



GE Energy

Proprietary Information Notice
This letter forwards proprietary information in accordance with 10CFR2.390. The balance of this letter may be considered non-proprietary upon the removal of Enclosure 2.

David H. Hinds
Manager, ESBWR

PO Box 780 M/C L60
Wilmington, NC 28402-0780
USA

T 910 675 6363
F 910 362 6363
david.hinds@ge.com

MFN 06-213

Docket No. 52-010

July 7, 2006

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

Subject: **Information to Support Draft RAI 21.6-53**

In discussions regarding draft RAI 21.6-53, GE committed to provide SLCS figures/illustrations and geometry information which are applicable to ESBWR and can be used for further discussions on ATWS evaluations. This information is provided in Enclosures 1 and 2.

Enclosure 2 contains proprietary information as defined in 10CFR2.390. The affidavit contained in Enclosure 4 identifies that the information contained in Enclosure 2 has been handled and classified as proprietary to GE. GE hereby requests that the proprietary information in Enclosure 2 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17. A non proprietary version is contained in Enclosure 3.

If you have any questions about the information provided here, please let me know.

Sincerely,

David H. Hinds
Manager, ESBWR

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Enclosures:

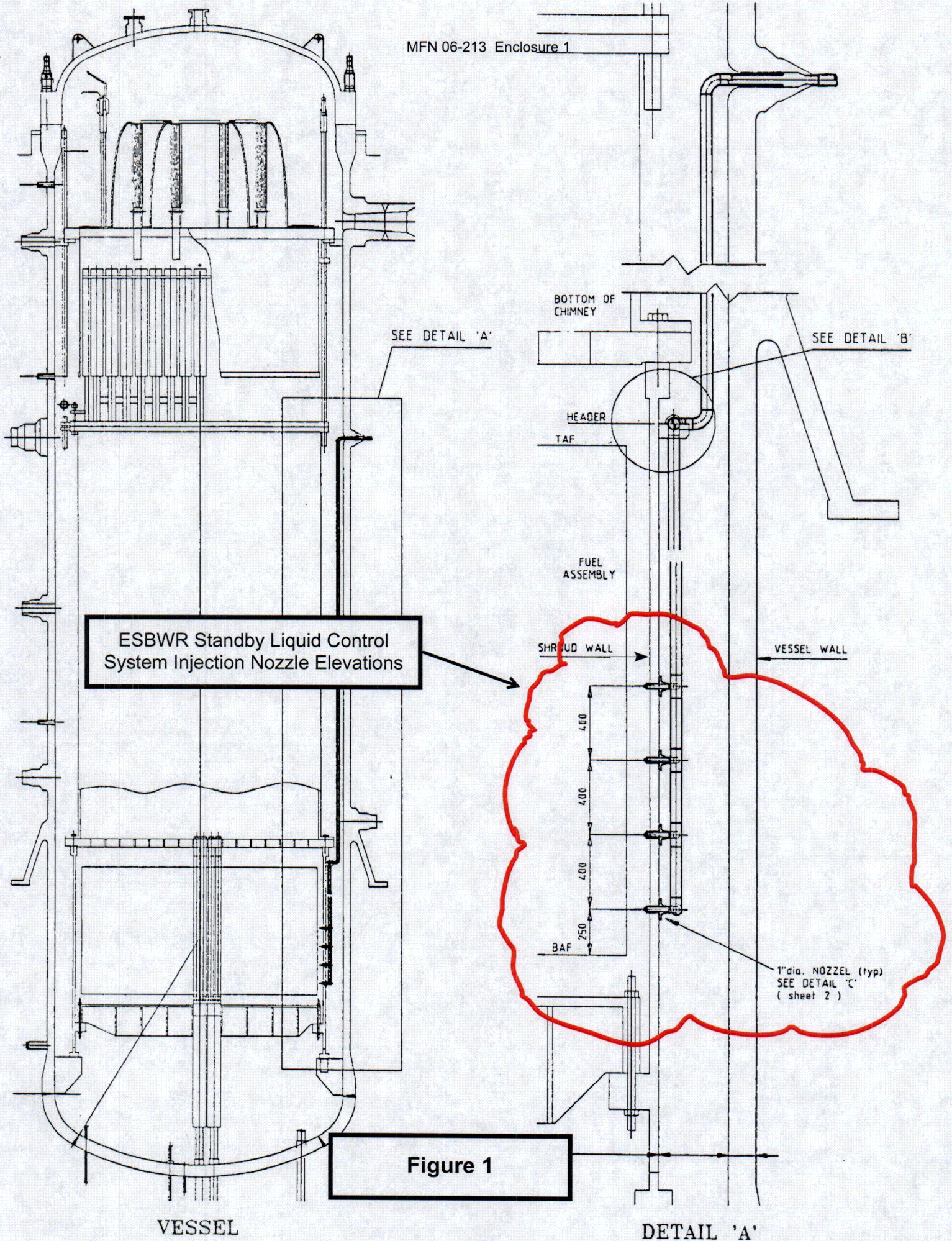
1. MFN 06-213 – SLCS Figures/Illustrations
2. MFN 06-213 – Geometry Information – GE Proprietary Information
3. MFN 06-213 – Geometry Information – Non Proprietary Version
4. Affidavit – Louis M. Quintana – dated July 7, 2006

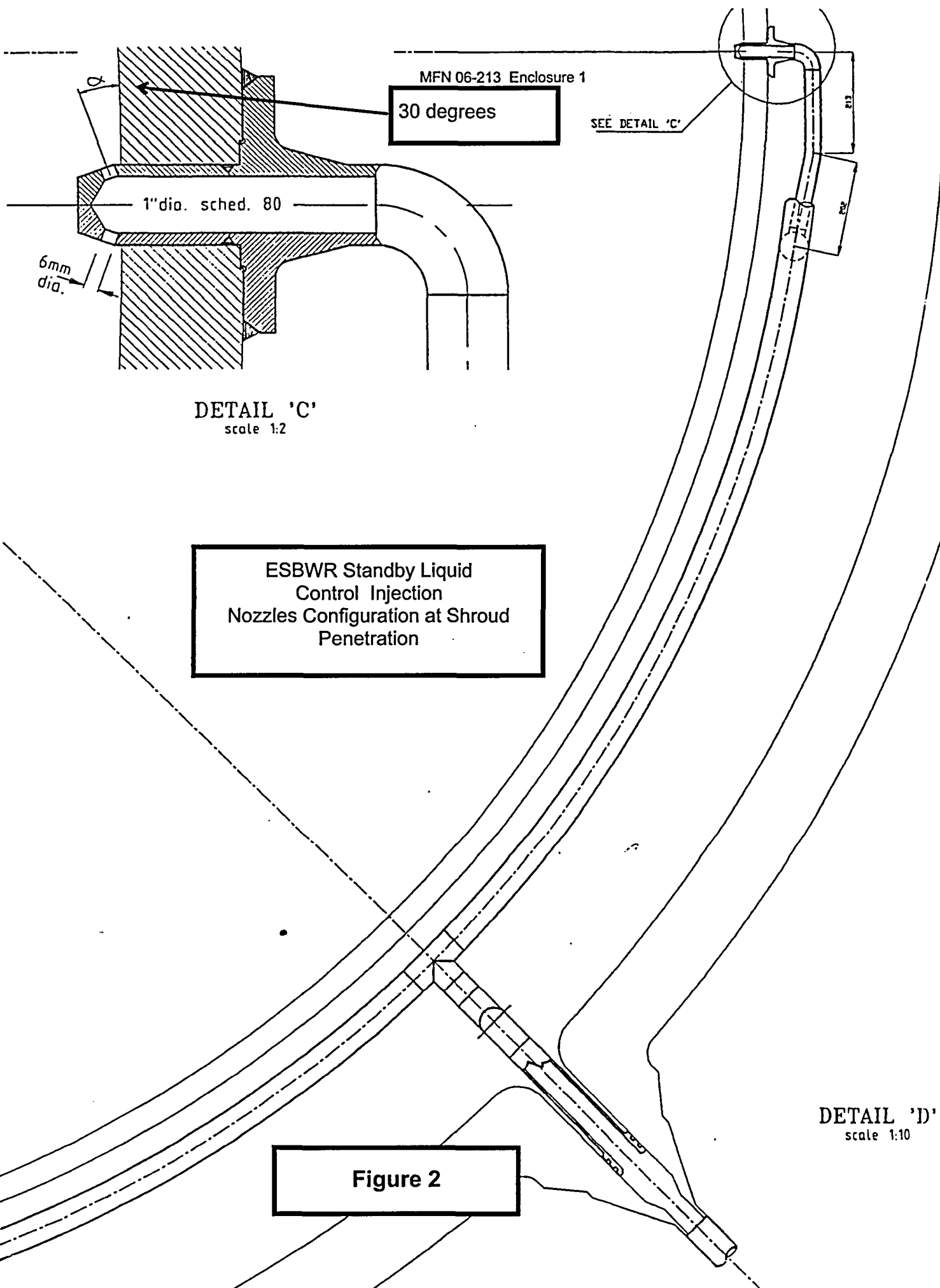
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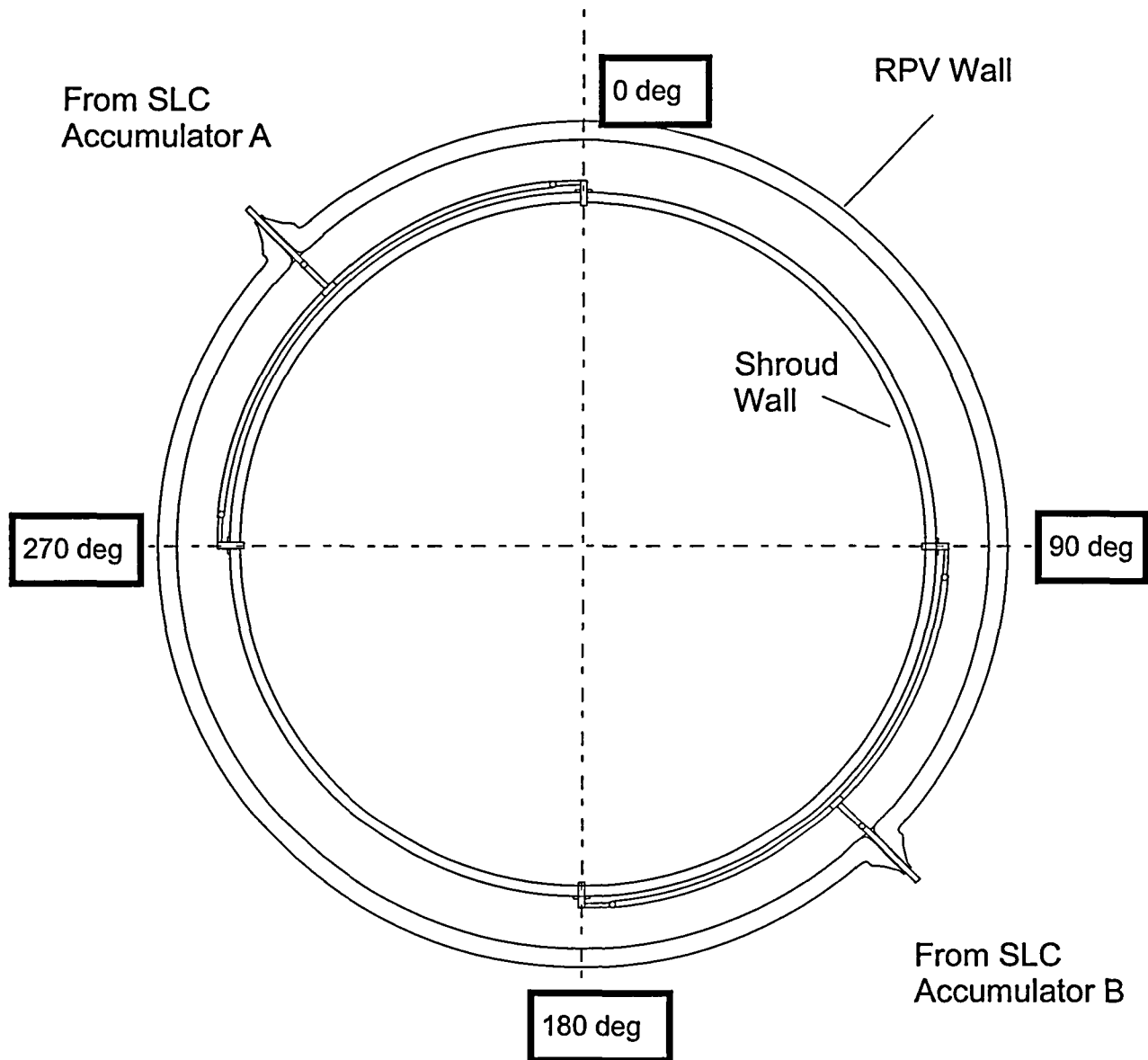
ENCLOSURE 1

MFN 06-213

SLCS Figures/Illustrations



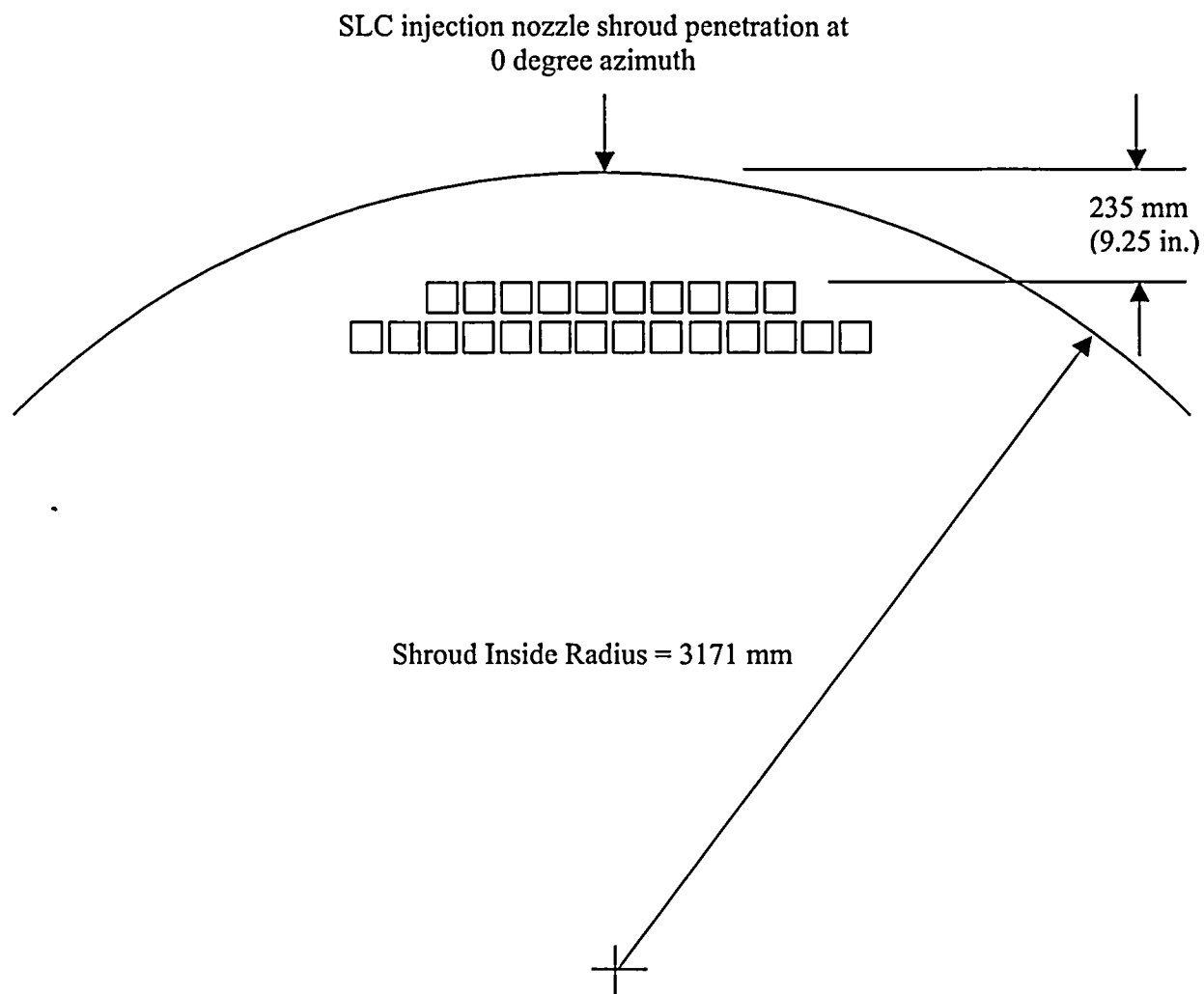




**ESBWR SLC Header Arrangement
16 Injection Nozzles at Four Elevations
and Four Azimuthal Positions**

Figure 3

Figure 4



Clearance Between Shroud ID and Fuel Channels at 0 Degree Azimuth (Typical for 90, 180 and 360 Degrees)

ENCLOSURE 3

MFN 06-213

Geometry Information

Non Proprietary Version

NRC RAI 21.6-53 - B (draft)

Geometry information (inner radius of the core barrel, flow areas for bypass region, flow area and loss coefficients from bypass region through the core support plate along with elevations of holes, flow area and loss coefficients for any flow paths from bypass region to lower plenum or fuel in general along with the elevations). Provide diagrams of the above showing the dimensions of the bypass along with the channel boxes. Supplement your illustrated response to RAI 21.6-29 with dimensions of all boron flowpaths through the lower tieplates, leakage holes and nose pieces of the fuel channels.

GE Response

The inner radius of the core barrel can be found in the DCD Section 5.3, Table 5.3-3. The loss coefficients through the leakage holes between the bypass and the lower plenum and between the bypass and the channels are modeled in great detail in the ATWS TRACG model. The following data has been provided for convenience; for further detail, please refer to the TRACG User's Manual, the TRACG Model Description and ATWS basedeck. The flow areas and pressure losses across the holes are given in Figure 21.6-53b-1, from this the losses across the leakage holes can be calculated. The leakage paths between the bypass and the channels have been lumped together, as this is how the TRACG model models the leakage paths. Further detail of the shroud and fuel channel dimensions have been provided in Figure 21.6-53b-2 and 21.6-53b-3.

MFN 06-213
Enclosure 3

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Figure 21.6-53b-1 Leakage Paths Through Core Support Plate and Lower Tie Plate

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MFN 06-213
Enclosure 3

	Ring 1	Ring 2	Ring 3 Peripheral Chimney	Ring 3 Peripheral Orifice
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Table 21.6-53b-1 Vessel Dimensions, Elevations, Flow Areas, and Pressures just before SLCS Injection

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MFN 06-213
Enclosure 3

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Figure 21.6-53b-2 Fuel Channel Dimensions

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Figure 21.6-53b-3 Shroud Dimensions

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Table 21.6-53b-2 Shroud Dimensions

ENCLOSURE 4

MFN 06-213

Affidavit

General Electric Company

AFFIDAVIT

I, **Louis M. Quintana**, state as follows:

- (1) I am Manager, Licensing, General Electric Company ("GE"), and 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 Enclosure 2 of GE letter MFN 06-213, David H. Hinds to USNRC, *Information to Support Draft RAI 21.6-53*, dated July 7, 2006. The proprietary information in Enclosure 2, *Geometry Information – GE Proprietary Information*, is identified by double square brackets before and after the object. The superscript notation {3} refers to paragraph (3) below which provides the basis for the proprietary determination. Each page contains the designation "GE Proprietary Information".
- (3) In making this application for withholding of proprietary information of which it is the owner, GE 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 2.790(a)(4) for "trade secrets" (Exemption 4). The material for which exemption from disclosure is here sought also qualify 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, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).
- (4) Some examples of categories of information which 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 General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;
 - b. Information which, if used 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 of a similar product;
 - c. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, resulting in potential products to General Electric;

- d. Information which 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 GE, 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 GE, 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. Access to such documents within GE 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, by the manager of the cognizant marketing function (or his delegate), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GE 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 detailed ESBWR design information developed by GE over a period of several years at a cost of over one million dollars. This information, if used 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 of a similar product.
- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GE's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GE'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 GE.

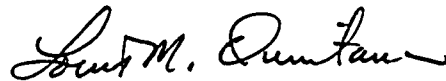
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

GE's competitive advantage will be lost if its competitors are able to use the results of the GE 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 GE 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 GE of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing 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 7th day of July 2006.



Louis M. Quintana
General Electric Company