



Program Management Office  
1000 Westinghouse Drive  
Cranberry Township, PA 16066

WCAP-17018-P/NP, Revision 0  
Project Number 694  
Docket #: 99902037

February 1, 2018

OG-18-11

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

Subject: PWR Owners Group  
**Submittal of PWROG-17018-P/NP, "Solid State Protection System General Warning Alarm Modification," PA-LSC-1366**

The purpose of this letter is to submit Pressurized Water Reactor Owners Group (PWROG) Topical Report (TR), PWROG-17081-P/NP, Revision 0, "Solid State Protection System General Warning Alarm Modification," in accordance with the Nuclear Regulatory Commission (NRC) TR program for review and acceptance for referencing in regulatory actions.

### **Topical Report Summary**

PWROG-17018 was developed for the Pressurized Water Reactor Owners Group (PWROG) Licensing Committee and Instrumentation and Control Working Group (ICWG) to support implementation of Solid State Protection System (SSPS) reliability improvements by minimizing the potential of inadvertent reactor trips associated with the current SSPS General Warning (GW) alarm. The SSPS GW alarm generates a partial (half) reactor trip condition in each SSPS train in the GW alarm condition, and inadvertent reactor trips have occurred due to a GW alarm condition in both SSPS trains. Implementation of the General Warning Alarm Circuitry Modification (GWACM) discussed in this Topical Report will reduce the number of inputs that could result in an inadvertent reactor trip. The inputs removed from the GW alarm will be moved to a new non-urgent alarm that does not initiate a reactor trip signal in the affected SSPS train. The addition of a new non-urgent alarm will also allow plants to enable the new design SSPS printed circuit board (PCB) self-test function to provide remote indication of a self-test alarm condition on the Main Control Board (MCB). The GWACM enables the non-urgent alarm to indicate if a new design SSPS Universal Logic Board (ULB), Safeguards Driver (SGD), or Under Voltage Driver (UVD) PCB failed a self-test using the feature that continuously tests the functions of the PCB's basic logic and output drivers. Plant safety will be improved by maximizing the SSPS availability via the new non-urgent alarm to immediately alert the operator with an audible and visual MCB alarm, if an SSPS PCB fails a self-test.

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### **Limits of Applicability**

PWROG-17018 is applicable to Westinghouse NSSS plants with a Solid State Protection System. The GWACM as discussed in PWROG-17018, is only applicable to those plants who have installed the new design SSPS ULB, SGD, UVD, and Semi-Automatic Tester (SAT) PCBs.

### **Requested Scope of Approval**

PWROG-17018 requests NRC approval of the GWACM, i.e., moving the GW alarm inputs that are proposed to be moved to a new non-urgent alarm. The GWACM involves removing the following inputs to the SSPS GW alarm circuit:

- 1) The loss of one 15 VDC power supply,
- 2) The loss of one 48 VDC power supply,
- 3) The multiplexer test switch selected to the "Inhibit" position, and
- 4) The pulled card (Rows 2-5) interlock.

### **Intended Application**

PWROG-17018 is being submitted for NRC review and approval. Licensees will reference the NRC-approved Topical Report in their 10 CFR 50.59 Screens/Evaluations associated with the implementation of the modification to the GW alarm.

### **Industry Implementation**

Based on a survey of the members that are participating in the project, the first unit plans on implementing the GWA modification in the Fall of 2019, and 17 units plan to implement the modification after that.

### **Specialized Resource Availability**

This TR is being submitted to the NRC for review and approval so that the NRC approved version can be referenced by licensees in their 10 CFR 50.59 Screens/Evaluations associated with the implementation of the proposed modification to the GW alarm. NRC approval of the generic TR will reduce the impact on both licensee and NRC resources by eliminating the need for the preparation of, and NRC review of LARs associated with the implementation of the modification to the GW alarm.

### **NRC Review Schedule**

Based on the Fall 2019 installation of the modification by the first unit, the PWROG requests that the NRC complete their review of the TR by March 2019.

### **NRC Reviewer**

Norbert Carte of the NRC I&C Branch was the lead reviewer for WCAP-17867-P-A, Rev. 1, "Westinghouse SSPS Board Replacement Licensing Summary Report," and is familiar with the



design of the Westinghouse SSPS, therefore the PWROG requests that Mr. Carte be involved with the review of PWROG-17018.

Enclosed are:

1. PWROG-17018-P, "Solid State Protection System General Warning Alarm Modification" (Proprietary)
2. PWROG-17018-NP, "Solid State Protection System General Warning Alarm Modification" (Non-Proprietary)

Also enclosed are the Westinghouse Application for Withholding Proprietary Information from Public Disclosure, CAW-18-4700, accompanying affidavit, Proprietary Information Notice, and Copyright Notice.

As Item 1 contains information proprietary to Westinghouse Electric Company LLC ("Westinghouse"), it is 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 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 be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

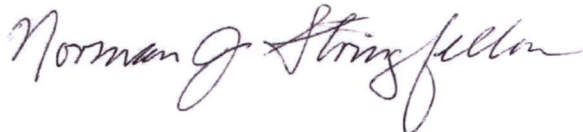
Correspondence with respect to the copyright or proprietary aspects of the item listed above or the supporting Westinghouse Affidavit should reference CAW -18-4 700 and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 2 Suite 259, Cranberry Township, Pennsylvania 16066.

Correspondence related to this transmittal should be addressed to:

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

If you have any questions, please do not hesitate to contact me at (205) 992-7037 or Mr. W. Anthony Nowinowski, Program Manager of the PWR Owners Group, Program Management Office at (412) 374-6855.

Sincerely yours,



Jack Stringfellow, Chief Operating Officer and Chairman  
PWR Owners Group

CMH:am

- Enclosure 1. Four copies of PWROG-17018-P, Revision 0, "Solid State Protection System General Warning Alarm Modification" (Proprietary)
- Enclosure 2: Two copies of PWROG-17018-NP, Revision 0, "Solid State Protection System General Warning Alarm Modification" (Non-Proprietary)
- Enclosure 3: One copy of the Application for Withholding, CAW-18-4700 (Non-proprietary) with the accompanying affidavit, Proprietary Information Notice and Copyright Notice.

cc: PWROG Management Committee  
PWROG Licensing Subcommittee  
PWROG Steering Committee  
PWROG I&C Working Group  
PWROG PMO  
J. Gresham, Westinghouse  
J. Andrachek, Westinghouse  
J. Moorehead, Westinghouse  
C. Martin, Westinghouse  
D. Olinski, Westinghouse  
T. Gruber, Westinghouse  
M. Ackman, Westinghouse  
N. Carte, US NRC  
B. Benney, US NRC



Westinghouse Electric Company  
1000 Westinghouse Drive  
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) 940-8542  
e-mail: greshaja@westinghouse.com

CAW-18-4700

January 16, 2018

APPLICATION FOR WITHHOLDING PROPRIETARY  
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Submittal of PWROG-17018-P, "Solid State Protection System General Warning Alarm Modification" (PA-LSC-1366) (Proprietary)

The Application for Withholding Proprietary Information from Public Disclosure is submitted by Westinghouse Electric Company LLC ("Westinghouse"), pursuant to the provisions of paragraph (b)(1) of Section 2.390 of the Nuclear Regulatory Commission's ("Commission's") regulations. It contains commercial strategic information proprietary to Westinghouse and customarily held in confidence.

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-18-4700 signed by the owner of the proprietary information, Westinghouse. 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 Pressurized Water Reactor Owners Group (PWROG).

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-18-4700 and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 2, Suite 259, Cranberry Township, Pennsylvania 16066.

James A. Gresham, Manager  
Regulatory Compliance



AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

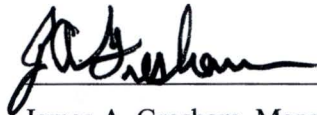
SS

COUNTY OF BUTLER:

I, James A. Gresham, am authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC ("Westinghouse") and declare that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

Executed on:

1/16/18

A handwritten signature in black ink, appearing to read "J. A. Gresham", written over a horizontal line.

James A. Gresham, Manager  
Regulatory Compliance

- (1) I am Manager, Regulatory Compliance, 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 Nuclear Regulatory Commission's ("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, 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 PWROG-17018-P, "Solid State Protection System General Warning Alarm Modification" (PA-LSC-1366) (Proprietary), for submittal to the Commission, being transmitted by PWROG letter OG-18-11 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 a PWR Owners Group Topical Report, which provides the technical and licensing bases for a design change that modifies the Solid State Protection System (SSPS) general warning alarm circuitry, and may be used only for that purpose.
- (a) This information is part of that which will enable Westinghouse to obtain NRC review and approval of a design change that modifies the SSPS general warning alarm circuitry.

- (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 the technical and licensing bases for a design change that modifies the SSPS general warning alarm circuitry.
  - (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 technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

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

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

Further the deponent sayeth not.

## **Proprietary Information Notice**

Transmitted herewith are proprietary and non-proprietary versions of a document, furnished to the NRC in connection with requests for PWR Owners Group generic topical report 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.