



Program Management Office  
1000 Westinghouse Drive, Suite 172  
Cranberry Township, Pennsylvania 16066

WCAP-17788- NP, Revision 0  
Project Number 99902037

December 17, 2019

OG-19-255

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

Subject: PWR Owners Group  
**Transmittal of Final WCAP-17788 Revision 1 Volumes 1-6, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090)" and PWROG-15091 Revision 1 "Subscale Brine Test Program Report" for Your Information in Support of GSI-191 Closure**

References:

1. OG-15-296, "Submittal of WCAP-17788: "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090)", July 17, 2015
2. NRC letter, "Acceptance for Review of the Pressurized Water Reactor Owners Group Topical Report WCAP-17788, "Comprehensive Analysis and Test Program for GSI-191 Closure (TAC No. MF6536)," (ML15351A425), January 8, 2016
3. OG-15-439, "Transmittal of Additional Information in Support of WCAP-17788, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE1090)", November 30, 2015
4. OG-17-170, "Submittal of Responses to NRC Requests for Additional Information (RAIs) and Revisions to Topical Report WCAP-17788-P/WCAP-17788-NP, Revision 0, "Comprehensive Analysis and Test Program for GSI-191 Closure" related to Volume 1 and Volume 6 in Support of the Closure of GSI-191 (PA-SEE-1090)", March 8, 2017
5. OG-17-264, "Submittal of Response to NRC Request for Additional Information (RAI) and Revisions to Topical Report WCAP-17788, Revision 0, "Comprehensive Analysis and Test Program for GSI-191 Closure" related to Volume 3 in Support of the Closure of GSI-191 (PA-SEE-1090)", September 13, 2017
6. OG-17-335, "Submittal of Responses to NRC Requests for Additional Information (RAIs) and Revisions to Topical Report WCAP-17788-P/WCAP-17788-NP, Revision 0, "Comprehensive Analysis and Test Program for GSI-191 Closure" related to Volumes 1 and 4 in Support of the Closure of GSI-191 (PA-SEE-1090), December 19, 2017
7. OG-18-236, "Clarifications for WCAP-17788 Volume 1, 3, and 4 NRC RAI Responses Related to PWROG Comprehensive Analysis and Test Program for GSI-191 Closure", September 27, 2018.

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On July 17, 2015, the Pressurized Water Reactor Owners Group (PWROG) requested formal NRC review and approval of WCAP-17788-NP, Revision 0, in accordance with the Nuclear Regulatory Commission (NRC) Topical Report (TR) program for review and acceptance for referencing in regulatory actions (Reference 1). Reference 3 provided additional information in support of Reference 1. The NRC staff issued an acceptance for review letter to the PWROG on January 8, 2016 (Reference 2). References 4, 5, 6, and 7 provided additional information and PWROG responses for WCAP-17788.

The purpose of this letter is to incorporate relevant information and revisions from References 4-7 into final versions of Reference 1 and 3. References 1 and 3 are submitted to the NRC for information only; there is no expectation of a final safety evaluation on these topical reports as GSI-191 has been closed via NRC letter No. ML19073A044. However, the PWROG felt it was warranted to transmit a comprehensive version of References 1 and 3 for the public docket and future reference.

Enclosed with this letter are fourteen enclosures:

1. WCAP-17788-P, Revision 1, Volume 1, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090)", (Proprietary)
2. WCAP-17788-NP, Revision 1, Volume 1, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090)" (Non-proprietary)
3. WCAP-17788-NP, Revision 1, Volume 2, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Phenomena Identification and Ranking Table (PIRT) for GSI-191 Long-Term Cooling (PA-SEE-1090)" (Non-proprietary)
4. WCAP-17788-NP, Revision 1, Volume 3, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Cold Leg Break (CLB) Evaluation Method for GSI-191 Long-Term Cooling (PA-SEE-1090)", (Non-proprietary)
5. WCAP-17788-P, Revision 1, Volume 4, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Thermal-Hydraulic Analysis of Large Hot Leg Break with Simulation of Core Inlet Blockage" (Proprietary)
6. WCAP-17788-NP, Revision 1, Volume 4, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Thermal-Hydraulic Analysis of Large Hot Leg Break with Simulation of Core Inlet Blockage" (Non-Proprietary)
7. WCAP-17788-P, Revision 1, Volume 5, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Autoclave Chemical Effects Testing for GSI-191 Long-Term Cooling" (Proprietary)
8. WCAP-17788-NP, Revision 1, Volume 5, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Autoclave Chemical Effects Testing for GSI-191 Long-Term Cooling" (Non-proprietary)
9. WCAP-17788-P, Revision 1, Volume 6, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Subscale Head Loss Test Program Report" (Proprietary)

10. WCAP-17788-NP, Revision 1, Volume 6, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Subscale Head Loss Test Program Report" (Non-proprietary)
11. PWROG-15091-P, Revision 1, "Subscale Brine Test Program Report" (Proprietary)
12. PWROG-15091-NP, Revision 1, "Subscale Brine Test Program Report" (Non-Proprietary)
13. CAW-19-4983, Westinghouse Affidavit, December 12, 2019
14. Framatome Affidavit, December 13, 2019

As Enclosure 1, 5, 7, 9 and 11 contain information proprietary to Westinghouse Electric Company LLC ("Westinghouse") and / or to Framatome Inc., the information contained herein is supported by two Affidavits: one each signed by Westinghouse and Framatome Inc., the owners of the information. The Affidavits set forth the basis on which the information may be withheld from public disclosure by the Nuclear Regulatory Commission ("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 and/or Framatome Inc. be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations. Each affidavit should be consulted to identify the appropriate justifications for withholding of the respective information.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse Affidavit should reference CAW-19-4983 and should be addressed to Camille T. Zozula, Manager, Infrastructure & Facilities Licensing, Westinghouse Electric Company, 1000 Westinghouse Drive, Suite 165, Cranberry Township, Pennsylvania 16066.

Correspondence with respect to the copyright or proprietary aspects of the item listed above or the supporting Framatome Inc. Affidavit should reference the Affidavit dated December 13, 2019 and should be addressed to Philip Opsal, OF-34, Framatome Inc., 3315 Old Forest Road, Lynchburg, VA 24501.

Correspondence related to this transmittal should be addressed to:

Mr. W. Anthony Nowinowski, Program Manager  
PWR Owners Group, Program Management Office  
Westinghouse Electric Company  
1000 Westinghouse Drive  
Cranberry Township, Pennsylvania 16066

If you have any questions, please do not hesitate to contact me at (805) 545-4328 or Mr. W. Anthony Nowinowski of the Owners Group Program Management Office at 412-374-6855.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Ken Schrader". The signature is fluid and cursive, with the first name "Ken" and last name "Schrader" clearly distinguishable.

Ken Schrader, Chairman  
PWR Owners Group

KJS:jdb:am

cc: PWROG SEE Committee  
PWROG Licensing Committee  
PWROG Steering Committee  
PWROG PMO  
PWROG Tiger Team  
J. Spring – W  
P. Stevenson – W  
G. Wissinger – Framatome  
D. Page-Blair – Framatome  
V. Cusumano – NRC  
A. Smith – NRC  
J. Drake – NRC

Enclosures:

1. WCAP-17788-P, Revision 1, Volume 1, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090)", (Proprietary)
2. WCAP-17788-NP, Revision 1, Volume 1, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090)" (Non-proprietary)
3. WCAP-17788-NP, Revision 1, Volume 2, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Phenomena Identification and Ranking Tables (PIRT) for GSI-191 Long-Term Cooling (PA-SEE-1090)" (Non-proprietary)
4. WCAP-17788-NP, Revision 1, Volume 3, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Cold Leg Break (CLB) Evaluation Method for GSI-191 Long-Term Cooling", (Non-proprietary)
5. WCAP-17788-P, Revision 1, Volume 4, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Thermal-Hydraulic Analysis of Large Hot Leg Break with Simulation of Core Inlet Blockage", (Proprietary)
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7. WCAP-17788-P, Revision 1, Volume 5, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Autoclave Chemical Effects Testing for GSI-191 Long-Term Cooling", (Proprietary)
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9. WCAP-17788-P, Revision 1, Volume 6, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Subscale Head Loss Test Program Report", (Proprietary)
10. WCAP-17788-NP, Revision 1, Volume 6, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Subscale Head Loss Test Program Report", (Non-proprietary)
11. PWROG-15091-P, Revision 1, "Subscale Brine Test Program Report", (Proprietary)
12. PWROG-15091-NP, Revision 1, "Subscale Brine Test Program Report", (Non-Proprietary)
13. CAW-19-4983, Westinghouse Affidavit, December 12, 2019
14. Framatome Affidavit, December 13, 2019

## AFFIDAVIT

1. My name is Gayle Elliott. I am Deputy Director, Licensing & Regulatory Affairs for Framatome Inc. (Framatome) and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by Framatome to determine whether certain Framatome information is proprietary. I am familiar with the policies established by Framatome to ensure the proper application of these criteria.

3. I am familiar with the Framatome information contained in the following documents and referred to herein as "Documents":

A) PWROG-15091-P, Revision 1, "Subscale Brine Test Program Report"

B) WCAP-17788-P, Revision 1, Volume 1, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090)"

C) WCAP-17788-P, Revision 1, Volume 4, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Thermal-Hydraulic Analysis of Large Hot Leg Break with Simulation of Core Inlet Blockage"

D) WCAP-17788-P, Revision 1, Volume 6, "Comprehensive Analysis and Test Program for GSI-191 Closure (PA-SEE-1090) – Subscale Head Loss Test Program Report"

Information contained in these Documents has been classified by Framatome as proprietary in accordance with the policies established by Framatome for the control and protection of proprietary and confidential information.

4. These Documents contain information of a proprietary and confidential nature and is of the type customarily held in confidence by Framatome and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in these Documents as proprietary and confidential.

5. These Documents have been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in these Documents be withheld from public disclosure. The request for withholding of proprietary information is made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is requested qualifies under 10 CFR 2.390(a)(4) "Trade secrets and commercial or financial information."

6. The following criteria are customarily applied by Framatome to determine whether information should be classified as proprietary:

- (a) The information reveals details of Framatome's research and development plans and programs or their results.
- (b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.
- (c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for Framatome.
- (d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for Framatome in product optimization or marketability.
- (e) The information is vital to a competitive advantage held by Framatome, would be helpful to competitors to Framatome, and would likely cause substantial harm to the competitive position of Framatome.

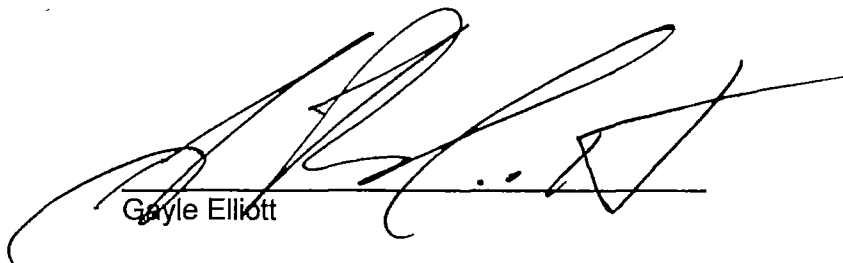
The information in these Documents is considered proprietary for the reasons set forth in paragraphs 6(b), 6(c), 6(d) and 6(e) above.

7. In accordance with Framatome's policies governing the protection and control of information, proprietary information contained in these Documents has been made available,

on a limited basis, to others outside Framatome only as required and under suitable agreement providing for nondisclosure and limited use of the information.

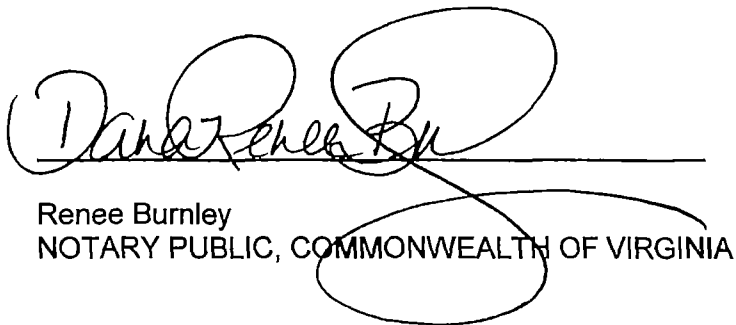
8. Framatome policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

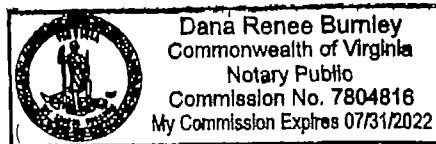
9. The foregoing statements are true and correct to the best of my knowledge, information, and belief.

  
Gayle Elliott

Commonwealth of Virginia )  
City of Lynchburg ) ss.

SUBSCRIBED before me this 13 day of December, 2019.

  
Renee Burnley  
NOTARY PUBLIC, COMMONWEALTH OF VIRGINIA





AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

COUNTY OF BUTLER:

- (1) I, Camille T. Zozula, have been specifically delegated and authorized to apply for withholding and execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse).
- (2) I am requesting the proprietary portions of OG-19-255 be withheld from public disclosure under 10 CFR 2.390.
- (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 10 CFR 2.390, 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 and is not customarily disclosed to the public.
  - (ii) 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.

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- (5) Westinghouse has policies in place to identify proprietary information. 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.
- (6) The attached documents are bracketed and marked to indicate the bases for withholding. The justification for withholding 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

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refer to the types of information Westinghouse customarily holds in confidence identified in Sections (5)(a) through (f) of this Affidavit.

I declare that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

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

Executed on: 12 Dec 2019

A handwritten signature in cursive script, appearing to read "Camille T. Zozula", written over a horizontal line.

Camille T. Zozula, Manager  
Infrastructure & Facilities Licensing

## **PROPRIETARY INFORMATION NOTICE**

Transmitted herewith are proprietary and non-proprietary versions of a document, 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**

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.