

# BWR OWNERS' GROUP

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## Proprietary Notice

This letter transmits GEH proprietary information in accordance with 10 CFR 2.390. Upon removal of Enclosure 1, the balance of the letter may be considered non-proprietary.

BWROG-11005  
January 13, 2011

Project No. 691

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

Attention: Mr. Joe Golla (NRC)

**SUBJECT:** Submittal of Boiling Water Reactor Owners' Group (BWROG) Licensing Topical Report, "Boiling Water Reactor Emergency Core Cooling Suction Strainer In-Vessel Downstream Effects NEDC-33608P"

**REFERENCES:**

1. NRC Letter dated August 2, 2010 from Mr. J. E. Dyer to Mr. Frederick P. Schiffley regarding waived review fees
2. BWROG Letter BWROG-10042 dated August 31, 2010, "BWROG ECCS Suction Strainer Issue Resolution Update"

Please find enclosed for your review Licensing Topical Report (LTR) NEDC-33608P titled, "Boiling Water Reactor Emergency Core Cooling Suction Strainer In-Vessel Downstream Effects," from the BWROG Emergency Core Cooling System Suction Strainers (ECCS SS) Committee. This report provides the results of an updated analysis of the downstream effects of debris on BWR fuel manufactured by GE-Hitachi Nuclear Energy Americas LLC (GEH). It also provides a bounding approach for loss of coolant accidents (LOCAs) based on sensitivity studies and analytical techniques. A detailed testing plan is described to verify the results of the analysis and assumptions.

Because this LTR contains proprietary information, we are also providing the attached affidavit (Enclosure 3) from GEH to support NRC review of the BWROG document. The proprietary information includes GEH LOCA analysis inputs and assumptions. GEH hereby requests that the information in Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17. We have attached a redacted version (Enclosure 2) for public disclosure.

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The BWROG requests the NRC staff to review the submittal in accordance with Reference 1. The overall ECCS Suction Strainer Project Plan Schedule is based on an NRC review and Safety Evaluation Report within 9 months.

If you have any questions concerning this letter, please do not hesitate to contact me or Rob Whelan, BWROG Project Manager (910-819-1808).

A large, bold, handwritten signature in black ink, appearing to read 'Ted Schiffley II', is written over a horizontal line.

Frederick P. "Ted" Schiffley, II  
Chairman  
BWR Owners' Group

cc: J. Golla, NRC Project Manager  
M. H. Crowthers, BWROG Vice Chairman  
S. L. Scammon, BWROG ECCS SS Committee Chairman  
C.J. Nichols, BWROG Program Manager  
R. W. Whelan, BWROG ECCS SS Committee Project Manager  
BWROG Primary Representatives

Enclosures:

1. BWROG Licensing Topical Report, "Boiling Water Reactor Emergency Core Cooling Suction Strainer In-Vessel Downstream Effects" – Proprietary Information
2. BWROG Licensing Topical Report, "Boiling Water Reactor Emergency Core Cooling Suction Strainer In-Vessel Downstream Effects" – Redacted
3. Affidavit

# **ENCLOSURE 3**

BWROG-11005

# GE-Hitachi Nuclear Energy Americas LLC

## AFFIDAVIT

I, **Edward D. Schrull**, state as follows:

- (1) I am the Vice President, Regulatory Affairs, Services Licensing, GE-Hitachi Nuclear Energy Americas LLC (GEH). I have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.
- (2) The information sought to be withheld is contained in the GEH proprietary report, NEDC-33608P, Revision 2, Licensing Topical Report "Boiling Water Reactor Emergency Core Cooling Suction Strainer In-Vessel Downstream Effects," dated January 2011, (GEH Proprietary Information – Class III (Confidential)). The proprietary information is identified by a dotted underline placed within double square brackets, [[This sentence is an example.<sup>(3)</sup>]]. Figures and other large objects are identified with double square brackets before and after the object. In each case, the superscript notation <sup>(3)</sup> refers to Paragraph (3) of this affidavit, which provides the basis for the proprietary determination.
- (3) In making this application for withholding of proprietary information of which it is the owner or licensee, GEH relies upon the exemption from disclosure set forth in the Freedom of Information Act (FOIA), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4), and 2.390(a)(4) for "trade secrets" (Exemption 4). The material for which exemption from disclosure is here sought also qualifies under the narrower definition of "trade secret," within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975 F2d 871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704 F2d 1280 (DC Cir. 1983).
- (4) Some examples of categories of information that fit into the definition of proprietary information are:
  - a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by GEH's competitors without license from GEH constitutes a competitive economic advantage over other companies;
  - b. Information which, if used by a competitor, would reduce its expenditure of resources or improve its competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;
  - c. Information that reveals aspects of past, present, or future GEH customer-funded development plans and programs, resulting in potential products to GEH;
  - d. Information that discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a. and (4)b. above.

- (5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GEH, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GEH, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or subject to the terms under which it was licensed to GEH. Access to such documents within GEH is limited on a "need to know" basis.
- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist, or other equivalent authority for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GEH are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information identified in paragraph (2) above is classified as proprietary because it contains the results from tests modeling the effects on Boiling Water Reactor (BWR) fuel of containment debris that bypass the Emergency Core Cooling System (ECCS) Suction Strainers during a Loss-of-Coolant Accident (LOCA). This information will be used to support the development of acceptance criteria supporting evaluations of the effects of debris on nuclear fuel performance. In addition, the report includes discussions of the analytical methods used to calculate those effects, and the conclusions deduced from the results of those calculations. These analytical models and methods, including computer codes, used are ones that GEH has developed, has obtained NRC approval at significant cost to itself. Thus, the development of the evaluation process along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GEH asset.
- (9) The information that GEH seeks to withhold addresses the results of analyses associated with debris in the suction of ECCS pumps and the downstream effects of this debris on GEH/GNF fuel. This information was developed for the BWR Owners Group and contains trade secrets and information that GEH/GNF maintains as confidential. More specifically,

the proprietary information relates to the fuel bundle flow characteristics and the GEH LOCA analysis for GNF fuel and BWR reactor designs.

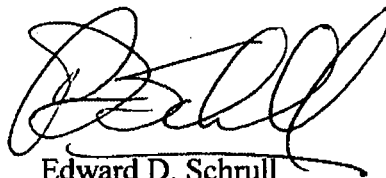
Public disclosure of the information sought to be withheld is likely to cause substantial harm to GEH's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GEH's comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods.

The research, development, engineering, analytical and NRC review costs comprise a substantial investment of time and money by GEH. The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial. GEH's competitive advantage will be lost if its competitors are able to use the results of the GEH experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to GEH would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GEH of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing and obtaining these very valuable analytical tools.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on this 7<sup>th</sup> day of January 2011.



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