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Serial: NPD-NRC-2015-039
August 26, 2015

10 CFR 52.79

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

LEVY NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 52-029 AND 52-030
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 129 RELATED TO STANDARD REVIEW PLAN SECTION 6.4, CONTROL ROOM HABITABILITY SYSTEM, AND SECTION 15.00.03. DESIGN BASIS ACCIDENTS, RADIOLOGICAL CONSEQUENCE ANALYSES FOR ADVANCED LIGHT WATER REACTORS, FOR THE LEVY NUCLEAR PLANT, UNITS 1 AND 2, COMBINED LICENSE APPLICATION

Reference: 1) Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated July 13, 2015, "Request For Additional Information Letter No. 129 Related To Standard Review Plan Section 6.4, Control Room Habitability System, And Section 15.00.03. Design Basis Accidents, Radiological Consequence Analyses For Advanced Light Water Reactors, For The Levy Nuclear Plant, Units 1 And 2, Combined License Application" (ML15194A263).

Ladies and Gentlemen:

Duke Energy Florida, LLC (DEF) hereby submits our response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in Reference 1. A non-proprietary version of the DEF responses is provided in Enclosure 1 to this letter. Attachments A and B to Enclosure 1 contain the proprietary versions of the responses. Changes to the LNP COLA are required and are provided in Enclosure 1.

Also enclosed is the Westinghouse Application for Withholding Proprietary Information from Public Disclosure CAW-15-4236, accompanying Affidavit, Proprietary Information Notice, and Copyright Notice. (Enclosures 2 and 3)

As Attachments A and B to Enclosure 1 contain information proprietary to Westinghouse Electric Company LLC, they are supported by an Affidavit signed by Westinghouse, the owner of the information. The Affidavit 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 Section 2.390 of the Commission's regulations.

Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse Affidavit should reference CAW-15-4236 and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric

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Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

If you have any further questions, or need additional information, please contact Bob Kitchen at (704) 382-4046, or me at (704) 382-9248.

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

Executed on August 26, 2015.

Sincerely,

Christopher M Fallon

Christopher M. Fallon
Vice President
Nuclear Development

Enclosures/Attachments:
1. LNP Response to NRC RAI Letter No. 129
   1A. LNP Response to NRC RAI Questions 06.04-6 through 06.04-12 (Proprietary)
   1B. LNP Response to NRC RAI Questions 15.00.03-2 through 15.00.03-4 (Proprietary)
2. Westinghouse Application Letter CAW-15-4236 and Affidavit
3. Proprietary Information Notice and Copyright Notice

cc (w/o enclosures): U.S. NRC Region II, Regional Administrator
cc (w/ enclosures): Mr. Donald Habib, U.S. NRC Project Manager

Levy Nuclear Plant Units 1 and 2 (LNP)
Response to NRC Request For Additional Information Letter No. 129 Related To Standard Review Plan Section 6.4, Control Room Habitability System, dated July 13, 2015

NRC RAI #	Duke Energy RAI #	Duke Energy Response
06.04-7	L-1141	Response enclosed – see following pages
06.04-8	L-1142	Response enclosed – see following pages
06.04-9	L-1143	Response enclosed – see following pages
06.04-10	L-1144	Response enclosed – see following pages
06.04-11	L-1145	Response enclosed – see following pages
06.04-12	L-1146	Response enclosed – see following pages

NRC Letter No.: LNP-RAI-LTR-129

NRC Letter Date: July 13, 2015

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 06.04-7, 06.04-8, 06.04-9, 06.04-10, 06.04-11 and 06.04-12

Text of NRC RAI:

06.04-7

10 CFR 52.79(a)(4) requires that a combined license (COL) application include a final safety analysis report (FSAR) that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants." For a COL application received after January 10, 1997, General Design Criterion (GDC) 19 requires that a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident.

10 CFR 52.79(a)(17), requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems.

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," (SRP), Section 6.4, "Control Room Habitability System," provides staff guidance on the review of the applicant's analysis of the control room operator dose, which includes the assessment of radiation shielding and evaluation of direct dose in addition to the evaluation of dose from inhalation and immersion in airborne radioactive releases from the facility. SRP Section 15.0.3, "Design Basis Accident Radiological Consequence Analyses for Advanced Light Water Reactors," gives guidance on review of design basis accident (DBA) radiological consequence analyses. Given that the applicant is providing information on revised DBA analyses in the departure from the AP1000 Design Certification Document (DCD), the staff is using the guidance in SRP Section 15.0.3 for a COL which does not reference a DCD. SRP Section 15.0.3, paragraph III.4.J, states that for each postulated accident, the doses from all sources of radiation exposure to the control room personnel are combined to compare to GDC 19. In addition, Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," Section 4.2, "Control Room Dose Consequences," states that all sources of radiation that will cause exposure to control room personnel should be considered in the dose analyses, and gives some typical examples.

With respect to the sources of radiation exposure evaluated to show compliance with GDC 19, clarify whether the control room dose results for DBAs other than a loss-of-coolant accident (LOCA), include the direct dose contribution from main control room emergency habitability system (VES) filter shine.

a. For DBAs that do not include VES filter shine in the control room dose results, provide a justification.
b. For DBAs that do include VES filter shine, are the LOCA VES filter shine doses used as bounding for the specific DBA, or are accident-specific filter loading and direct dose analyses performed?

06.04-8

With respect to the sources of radiation exposure evaluated to show compliance with GDC 19, clarify whether the control room dose results for DBAs other than LOCA include the direct dose contribution from nuclear island nonradioactive ventilation system (VBS) filter shine.

a. For DBAs that do not include VBS filter shine in the control room dose results, provide a justification.
b. For DBAs that do include VBS filter shine, are the LOCA VBS filter shine doses used as bounding for the specific DBA, or are accident-specific filter loading and direct dose analyses performed?

06.04-9

With respect to the sources of radiation exposure evaluated to show compliance with GDC 19, clarify whether the revised control room dose results for DBAs other than LOCA include the dose contribution from spent fuel pool boiling. For DBAs that do not include the dose from spent fuel pool boiling in the control room dose results as a change from the DCD analysis assumptions, provide a justification.

06.04-10

10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDC. For a COL application received after January 10, 1997, GDC 19 requires that a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

10 CFR 52.79(a)(17), requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems.

SRP Section 6.4 provides staff guidance on the review of the applicant's analysis of the control room operator dose, which includes the assessment of radiation shielding and evaluation of direct dose in addition to the valuation of dose from inhalation and immersion in airborne radioactive releases from the facility. SRP Section 6.4, Subsection III.3, discusses the review of the control room ventilation systems with respect to the capability of the systems to control the intake and mitigation of radioactive releases into the control room envelope as it affects the radiation exposure to the control room personnel. SRP Section 15.0.3 gives guidance on review of DBA radiological consequence analyses. Given that the applicant is providing information on revised DBA analyses in the departure from the AP1000 DCD for review of the changes from the DCD, the staff is using the guidance in SRP Section 15.0.3 for a COL which does not reference a DCD. In addition, RG 1.183, Section 4.2, gives guidance on the modeling of engineered safety features, such as the control room ventilation and filtration systems, in the dose analyses.

In order for the staff to better understand the modeling of the operation of the control room ventilation systems in your analyses, provide the time after the beginning of the accident that the control room ventilation system initiates as assumed in the dose analyses for each DBA, for both the operation of the VES and VBS supplemental filtration. Also discuss the timing of the radiation monitor reaching the setpoints for initiation of the VES or VBS.

06.04-11

10 CFR 52.79(a)(4) requires that a combined license (COL) application include a final safety

analysis report (FSAR) that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR 50, Appendix A, general design criteria (GDC). For a COL application received after January 10, 1997, GDC 19 requires that a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

10 CFR 52.79(a)(17), requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems.

SRP Section 6.4 provides staff guidance on the review of the applicant's analysis of the control room operator dose, which includes the assessment of radiation shielding and evaluation of direct dose in addition to the evaluation of dose from inhalation and immersion in airborne radioactive releases from the facility. SRP Section 15.0.3 gives guidance on review of DBA radiological consequence analyses. Given that the applicant is providing information on revised DBA analyses in the departure from the AP1000 DCD, the staff is using the guidance in SRP Section 15.0.3 for COL which does not reference a DCD. SRP Section 15.0.3, Subsection III.4.J, states that for each postulated accident, the doses from all sources of radiation exposure to the control room personnel are combined to compare to GDC 19. In addition, RG 1.183, Section 4.2, states that all sources of radiation that will cause exposure to control room personnel should be considered in the dose analyses, and gives some typical examples.

For each DBA evaluated to show compliance with GDC 19, do the revised direct dose analyses from all applicable sources include consideration of all the changes made to the DBA dose analysis (e.g., control room ventilation flow rates, iodine re-evolution from the IRWST for LOCA, steam releases for the main steam line break (MSLB), increased source term for the rod ejection accident)?

06.04-12

FSAR Tables 12.2-28 and 12.2-29 provide information on the gamma source strength in the VES and VBS filters used in the control room direct dose analyses for the LOCA, which are one component of the control room dose evaluated to show compliance with GDC 19. Provide a listing of the VES and VBS isotopic filter loadings that are the basis for the information in Tables 12.2-28 and 12.2-29.

DEF RAI ID#: L-1141, L-1142. L-1143, L-1144, L-1145 and L-1146

DEF Response to NRC RAI:

Response to 06.04-7

Direct dose from activity accumulated on the VES Filters has been included in all design basis accident (DBA) control doses for VES operation reported in Chapters 6 and 15. Accident-specific VES filter-loadings were calculated, and accident-specific VES filter direct doses were calculated. These accident-specific VES filter direct doses have been included in the total doses reported in Chapter 6 and 15.

Response to 06.04-8

Direct dose from activity accumulated on the VBS Filters has been included in all DBA control doses for VBS operation reported in Chapters 6 and 15. Accident-specific VBS filter-loadings were calculated, and accident-specific VBS filter direct doses were calculated. These accident-specific VBS filter direct doses have been included in the total doses reported in Chapter 6 and 15.

Response to 06.04-9

With the exception of Fuel Handling Accident (FHA), all reported DBA control room doses account for the spent fuel pooling (SFP) boiling contribution, which is reported as 0.01 rem TEDE in Table 15.6.5-3.

The FHA analysis does not include contributions from SFP boiling. SFP boiling is a consequence of an extended loss of offsite power. The FHA (i.e. a dropped fuel assembly) would not result in a loss of offsite power. Adding the SFP boiling doses to the FHA doses would be combining two independent events, which is beyond the scope of Chapter 15 DBA analyses.

This is consistent with how the SFP boiling contributions were addressed in DCD revision 19.

Response to 06.04-10

Below is a table of events, with time (in units of hours, defined from the beginning of the event) that the VES and VBS supplemental filtration mode (SFM) actuation setpoints were confirmed to have been reached at the intake to the MCR RMS monitor, and the time that actuation of each system was modeled in the dose analyses.

(a,c)

[ ]

The delay times applied are based on the following components. Note that additional rounding may be applied in the detailed dose analyses.

(a,c)

[

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Response to 06.04-11

Direct dose analyses have either been updated to reflect changes made to the DBA dose analyses or remain conservative with respect to the assumptions made in the DBA dose analyses. Specifically: (a,c)

[

]

Response to 06.04-12

The following table lists the isotopic loading for the VES filter as a function of time following a DBA. These activities support the photon source strength shown in Table 12.2-28 (Sheet 1 of 2).

[ ] (a,c)

The following table lists the isotopic loading for the VBS filter as a function of time following a DBA. These activities support the photon source strength shown in Table 12.2-28 (Sheet 2 of 2).

[ ] (a,c)

The following table lists the integrated isotopic activity on the VES and VBS filters. The integration is performed over 720 hours. These integrated activities support the data shown in Table 12.2-29.

[ ] (a,c)

Associated LNP COL Application Revision:

None

Levy Nuclear Plant Units 1 and 2 (LNP)
Response to Request For Additional Information Letter No. 129 Related To Standard Review Plan Section 15.00.03. Design Basis Accidents, Radiological Consequence Analyses dated July 13, 2015

NRC RAI #	Duke Energy RAI #	Duke Energy Response
15.00.03-2	L-1147	Response enclosed – see following pages
15.00.03-3	L-1148	Response enclosed – see following pages
15.00.03-4	L-1149	Response enclosed – see following pages

NRC Letter No.: LNP-RAI-LTR-129

NRC Letter Date: July 13, 2015

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 15.00.03-2, 15.00.03-3 and 15.00.03-4

Text of NRC RAI:

15.00.03-2

10 CFR 52.79(a)(1)(vi) requires that a combined license (COL) application include a final safety analysis report (FSAR) that provides a description and safety assessment of the site on which the facility is to be located. The safety assessment analyses are done, in part, to show compliance with the radiological consequence evaluation factors in 10 CFR 52.79(a)(1)(vi)(A) and 10 CFR 52.79(a)(1)(vi)(B). The radiological consequences of design basis accidents are evaluated against these siting criteria.

10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants." For a COL application received after January 10, 1997, General Design Criterion (GDC) 19 requires that a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident.

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," (SRP), Section 15.0.3, "Design Basis Accident Radiological Consequence Analyses for Advanced Light Water Reactors," gives guidance on review of design basis accident (DBA) radiological consequence analyses. Given that the applicant is providing information on revised DBA analyses in the departure from the AP1000 Design Certification Document (DCD) for review of the changes from the DCD, the staff is using the guidance in SRP Section 15.0.3 for a COL which does not reference a DCD. In addition, Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," gives guidance on DBA dose analysis inputs, assumptions, and models.

The staff needs the following additional information to complete its review of the revised DBA dose analyses done to show compliance with the siting criteria and GDC 19. The June 5, 2015 (see Agencywide Documents Access and Management System (ADAMS) Accession No. ML15161A039), submittal indicates that the full-power moisture carryover from the steam generators was increased from 0.1% to 0.35%, and this value was used to model alkali metal releases to the environment in the revised DBA analyses that assume release through the secondary system. This is consistent with guidance in Appendix E of RG 1.183 that the retention of particulates in the steam generators is limited by the steam generator moisture carryover. However, this value for the full-power moisture carryover is larger than the maximum weight percent moisture carryover value of 0.25% listed in DCD, Revision 19, Table 5.4-4, "Steam Generator Design Requirements."

a. Clarify this discrepancy. Is this only a bounding dose analysis assumption, or a change in the design requirements for the steam generators?
b. Are there any other effects of increasing the maximum weight percent moisture carryover for the steam generators?

15.00.03-3

10 CFR 52.79(a)(1)(vi) requires that a COL application include an FSAR that provides a description and safety assessment of the site on which the facility is to be located. The safety

assessment analyses are done, in part, to show compliance with the radiological consequence evaluation factors in 52.79(a)(1)(vi)(A) and 52.79(a)(1)(vi)(B). The radiological consequences of design basis accidents are evaluated against these siting criteria.

10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDCs. For a COL application received after January 10, 1997, GDC 19 requires that a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

SRP Section 15.0.3 gives guidance on review of DBA radiological consequence analyses. Given that the applicant is providing information on revised DBA analyses in the departure from the AP1000 DCD for review of the changes from the DCD, the staff is using the guidance in SRP Section 15.0.3 for a COL which does not reference a DCD. In addition, RG 1.183 gives guidance on DBA dose analysis inputs, assumptions, and models.

The staff needs the following additional information to complete its review of the revised DBA dose analyses done to show compliance with the siting criteria and GDC 19. Provide the basis for the following changes from the DCD information on steam generator tube rupture dose analysis in FSAR Table 15.6.3-3:

a. increase in the duration of steam releases from 13.19 hrs to 15.94 hrs
b. reductions in reactor coolant mass and initial secondary coolant mass

15.00.03-4

10 CFR 52.79(a)(1)(vi) requires that a COL application include an FSAR that provides a description and safety assessment of the site on which the facility is to be located. The safety assessment analyses are done, in part, to show compliance with the radiological consequence evaluation factors in 52.79(a)(1)(vi)(A) and 52.79(a)(1)(vi)(B). The radiological consequences of design basis accidents are evaluated against these siting criteria.

10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDCs. For a COL application received after January 10, 1997, GDC 19 requires that a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

SRP Section 15.0.3 gives guidance on review of DBA radiological consequence analyses. Given that the applicant is providing information on revised DBA analyses in the departure from the AP1000 DCD for review of the changes from the DCD, the staff is using the guidance in SRP Section 15.0.3 for a COL which does not reference a DCD. In addition, RG 1.183 gives guidance on DBA dose analysis inputs, assumptions, and models.

The staff needs the following additional information to complete its review of the revised DBA dose analyses done to show compliance with the siting criteria and GDC 19. Page 7 of Enclosure 1 to the June 5, 2015, submittal states that in a departure from the DCD, changes are made to the modeling of iodine re-evolution in containment from the in-containment refueling water storage tank (IRWST) for the loss-of-coolant accident dose analysis. Provide a description and summary of the changes to the modeling of IRWST pH and iodine re-evolution, including time-dependent pH and partition coefficients for the water in the IRWST. Document this change from the DCD analyses in the FSAR.

DEF RAI ID#: L-1147, L-1148 and L-1149

DEF Response to NRC RAI:

Response to **15.00.03-2**

A. The 0.35% MCO value represents a bounding value for analyses purposes, and is considered an upper bound for the amount of MCO that could be expected during plant operation. A value of 0.25% (as listed in Table 5.4-4 of the DCD Revision 19) is an appropriate performance requirement for the steam generators, however, considering that as much as 0.1% of MCO may go undetected as part of pressure loss across the steam outlet nozzle, a bounding value of 0.35% is relevant for analyses considering a maximum moisture carryover value. This 0.35% value is used as a conservative input in dose analyses and other work supporting Chapter 15 of the licensing basis.

B. Increasing the maximum weight percent moisture carryover could also affect the thermal design parameters of the Reactor Coolant System, if changes were significant enough. However, WEC notes that the current RCS design considers an MCO value that is consistent with the 0.35% value. Note that a more realistic estimate of moisture carryover is considered as part of Chapter 11 of the licensing basis, and as a result, increasing the maximum moisture carryover value for the steam generators is not expected to affect source terms or radiation zoning unless the expected moisture carryover value were also increased.

Response to **15.00.03-3**

Conforming changes to the values of steam release duration, reactor coolant mass, and initial secondary coolant mass (in DCD Table 15.6.3-3) are necessary to reflect the design changes incorporated into **AP1000**® DCD Revision 18 and carried forward into **AP1000** DCD Revision 19. Design parameters are updated to more conservative values than used in DCD Revision 19 from an offsite and MCR dose perspective for the purpose of providing additional margin for future fuel cycle design purposes.

Response to **15.00.03-4**

Introduction

The LOCA dose analysis is based upon the NUREG-1465 source term described in Regulatory Guide 1.183. [

]$^{(a,c)}$

[ ] (a,c)

IRWST Iodine Inventory

[ ] (a,c)

Elemental Iodine Re-evolution

[ ] (a,c)

Organic Iodine from Elemental Iodine Re-evolution

[ ] (a,c)

Environmental Release

[ ] (a,c)

Results

The contribution of the IRWST iodine re-evolution to the total doses at the EAB, LPZ, and in the MCR (considering VES or VBS SFM in operation) are presented in Table 1.

[ ] (a,c)

(a,c)

[

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(a,c)

[

]

(a,c)

Associated LNP COL Application Revision:

1. COLA Part 2, FSAR Chapter 15, will be revised to add a new Subsection 15.6.5.3.2, with a LMA of LNP DEP 6.4-1, to read:

15.6.5.3.2 In-containment Activity Removal Processes

Add the following paragraphs at the end of DCD Subsection 15.6.5.3.2.

Particulates removed from the containment atmosphere to the containment shell are assumed to be washed off the shell by the flow of water resulting from condensing steam (i.e. condensate flow). The particulates may be either washed into the sump, which is controlled to a pH ≥7 post-accident or into the IRWST, which is not pH controlled post-accident. Due to the conditions in the IRWST, a portion of the particulate iodine washed into the IRWST may chemically convert to an elemental form and re-evolve, subject to partitioning, as airborne. A water-steam partition factor of 10 for elemental iodine is applied. This value bounds the time-dependent partition factors calculated using the NUREG/CR-5950 (Reference 35) models and the calculated IRWST water temperature and pH as a function of time.

The IRWST is a closed tank with weighted louvers, and without boiling, there would be no motive force for the release of re-evolved gaseous iodine from the IRWST gas space to the containment. Thus, the assumption of boiling in the IRWST liquid is imposed to force the release of the re-evolved iodine to the containment atmosphere. A portion (3%) of the re-evolved elemental iodine is assumed to convert to an organic form upon its release to containment.

2. COLA Part 2, FSAR Chapter 15, will be revised to add a new Subsection 15.6.6, with a LMA of LNP DEP 6.4-1, to read:

15.6.6 References

Add the following to DCD Subsection 15.6.6.

35. Beahm, E. C. et al., NUREG/CR-5950, *"Iodine Evolution and pH Control,"* December 1992.

3. COLA Part 2, FSAR Chapter 1, Table 1.8-201, Summary of FSAR Departures from the DCD, will be revised to update the following departure:

Departure Number	Departure Description Summary	FSAR Section or Subsection
LNP DEP 6.4-1	The main control room habitability system design and operator dose evaluation has been revised. Shielding was added to control room VES filter, VBS signals were added, VES actuation setpoints were adjusted to meet design requirements and allowable secondary iodine activity level was lowered. The following are the departures from the DCD: Tier 1 Subsection 2.7.1, Tier 2 Table 1.6-1,	Chapter 1 (Table of Contents) Table 1.6-202 1.9.4.2.3 Appendix 1AA Chapter 3 (Table of Contents) 3.1.2 Chapter 6 (Table of Contents, List of Tables) 6.4

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4. COLA Part 7, Departures and Exemption Requests, Affected DCD/FSAR Sections will be updated to add a new Subsections 15.6.5.3.2 and 15.6.6, for departure number LNP DEP 6.4-1, to read:

Departure Number LNP DEP 6.4-1:

Affected DCD/FSAR Sections: Tier 1 Subsection 2.7.1, Tier 2 Table 1.6-1, Subsection 1.9.4.2.3, Appendix 1A, Subsection 3.1.2, Subsection 6.4, Subsection 6.4.2.6, Subsection 6.4.3.2, Subsection 6.4.4, Table 6.4-2, Subsection 7.3.1.2.17, Subsection 9.2.6.1.1, Subsection 9.4.1.1.1, Subsection 9.4.1.1.2, Subsection 9.4.1.2.1.1, Subsection 9.4.1.2.3.1, Figure 9.4.1-1 (Sheet 5 of 7), Table 11.1-4, Table 11.1-5, Table 11.1-6, Subsection 11.5.1.1, Subsection 11.5.2.3.1, Subsection 12.2.1.3.1, Subsection 12.2.1.3.2, Subsection 12.3.2.2.7, Table 12.2-28, Table12.2-29, Figure 12.3-1 (Sheet 6 of 16), Table 14.3-7 (Sheet 2 of 3), Subsection 15.0.11.1, Subsection 15.0.11.6, Table 15.0-2, Subsection 15.1.5.4.1, Subsection 15.1.5.4.6, Table 15.1.5-1, Subsection 15.3.3.3.1, Table 15.3-3 (Sheet 1 of 2), Subsection 15.4.8.1.1.3, Subsection 15.4.8.1.2, Subsection 15.4.8.2, Subsection 15.4.8.2.1, Subsection 15.4.8.2.1.1, Subsection 15.4.8.2.1.2, Subsection 15.4.8.2.1.3, Subsection 15.4.8.2.1.4, Subsection 15.4.8.2.1.5, Subsection 15.4.8.2.1.7, Subsection 15.4.8.2.1.8, Subsection 15.4.8.2.1.9, Subsection 15.4.8.3, Subsection 15.4.8.3.1, Subsection 15.4.8.3.5, Subsection 15.4.8.3.6, Subsection 15.4.10, Table 15.4-1 (Sheet 2 of 3), Table 15.4-3 (Deleted - Not Used), Table 15.4-4 (Sheet 1 and 2 of 2), Figure 15.4.8-1, Figure 15.4.8-2, Figure 15.4.8-3, Figure 15.4.8-4 (Not used), Subsection 15.6.2.6, Subsection 15.6.3.3.1, Subsection 15.6.3.3.6, Subsection 15.6.5.3.2, Subsection 15.6.5.3.5, Subsection 15.6.5.3.8.1, Subsection 15.6.5.3.8.2, Subsection 15.6.6, Table 15.6.2-1, Table 15.6.5-2 (Sheets 1-3 of 3), Table 15.6.5-3,Table 15.6.3-3, Subsection 15.7.4.5, Table 15.7-1, Subsection 15A.3.1.2, Subsection 15B.1, Chapter 16 LCO 3.7.4, SR 3.7.4.1, Bases 3.4.10, Bases 3.7.4, Bases 3.7.6.

Westinghouse Application Letter CAW-15-4236 and Affidavit
(7 pages including cover page)

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CAW-15-4236

20 August 2015

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: **Responses to NRC RAI 129; APP-GW-GF-081, APP-GW-GF-082**

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-15-4236 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 APOG.

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-15-4236, 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,

Richard A. DeLong, Director
International Licensing & Regulatory Support

CAW-15-4236
20 August 2015

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

I, Richard A. DeLong, am 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 my knowledge, information, and belief.

Richard A. DeLong, Director
International Licensing & Regulatory Support

(1) I am Director, International Licensing and Regulatory Support, 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 APP-GW-GF-081 and APP-GW-GF-082 for submittal to the Commission, being transmitted by APOG 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 topic of Condensate Return and may be used only for that purpose.

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

(i) Provide the NRC and customers with technical information on the additional information on the MCR Habitability Changes with respect to Doses.

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

(i) Westinghouse plans to sell the use of similar information to its customers for the purpose of providing more products and services.

(ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.

(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 systems in commercial power reactors 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 and Copyright Notice (2 pages including cover page)

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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).

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