ascension; (2) evaluate the dryer MASR at the current power level and at the projected EPU power level; and (3) provide the results to the NRC Project Manager via e-mail. Exelon Generation Company shall not resume power ascension for at least 24 hours after the NRC Project Manager confirms receipt of the MASR results unless, prior to the expiration of the 24 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension.

Furthermore, power ascension may only resume if Exelon Generation Company determines that the dryer MASR will remain greater than 1.0.

1. Exelon Generation Company shall provide a brief stress summary report for the replacement steam dryer (RSD) based on MSL strain gauge and on-dryer instrument data collected at or near 3514 MWt for NRC review before increasing power above 3514 MWt. Exelon Generation Company shall also provide a brief vibration summary report for piping and valve vibration data collected at or near 3514 MWt for NRC review before increasing power above 3514 MWt. Both summary reports shall be provided by e-mail to the NRC Project Manager. Exelon Generation Company shall not increase power above 3514 MWt for at least 240 hours after the NRC Project Manager confirms receipt of the reports unless, prior to expiration of the 240 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension. The stress summary report shall include the information in items a through f, and the vibration summary report shall include the information in items g through i, as follows:

   a. A comparison of predicted and measured pressure spectra plots on the RSD.

   b. A comparison of predicted and measured root mean square (RMS) strains and spectra plots on the RSD.

   c. End-to-end bias errors and uncertainties (B/Us) for RSD strains, along with a demonstration that the application of these B/Us leads to RSD strain simulations that bound the measured spectra at dominant frequencies and RMS strains at all active strain gauge locations.

   d. RSD strain gauge limits based on benchmarking performed near 3514 MWt. This will include the predicted RSD strains at each measured location and the corresponding updated MASR near 3514 MWt.

   e. Predicted (extrapolated) strains at the active RSD strain gauge locations at 104% of 3514 MWt and an evaluation against acceptance limits.

   f. Predicted RSD stresses and MASRs at EPU.

g. Vibration data for piping and valve locations deemed prone to vibration and vibration monitoring locations identified in Attachment 13 to the EPU application dated September 28, 2012, including the following locations: MSLs (including those in the drywell, turbine building and in the steam tunnel), Feedwater Lines (including those in the drywell and turbine building), Safety Relief Valves (SRVs) and Main Steam Isolation Valves in the drywell.

h. An evaluation of the measured vibration data collected in item 1.g above compared against acceptance limits.

i. Predicted vibration values and associated acceptance limits at approximately 104 percent, 108 percent and 112.4 percent of 3514 MWt using the data collected in item g above.

2. Exelon Generation Company shall monitor the RSD strain gauges during power ascension above 3514 MWt for increasing strain fluctuations. Upon the initial increase of power above 3514 MWt until reaching 3951 MWt, Exelon Generation Company shall collect data from the RSD strain gauges at nominal 2 percent thermal power increments and evaluate steam dryer stress ratios based on these data. Summaries of the results shall be provided via e-mail to the NRC Project Manager at approximately 104 percent and 108 percent of 3514 MWt.

3. Exelon Generation Company shall monitor the MSL strain gauges during power ascension above 3514 MWt for increasing pressure fluctuations in the main steam lines. Upon the initial increase of power above 3514 MWt until reaching 3951 MWt, Exelon Generation Company shall collect data from the MSL strain gauges and on-dryer instruments at nominal 2 percent thermal power increments.

4. Exelon Generation Company shall hold the facility at approximately 104 percent and 108 percent of 3514 MWt to perform the following:

a. Collect strain data from the MSL strain gauges and collect data from on-dryer instruments (accelerometers, strain gauges, and pressure transducers).

b. Collect vibration data for the locations included in the vibration summary report discussed above.

c. Evaluate steam dryer performance based on RSD strain gauge data.

d. Evaluate the measured vibration data (collected in item 4.b above) at that power level, data projected to EPU conditions, trends, and comparison with the acceptance limits.

e. Provide the steam dryer evaluation and the vibration evaluation, including the data collected, via e-mail to the NRC Project Manager, upon completion of the evaluation for each of the two hold points.

f. Exelon Generation Company shall submit a comparison of predicted and measured pressures and strains (RMS and spectra) on the RSD at 104% of 3514 MWt and 108% of 3514 MWt during power ascension.

g. Exelon Generation Company shall not increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the evaluations unless, prior to the expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension.

5. If any RMS level measured by the active RSD strain gauges exceeds allowable Level 1 limits, Exelon Generation Company shall return the facility to a power level at which the limit(s) is not exceeded. Exelon Generation Company shall resolve the discrepancy, evaluate and document the continued structural integrity of the steam dryer, and provide that documentation to the NRC Project Manager via e-mail prior to further increases in reactor power. If a revised stress analysis is performed and new RSD strain limits are developed, then Exelon Generation Company shall not further increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the documentation or until the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension, whichever comes first. Additional detail is provided in paragraph (b)1 below.

(b) Exelon Generation Company shall implement the following actions for the initial power ascension from 3514 MWt to 3951 MWt condition:

1. In the event that RMS strain levels for active RSD strain gauges are identified to exceed the allowable Level 1 limits during power ascension above 3514 MWt, Exelon Generation Company shall re-evaluate dryer loads and stresses, and re-establish updated MASRs and RSD strain gauge RMS limits. In the event that stress analyses are re-performed based on new strain gauge data to address paragraph (a)5 above, the revised load definition, stress analysis, and limits shall include:

   a. Determination of end-to-end B/Us and their application in determining maximum alternating stress intensities.

   b. Use of bump-up factors associated with all of the SRV acoustic resonances, as determined from the scale model test results or in-plant data acquired during power ascension.

2. After reaching 3951 MWt, Exelon Generation Company shall obtain measurements from the MSL strain gauges and establish the steam dryer flow-induced vibration load fatigue margin for the facility, update the dryer stress report, and re-establish the RSD strain gauge limits based on the updated load definition. These data will be provided to the NRC staff as described below in paragraph (e).

(c) Exelon Generation Company shall prepare the EPU power ascension test procedure to include:

1. The stress limits and the corresponding RSD strain limits to be applied for evaluating steam dryer performance.

2. Specific hold points and their durations during EPU power ascension.

3. Activities to be accomplished during the hold points.

4. Plant parameters to be monitored.

5. Inspections and walkdowns to be conducted for steam, feedwater, and condensate systems and components during the hold points.

6. Methods to be used to trend plant parameters.

7. Acceptance criteria for monitoring and trending plant parameters, and conducting the walkdowns and inspections.

8. Actions to be taken if acceptance criteria are not satisfied.

9. Verification of the completion of commitments and planned actions specified in the application and all supplements to the application in support of the EPU license amendment request pertaining to the steam dryer prior to power increase above 3514 MWt. Exelon Generation Company shall provide the related EPU startup test procedure sections to the NRC Project Manager via e-mail prior to increasing power above 3514 MWt.

(d) The following key attributes of the program for verifying the continued structural integrity of the steam dryer shall not be made less restrictive without prior NRC approval:

1. During initial power ascension testing above 3514 MWt, each of the two hold points shall be at increments of 4 percent of 3514 MWt.

2. Level 1 performance criteria.

3. The methodology for establishing the RSD strain limits used for the Level 1 and Level 2 performance.

(e) The results of the power ascension testing to verify the continued structural integrity of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall include a final load definition and stress report of the steam dryer, including the results of a complete re-analysis using the end-to-end B/Us determined at EPU conditions and a comparison of predicted and measured pressures and strains (RMS levels and spectra) on the RSD. The report shall be submitted within 90 days of the completion of EPU power ascension testing for Peach Bottom Unit 2.

(f) During the first two scheduled refueling outages after reaching EPU conditions, a visual inspection shall be

conducted of the steam dryer as described in the inspection guidelines contained in WCAP-17635-P.

(g) The results of the visual inspections of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall be submitted within 90 days following startup from each of the first two respective refueling outages.

(h) Within 6 months following completion of the second refueling outage, after the implementation of the EPU, the licensee shall submit a long-term steam dryer inspection plan based on industry operating experience along with the baseline inspection results.

The license condition described above shall expire: (1) upon satisfaction of the requirements in paragraphs (f) and (g), provided that a visual inspection of the steam dryer does not reveal any new unacceptable flaw(s) or unacceptable flaw growth that is due to fatigue, and; (2) upon satisfaction of the requirements specified in paragraph (h).

New license condition for PBAPS Unit 3 Renewed License No. DPR-56

A new License Condition Section 2.C(15) to the PBAPS Unit 3 Renewed Operating License is proposed below. The license condition is responsive to EMCB-SD-RAI 43.

(15) Potential Adverse Flow Effects

In conjunction with the license amendment to revise paragraph 2.C(1) of Renewed Facility Operating License No. DPR-56, for Peach Bottom Unit 3, to reflect the new maximum licensed reactor core power level of 3951 megawatts thermal (MWt), the license is also amended to add the following license condition. This license condition provides for monitoring, evaluating, and taking prompt action in response to potential adverse flow effects as a result of power uprate operation on plant structures, systems, and components (including verifying the continued structural integrity of the steam dryer). This license condition is applicable to the initial power ascension from 3514 MWt to the extended power uprate (EPU) power level of 3951 MWt:

(a) The following requirements are placed on the initial operation of the facility, above the thermal power level of 3514 MWt, for the power ascension to 3951 MWt. These conditions are applicable until the first time full EPU conditions (3951 MWt) are achieved. If the number of active main steam line (MSL) strain gauges is less than two strain gauges (180 degrees apart) at any of the eight MSL locations, Exelon Generation Company will stop

power ascension and repair/replace the damaged strain gauges and only then resume power ascension.

1. At least 90 days prior to the start of the Peach Bottom Unit 3 EPU outage, Exelon Generation Company shall revise the Peach Bottom Unit 3 replacement steam dryer (RSD) analysis utilizing the Unit 2 on-dryer strain gauge based end-to-end Bias errors and Uncertainties (B/Us) at EPU conditions, and submit the information including the updated limit curves and a list of dominant frequencies for Unit 3, to the NRC as a report in accordance with 10 CFR 50.4.

2. Exelon Generation Company shall evaluate the Unit 3 limit curves prepared in 15(a)1 above based on new MSL strain gauge data collected following the Unit 3 EPU outage at or near 3514 MWt. If the limit curves change, the new post-EPU outage limit curves shall be provided by e-mail to the NRC Project Manager. Exelon Generation Company shall not increase power above 3514 MWt for at least 96 hours after the NRC Project Manager confirms receipt of the report unless, prior to expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension.

3. Exelon Generation Company shall provide a brief vibration summary report, for piping and valves vibration data collected at or near 3514 MWt, for NRC review before increasing power above 3514 MWt. The summary report shall be provided by e-mail to the NRC Project Manager. Exelon Generation Company shall not increase power above 3514 MWt for at least 96 hours after the NRC Project Manager confirms receipt of the report unless, prior to expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension. The vibration summary report shall include the information in items a through c, as follows:

    a. Vibration data for piping and valve locations deemed prone to vibration and vibration monitoring locations identified in Attachment 13 to the EPU application dated September 28, 2012, including the following locations: MSLs (including those in the drywell, turbine building and in the steam tunnel), Feedwater Lines (including those in the drywell and turbine building), Safety Relief Valves (SRVs) and the Main Steam Isolation Valves in the drywell.

b. An evaluation of the measured vibration data collected in item a above compared against acceptance limits.

c. Predicted vibration values and associated acceptance limits at approximately 104 percent, 108 and 112.4 percent of 3514 MWt using the data collected in item a, above.

4. Exelon Generation Company shall monitor the MSL strain gauges during power ascension above 3514 MWt for increasing pressure fluctuations in the steam lines. Upon the initial increase of power above 3514 MWt until reaching 3951 MWt, Exelon Generation Company shall collect data from the MSL strain gauges at nominal 2 percent thermal power increments and evaluate steam dryer performance based on this data.

5. During power ascension at each nominal 2 percent power level above 3514 MWt, Exelon Generation Company shall compare the MSL data to the approved limit curves based on end-to-end B/Us from the Peach Bottom Unit 2 benchmarking at EPU conditions and determine the minimum alternating stress ratio (MASR). A summary of the results shall be provided for NRC review at approximately 104 percent and 108 percent of 3514 MWt. The summary report shall be provided to the NRC Project Manager via e-mail.

6. Exelon Generation Company shall hold the facility at approximately 104 percent and 108 percent of 3514 MWt to perform the following:

   a. Collect strain data from the MSL strain gauges.

   b. Collect vibration data for the locations included in the vibration summary report discussed above.

   c. Evaluate steam dryer performance based on MSL strain gauge data.

   d. Evaluate the measured vibration data (collected in item 6.b above) at that power level, data projected to EPU conditions, trends, and comparison with the acceptance limits.

   e. Provide the steam dryer evaluation and the vibration evaluation, including the data collected, via e-mail to the NRC Project Manager, upon

completion of the evaluation for each of the hold points.

f. Exelon Generation Company shall not increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the evaluations unless, prior to the expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension.

7. If any frequency peak from the MSL strain gauge data exceeds the Level 1 limit curves, Exelon Generation Company shall return the facility to a power level at which the limit curve is not exceeded. Exelon Generation Company shall resolve the discrepancy, evaluate and document the continued structural integrity of the steam dryer, and provide that documentation to the NRC Project Manager via e-mail prior to further increases in reactor power. If a revised stress analysis is performed and new limit curves are developed, then Exelon Generation Company shall not further increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the documentation or until the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension, whichever comes first. Additional detail is provided in paragraph (b)1 below.

(b) Exelon Generation Company shall implement the following actions for the initial power ascension from 3514 MWt to 3951 MWt condition:

1. In the event that acoustic signals (in MSL strain gauge signals) are identified that exceed the Level 1 limit curves during power ascension above 3514 MWt, Exelon Generation Company shall re-evaluate dryer loads and stresses, and re-establish the limit curves. In the event that stress analyses are re-performed based on new strain gauge data to address paragraph (a)7 above, the revised load definition, stress analysis, and limit curves shall include:

   a. Application of end-to-end B/Us as determined from Peach Bottom Unit 2 EPU measurements.

   b. Use of bump-up factors associated with all of the SRV acoustic resonances as determined from the

scale model test results or in-plant data acquired during power ascension.

2. After reaching 3951 MWt. Exelon Generation Company shall obtain measurements from the MSL strain gauges and establish the steam dryer flow-induced vibration load fatigue margin for the facility, update the dryer stress report, and re-establish the limit curves with the updated load definition. These data will be provided to the NRC staff as described below in paragraph (e).

(c) Exelon Generation Company shall prepare the EPU power ascension test procedure to include:

1. The MSL strain gage limit curves to be applied for evaluating steam dryer performance, based on end-to-end B/Us from Peach Bottom Unit 2 benchmarking at EPU conditions

2. Specific hold points and their durations during EPU power ascension.

3. Activities to be accomplished during the hold points.

4. Plant parameters to be monitored.

5. Inspections and walkdowns to be conducted for steam, feedwater, and condensate systems and components during the hold points.

6. Methods to be used to trend plant parameters.

7. Acceptance criteria for monitoring and trending plant parameters, and conducting the walkdowns and inspections.

8. Actions to be taken if acceptance criteria are not satisfied.

9. Verification of the completion of commitments and planned actions specified in the application and all supplements to the application in support of the EPU license amendment request pertaining to the steam dryer prior to power increase above 3514 MWt. Exelon Generation Company shall provide the related EPU startup test procedure sections to the NRC Project Manager via e-mail prior to increasing power above 3514 MWt.

(d) The following key attributes of the program for verifying the continued structural integrity of the steam dryer shall not be made less restrictive without prior NRC approval:

1. During initial power ascension testing above 3514 MWt, each of the two hold points shall be at increments of approximately 4 percent of 3514 MWt.

2. Level 1 performance criteria.

3. The methodology for establishing the limit curves used for the Level 1 and Level 2 performance.

(e) The results of the power ascension testing to verify the continued structural integrity of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall include a final load definition and stress report of the steam dryer, including the results of a complete re-analysis using the end-to-end B/Us from Peach Bottom Unit 2 benchmarking at EPU conditions. The report shall be submitted within 90 days of the completion of EPU power ascension testing for Peach Bottom Unit 3.

(f) During the first two scheduled refueling outages after reaching EPU conditions, a visual inspection shall be conducted of the steam dryer as described in the inspection guidelines contained in WCAP-17635-P.

(g) The results of the visual inspections of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall be submitted within 90 days following startup from each of the first two respective refueling outages.

(h) Within 6 months following completion of the second refueling outage, after the implementation of the EPU, the licensee shall submit a long-term steam dryer inspection plan based on industry operating experience along with the baseline inspection results.

The license condition described above shall expire: (1) upon satisfaction of the requirements in paragraphs (f) and (g), provided that a visual inspection of the steam dryer does not reveal any new unacceptable flaw(s) or unacceptable flaw growth that is due to fatigue, and; (2) upon satisfaction of the requirements specified in paragraph (h).

Attachment 4

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, as the owner of the proprietary information, has executed the enclosed affidavit, which identifies 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.

Westinghouse Electric Company
Engineering, Equipment and Major Projects
1000 Westinghouse Drive, Building 3
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Direct tel: (412) 374-4643
Direct fax: (724) 940-8560
e-mail: greshaja@westinghouse.com

CAW-14-3953

May 5, 2014

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

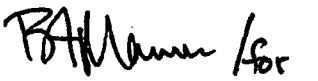
Subject: Attachment 1 "Response to Request for Additional Information – EMCB-SD - Proprietary," attached to Exelon Generation submittal to the NRC "Extended Power Uprate License Amendment Request – Supplement 26, Response to Request for Additional Information"

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-14-3953 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 Westinghouse Affidavit should reference CAW-14-3953 and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

Very truly yours,



James A. Gresham, Manager
Regulatory Compliance

Enclosures

CAW-14-3953

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 5th day of May 2014

Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Renee Giampole, Notary Public
Penn Twp., Westmoreland County
My Commission Expires Sept. 25, 2017
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 constitute Westinghouse policy and provide 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 26, 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 that associated with the review of the Replacement Steam Dryer design and analysis which is a part of the Extended Power Uprate License Amendment Request for Peach Bottom Units 2 and 3, 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 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