

~~PROPRIETARY INFORMATION - WITHHOLD UNDER 10 CFR 2.390~~

10 CFR 50.55a

January 13, 2022

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

Calvert Cliffs Nuclear Power Plant, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-53 and DPR-69  
NRC Docket Nos. 50-317 and 50-318

Subject: Presentation Information for Pre-Submittal Meeting Regarding Relief Request  
To Use the Carbon Fiber Reinforced Polymer (CFRP) Composite System

Attached is presentation information associated with a pre-submittal meeting regarding a relief request to use the Carbon Fiber Reinforced Polymer (CFRP) Composite System at Calvert Cliffs Nuclear Power Plant, Units 1 and 2.

Attachment 1 contains information proprietary to Structural Group, Inc. (SGI). SGI requests that this document be withheld from public disclosure in accordance with 10 CFR 2.390. Attachment 2 contains a non-proprietary version. An affidavit supporting this request is contained in Attachment 3.

There are no commitments contained in this letter.

If you have any questions or require additional information, please contact Tom Loomis at 610-765-5510.

Respectfully,



David P. Helker  
Senior Manager - Licensing & Regulatory Affairs  
Exelon Generation Company, LLC

- Attachments: 1) Pre-Submittal Meeting ASME Section XI Relief Request To Use CFRP Composite System (Proprietary Version)  
2) Pre-Submittal Meeting ASME Section XI Relief Request To Use CFRP Composite System (Non-Proprietary Version)  
3) Affidavit

cc: USNRC Region I, Regional Administrator  
USNRC Senior Resident Inspector, CCNPP  
USNRC Project Manager, CCNPP

**Attachment 1**

**Pre-Submittal Meeting ASME Section XI Relief Request To Use CFRP Composite System  
(Proprietary Version)**

**Attachment 2**

**Pre-Submittal Meeting ASME Section XI Relief Request To Use CFRP Composite System  
(Non-Proprietary Version)**



# **Pre-Submittal Meeting ASME Section XI Relief Request To Use CFRP Composite System (Non-Proprietary Version)**

January 10, 2022

Non-Proprietary



Exelon Generation<sup>®</sup>



## Introductions

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### Calvert Cliffs Nuclear Power Plant - Licensee Attendees

- Brad Wright – Project Management/Engineering
- Nicole Lipps – Engineering
- Seth Rios, Kelsi Eiane – Corporate Buried Piping
- Travis Lefton – ISI Engineering
- Tom Loomis – Licensing

### Structural Technologies, LLC – CFRP Composite System

- Anna Pridmore, Alex Garcia, Leo Nadeau, Chris Burton

### Simpson Gumpertz & Heger (SGH) – CFRP Designer

- Rasko Ojdrovic



# Agenda

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## Licensee Presentation

- Reason for Relief Request
- Saltwater Piping System Overview
- Affected Saltwater Piping
- Overview of CFRP Technology
- Precedents: Surry, STP, ANO, Brunswick
- Proposed Submittal Schedule
- Relief Request Content
- Example Project Installations
- Questions - Comments



## Basis for Relief Request (RR)

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- Piping systems constructed of similar materials and transporting similar water have experienced degradation.
  - ASME B&PVC Section XI, “Rules for In-Service Inspection of Nuclear Power Plant Components”, Article IWA-4000, subparagraph IWA-4221(b)(1) states:  
*“An item to be used for repair/replacement activities...shall meet the Construction Code to which the original item was constructed.”*
  - Carbon Fiber Reinforced Polymer (CFRP) composite system materials were not available for use in the original construction codes.
  - CCNPP is submitting a RR per 10 CFR 50.55a(z)(1) requesting approval to use a CFRP composite system as an alternative material for repair.
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## Affected Saltwater System Piping

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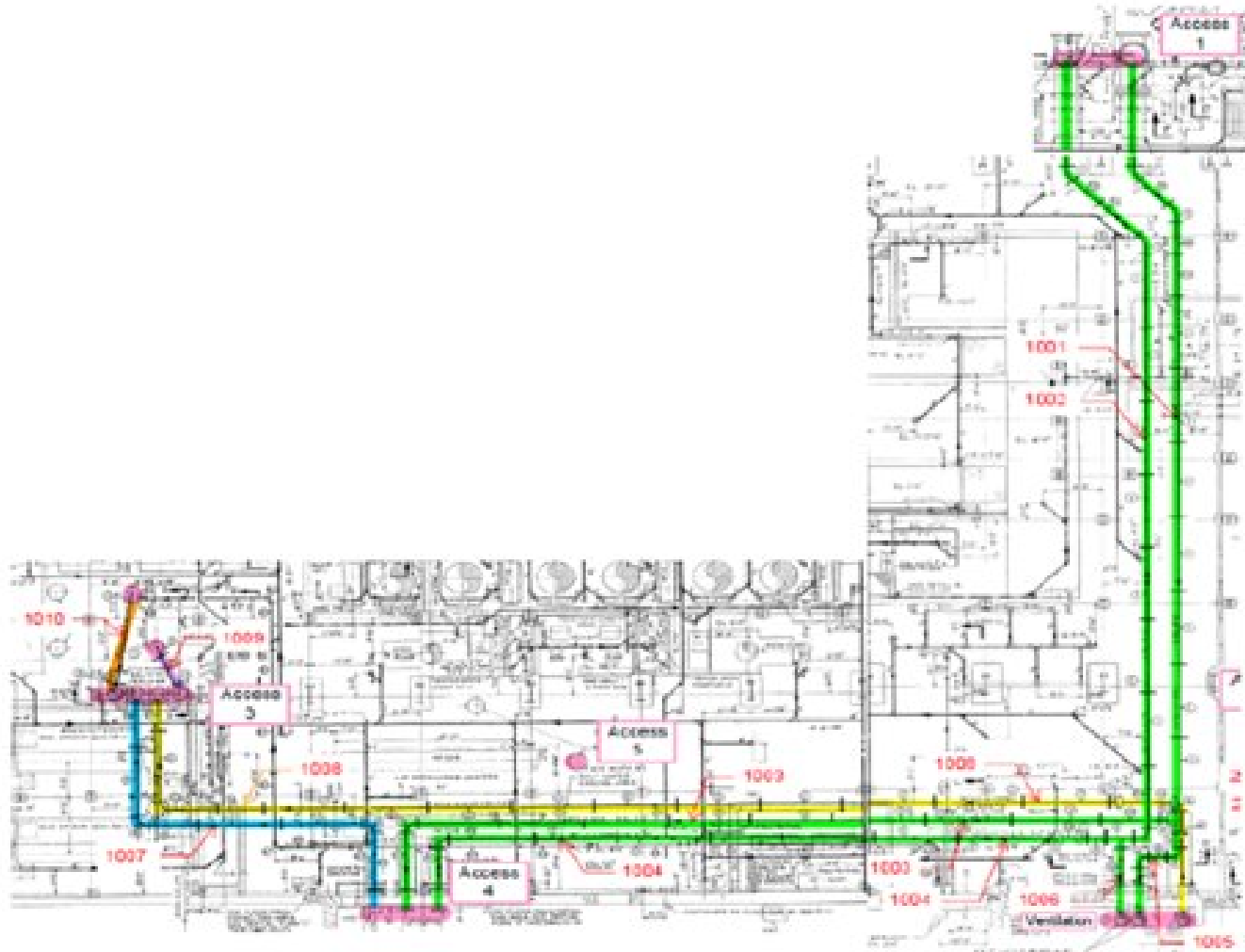
- CCNPP is submitting a Relief Request for a CFRP composite system that will be installed on the inner diameter of the SW system piping.
- Approximately 1,300 linear feet of 30-inch and 1,360 linear feet of 36-inch of SW piping in both units.
- Currently mortar lined ductile iron pipe is installed in soil with gray cast iron pipe installed at the building penetrations.
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- Total repair scope and schedule is to be determined.

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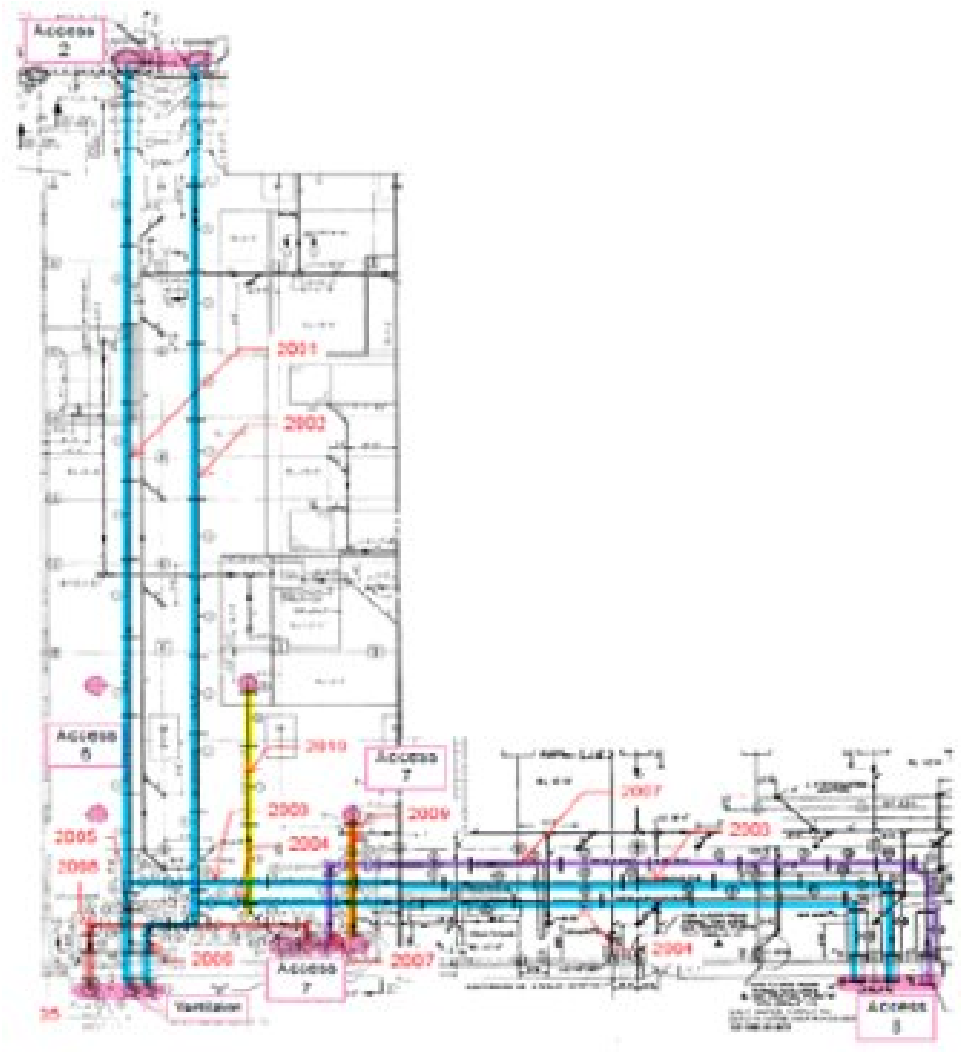




# Unit 1 Saltwater System Piping Overview



# Unit 2 Saltwater System Piping Overview



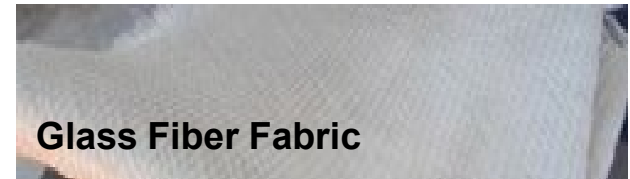


# CFRP Composite System Technology Overview

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## CFRP Composite Repair System

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# RR Comparison – Safety Related Piping Installations

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Non-Proprietary



# Comparison – Surry/STP/ANO/Brunswick/CCNPP

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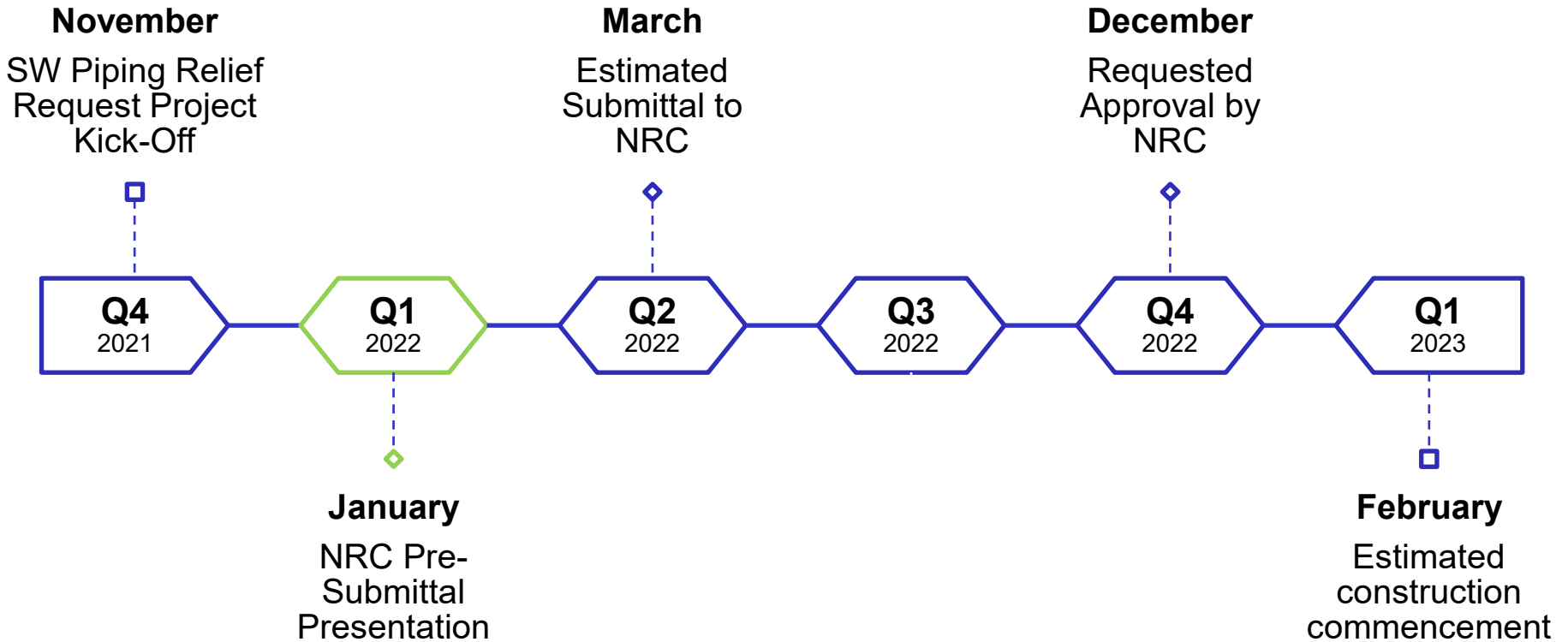
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# Proposed Relief Request Schedule

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# Relief Request Content

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# Installation Examples

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# Installation Examples

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# Installation Examples

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# Installation Examples

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# QUESTIONS / COMMENTS

**Attachment 3**

**Affidavit**



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

RE: Application for Withholding Proprietary Information from Public Disclosure

Ladies and Gentlemen:

Structural Group, Inc. (SGI) has provided certain proprietary information in connection with a relief request to be submitted by Exelon Generation Company, LLC for Calvert Cliffs Nuclear Power Plant Units 1 and 2 including proprietary information included in the pre-submittal meeting with the NRC on Monday, January 10, 2022. This application requests that proprietary information of SGI provided in the pre-submittal meeting be protected from public disclosure. An affidavit accompanies this letter, setting forth the basis on which the information may be withheld from public disclosure by the USNRC and addressing with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390 (Reference 6) of the USNRC regulations.

A request for withholding similar proprietary information has been previously approved by the USNRC at the Surry Nuclear Station (Reference 1), South Texas Project (Reference 2), Arkansas Nuclear One (Reference 3) and Brunswick Electric Steam Plant (Reference 4). Accordingly, this letter authorizes the utilization of the accompanying Affidavit. Correspondence with respect to the proprietary aspects of the Application or the Affidavit should reference this letter and be addressed to Scott Greenhaus, Executive Vice President, Structural Group, Inc., 10150 Old Columbia Road, Columbia, MD 21046.

Very truly yours,

A handwritten signature in black ink, appearing to read "Scott Greenhaus", with a long horizontal flourish extending to the right.

Scott Greenhaus, Executive Vice President

REFERENCES:

1. USNRC letter to Virginia Electric & Power Company, "Surry Power Station, Unit Nos. 1 and 2 – Relief from the Requirements of the ASME Code (CAC Nos. MF8987 and MF8988; EPID L-2016-LLR-0019)", (ML17303A068), dated December 20, 2017.
2. USNRC letter to South Texas Project Nuclear Operating Company, "South Texas Project Units 1 and 2 - Proposed Alternative RR-ENG-3-24 to ASME Boiler & Pressure Code Requirements for Repair of Essential Cooling Water (ECW) System Class 3 Buried Piping", (EPID- L-2019-LLR-0096), dated September 3, 2020.
3. Letter from Entergy Operations, Inc. to USNRC Document Control Desk, " Proposed Alternative to ASME Boiler & Pressure Vessel Code Section XI Requirements for

Repair/Replacement of Service Water (SW) System Piping in Accordance with 10 CFR 50.55a(z)(1)," Docket Nos. 50-313 and 50-368, Document No. 0CAN072001.

4. Letter from Duke Energy Progress, LLC to USNRC Document Control Desk, " Proposed Alternative to ASME Boiler & Pressure Vessel Code Section XI Requirements for Repair/Replacement of Service Water (SW) System Piping in Accordance with 10 CFR 50.55a(z)(1)," Docket Nos. 50-325 and 50-324, RA-20-0353.
5. Letter from Zackary R. Stone (US NRC) to the John A. Krakuszeski (Duke Energy), "Request for Additional Information Regarding Proposed Alternative to ASME Boiler & Pressure Vessel Code Section XI Requirements for Repair/Replacement of Service Water (SW) System Buried Piping," dated September 8, 2021, ADAMS Accession Number ML21239A065.
6. 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Structural Group, Inc.  
10150 Old Columbia Road  
Columbia, MD 21046

AFFIDAVIT

State of Maryland )

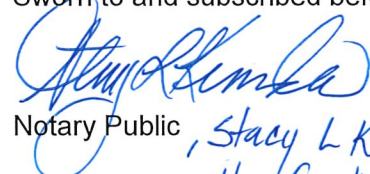
County of Howard )

Before me, the undersigned authority, personally appeared Scott Greenhaus, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Structural Group, Inc. and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief.



Scott Greenhaus  
Executive Vice President

Sworn to and subscribed before me this 7<sup>th</sup> of January 2022.

  
Notary Public, Stacy L. Kvarda  
Harford County, MD





I, Scott Greenhaus, am Executive Vice President of Structural Group, Inc. (SGI). In my capacity as Executive Vice President I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in conjunction with nuclear plant licensing and rulemaking proceedings and am authorized to apply for its withholding on behalf of SGI and its affiliates.

I am making this Affidavit in conformance with the provisions of 10 CFR 2.390 of the U. S. Nuclear Regulatory Commission (USNRC) regulations and in conjunction with SGI's Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

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

Pursuant to the provisions of paragraph (b)(4) of 10 CFR 2.390 of the USNRC's regulations, the following is furnished for consideration by the USNRC in determining whether the information sought to be withheld from public disclosure should be withheld.

The information provided by Exelon Generation Company, LLC to the NRC in the pre-submittal meeting scheduled for January 10, 2022 includes SGI proprietary information. The information sought to be withheld from public disclosure is owned by and has been held in confidence by SGI.

The information is of a type customarily held in confidence by SGI and not disclosed to the public. SGI has a rational basis for determining the types of information customarily held in confidence by it and 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 provides a rational basis for maintaining confidentiality and justifies the USNRC withholding the information from public disclosure.

Under SGI's 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:

1. The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by a competitor of SGI without license constitutes a competitive advantage over other companies.
2. 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.
3. Its use by a competitor would reduce their expenditure of resources or improve their competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
4. It reveals commercial strategies of SGI, their customers or suppliers.
5. It reveals aspects of past, present, or future development plans funded by SGI or its customer, and programs of potential commercial value to SGI.

There are sound policy reasons behind the SGI system which include the following:

1. The use of such information by SGI gives it a competitive advantage over competitors. It is, therefore, withheld from disclosure to protect SGI's competitive position.
2. It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes SGI's ability to sell products and services involving the use of the information.
3. Use by a competitor would put SGI at a competitive disadvantage by reducing the competitor's expenditure of resources and capital.
4. 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 process, thereby depriving SGI of its competitive advantage.
5. Unrestricted disclosure would jeopardize the position of prominence of SGI in the world marketplace, and thereby give a market advantage to competitor in those countries in which SGI operates.
6. SGI's capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

The information is being transmitted to the USNRC in confidence and, under the provisions of 10 CFR 2.390, it is to be received in confidence by the USNRC. The information sought to be protected is not available in public sources and, to the best of our knowledge and belief, available information has not been previously employed in the same original manner or method.

The proprietary information is that associated with the pre-submittal meeting scheduled for January 10, 2022 with the NRC for the relief request to be submitted for the installation of the V-Wrap™ CFRP Composite System at Calvert Cliffs Nuclear Power Plant (CCNPP), Units 1 and 2 and may be used only for that purpose. SGI owns or is permitted to use the proprietary information referenced in this Affidavit under agreements that include Exelon Generation Company, LLC maintaining the confidentiality of such information, as contemplated in this Affidavit.

Further this information has substantial commercial value as follows:

1. The SGI plan to sell the use of this information to their customers for the purpose of installing the V-Wrap™ Carbon Fiber Reinforced Polymer (CFRP) Composite System in safety related piping.
2. That SGI can self-support and defense of the technology to their customers in the licensing process.
3. The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by SGI.
4. Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of SGI because it would enhance the ability of competitors to

provide similar licensing services for commercial power reactors without commensurate expenses.

5. Public disclosure of the information would enable others to use the information to meet USNRC requirements for licensing documentation without purchasing the right to use the information.
6. The development of the technology described in part by the proprietary information is the result of applying the results of many years of experience in an intensive effort by SGI and the expenditure of a considerable sum of money and resources. In order for competitors to duplicate this information, similar technical programs would have to be performed including a significant expenditure money and resources.

Further the deponent sayeth not.