



Westinghouse Electric Company
Nuclear Power Plants
P.O. Box 355
Pittsburgh, Pennsylvania 15230-0355
USA

U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, D.C. 20555

Direct tel: 412-374-6206
Direct fax: 412-374-5005
e-mail: sisk1rb@westinghouse.com

Your ref: Docket Number 52-006
Our ref: DCP_NRC_002536

June 19, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 9.1.1)

Westinghouse is submitting technical information to the NRC to support their review of a Request for Additional Information (RAI) on SRP Section 9.1.1. This technical information is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in the response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Provided herein are the PowerPoint technical presentations supporting RAI-SRP9.1.1-SRSB-05 as used during the NRC audit on the Spent Fuel Pool (SFP) criticality analysis at Westinghouse Electric Corporation, LLC in Monroeville, PA.

Pursuant to 10 CFR 50.30(b), both proprietary and non-proprietary versions of these technical presentations are submitted as Enclosure 3 through Enclosure 6. Enclosure 1 is one copy of the Application for Withholding, AW-09-2603 (non-proprietary). Enclosure 2 is one copy of the associated Affidavit with Proprietary Information Notice and Copyright Notice (non-proprietary).

This submittal contains proprietary information of Westinghouse Electric Company, LLC. In conformance with the requirements of 10 CFR Section 2.390, as amended, of the Commission's regulations, we are enclosing with this submittal an Application for Withholding and an Affidavit. The Affidavit sets forth the basis on which the information identified as proprietary may be withheld from public disclosure by the Commission.

This submittal also contains proprietary information of Holtec International, a subcontractor to Westinghouse Electric Company, LLC. In conformance with the requirements of 10 CFR Section 2.390, as amended, of the Commission's regulations, we are enclosing with this submittal two 3rd Party Affidavits from Holtec International (non-proprietary) that address the drawing package, analysis report, and computer program input/output files. These Affidavits set forth the basis on which the information identified as proprietary may be withheld from public disclosure by the Commission.

Correspondence with respect to the Affidavit or Application for Withholding should reference AW-09-2603 and should be addressed to James A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company, LLC, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,



Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

/Enclosures

1. AW-09-2603 "Application for Withholding Proprietary Information from Disclosure," dated June 19, 2009 (Non-Proprietary)
2. AW-09-2603, Affidavit, Proprietary Information Notice, Copyright Notice, dated June 19, 2009 (Non-Proprietary)
3. PowerPoint, AP1000 Spent Fuel Pool Criticality Analysis, NRC Audit, May 5th – 7th, 2009 (**Proprietary**)
4. PowerPoint, AP1000 Spent Fuel Pool Criticality Analysis, NRC Audit, May 5th – 7th, 2009 (Non-Proprietary)
5. Holtec International - 3rd Party Affidavit for Analysis Report/Computer Files (Non-Proprietary)
6. Holtec International - 3rd Party Affidavit for Drawing Package (Non-Proprietary)

cc:	D. Jaffe	- U.S. NRC	1E
	E. McKenna	- U.S. NRC	1E
	P. Buckberg	- U.S. NRC	1E
	T. Spink	- TVA	1E
	P. Hastings	- Duke Power	1E
	R. Kitchen	- Progress Energy	1E
	A. Monroe	- SCANA	1E
	P. Jacobs	- Florida Power & Light	1E
	C. Pierce	- Southern Company	1E
	E. Schmiech	- Westinghouse	1E
	G. Zinke	- NuStart/Entergy	1E
	R. Grumbir	- NuStart	1E
	P. Loza	- Westinghouse	1E

ENCLOSURE 1

AW-09-2603

APPLICATION FOR WITHHOLDING
PROPRIETARY INFORMATION FROM DISCLOSURE



Westinghouse Electric Company
Nuclear Services
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Pittsburgh, Pennsylvania 15230-0355
USA

U.S. Nuclear Regulatory Commission
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e-mail: sisk1rb@westinghouse.com

Your ref: Docket Number 52-006
Our ref: AW-09-2603

June 19, 2009

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: AP1000 Response to Request for Additional Information (SRP 9.1.1)

The Application for Withholding is submitted by Westinghouse Electric Company, LLC (Westinghouse), pursuant to the provisions of Paragraph (b) (1) of Section 2.390 of the Commission's regulations. It contains commercial strategic information proprietary to Westinghouse and customarily held in confidence.

The proprietary material for which withholding is being requested is identified in the proprietary version of the subject RAI response. In conformance with 10 CFR Section 2.390, Affidavit AW-09-2603 accompanies this Application for Withholding, setting forth the basis on which the identified proprietary information may be withheld from public disclosure.

Accordingly, it is respectively requested that the subject 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 this Application for Withholding or the accompanying affidavit should reference AW-09-2603 and should be addressed to James A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company, LLC, P.O. Box 355, Pittsburgh, Pennsylvania, 15230-0355.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Robert Sisk'.

Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

cc: G. Bacuta - U.S. NRC

ENCLOSURE 2

Affidavit

(with Proprietary Information Notice and Copyright Notice)

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

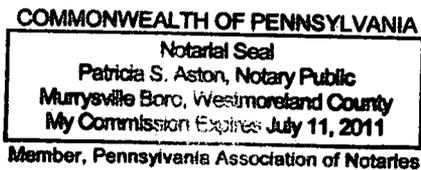
COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared Robert B. Sisk, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



Robert B. Sisk
Manager
Licensing and Customer Interface

Sworn to and subscribed
before me this 19th day
of June 2009.





Notary Public

- (1) I am Manager, Licensing and Customer Interface, 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 Commission's regulations and in conjunction with the Westinghouse "Application for Withholding" 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 constitutes Westinghouse policy and provides 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.

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.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.
- (iv) 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.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in PowerPoint, AP1000 Spent Fuel Pool Criticality Analysis, NRC Audit, May 5th – 7th, 2009, in support of the AP1000 Design Certification Amendment Application, being transmitted by Westinghouse letter (DCP_NRC_002536) and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse for the AP1000 Design Certification Amendment application is expected to be applicable in all licensee submittals referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application in response to certain NRC requirements for justification of compliance of the safety system to regulations.

This information is part of that which will enable Westinghouse to:

- (a) Manufacture and deliver products to utilities based on proprietary designs.

- (b) Advance the AP1000 Design and reduce the licensing risk for the application of the AP1000 Design Certification
- (c) Determine compliance with regulations and standards
- (d) Establish design requirements and specifications for the system.

Further this information has substantial commercial value as follows:

- (a) Westinghouse plans to sell the use of similar information to its customers for purposes of plant construction and operation.
- (b) Westinghouse can sell support and defense of safety systems based on the technology in the reports.
- (c) The information requested to be withheld reveals the distinguishing aspects of an approach and schedule 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 digital technology safety systems 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/or non-proprietary versions of documents 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.

ENCLOSURE 5

Holtec International Non-Proprietary

3rd Party Affidavit for Analysis Report and Computer Files

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Evan Rosenbaum, state as follows:

- (1) I am the Holtec International Project Manager for the AP1000 Spent Fuel Storage Racks Project and have reviewed the information described in paragraph (2) which is sought to be withheld, and am authorized to apply for its withholding.
- (2) The information sought to be withheld is Revision 0 of Holtec International Report HI-2084327, and selected input and output computer files listed therein, all containing Holtec Proprietary information.
- (3) In making this application for withholding of proprietary information of which it is the owner, Holtec International 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 10CFR Part 9.17(a)(4), 2.390(a)(4), and 2.390(b)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions 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 Holtec's competitors without license from Holtec International 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,

AFFIDAVIT PURSUANT TO 10 CFR 2.390

manufacture, shipment, installation, assurance of quality, or licensing of a similar product.

- c. Information which reveals cost or price information, production, capacities, budget levels, or commercial strategies of Holtec International, its customers, or its suppliers;
- d. Information which reveals aspects of past, present, or future Holtec International customer-funded development plans and programs of potential commercial value to Holtec International;
- e. 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) The information sought to be withheld is being submitted to the NRC in confidence. The information (including that compiled from many sources) is of a sort customarily held in confidence by Holtec International, 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 Holtec International. No public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to the 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 Holtec International is limited on a "need to know" basis.

AFFIDAVIT PURSUANT TO 10 CFR 2.390

- (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 designee), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside Holtec International 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 classified as proprietary was developed and compiled by Holtec International at a significant cost to Holtec International. This information is classified as proprietary because it contains detailed descriptions of analytical approaches and methodologies not available elsewhere. This information would provide other parties, including competitors, with information from Holtec International's technical database and the results of evaluations performed by Holtec International. A substantial effort has been expended by Holtec International to develop this information. Release of this information would improve a competitor's position because it would enable Holtec's competitor to copy our technology and offer it for sale in competition with our company, causing us financial injury.
- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to Holtec International's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of Holtec International's comprehensive spent fuel storage 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.

The research, development, engineering, and analytical costs comprise a substantial investment of time and money by Holtec International.

AFFIDAVIT PURSUANT TO 10 CFR 2.390

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.

Holtec International's competitive advantage will be lost if its competitors are able to use the results of the Holtec International 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 Holtec International 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 Holtec International of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

Executed at Marlton, New Jersey, this 2nd day of June, 2009.



Evan Rosenbaum
Holtec International

ENCLOSURE 6

Holtec International Non-Proprietary

3rd Party Affidavit for Drawing Package

AFFIDAVIT PURSUANT TO 10 CFR 2.390

I, Evan Rosenbaum, state as follows:

- (1) I am the Holtec International Project Manager for the AP1000 Spent Fuel Storage Racks Project and have reviewed the information described in paragraph (2) which is sought to be withheld, and am authorized to apply for its withholding.
- (2) The information sought to be withheld is Revision 1 of Holtec International Drawing 4743, containing Holtec Proprietary information.
- (3) In making this application for withholding of proprietary information of which it is the owner, Holtec International 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 10CFR Part 9.17(a)(4), 2.390(a)(4), and 2.390(b)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions 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 Holtec's competitors without license from Holtec International 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,

AFFIDAVIT PURSUANT TO 10 CFR 2.390

manufacture, shipment, installation, assurance of quality, or licensing of a similar product.

- c. Information which reveals cost or price information, production, capacities, budget levels, or commercial strategies of Holtec International, its customers, or its suppliers;
- d. Information which reveals aspects of past, present, or future Holtec International customer-funded development plans and programs of potential commercial value to Holtec International;
- e. 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) The information sought to be withheld is being submitted to the NRC in confidence. The information (including that compiled from many sources) is of a sort customarily held in confidence by Holtec International, 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 Holtec International. No public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to the 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 Holtec International is limited on a "need to know" basis.

AFFIDAVIT PURSUANT TO 10 CFR 2.390

- (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 designee), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside Holtec International 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 classified as proprietary was developed and compiled by Holtec International at a significant cost to Holtec International. This information is classified as proprietary because it contains detailed descriptions of analytical approaches and methodologies not available elsewhere. This information would provide other parties, including competitors, with information from Holtec International's technical database and the results of evaluations performed by Holtec International. A substantial effort has been expended by Holtec International to develop this information. Release of this information would improve a competitor's position because it would enable Holtec's competitor to copy our technology and offer it for sale in competition with our company, causing us financial injury.
- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to Holtec International's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of Holtec International's comprehensive spent fuel storage 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.

The research, development, engineering, and analytical costs comprise a substantial investment of time and money by Holtec International.

AFFIDAVIT PURSUANT TO 10 CFR 2.390

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.

Holtec International's competitive advantage will be lost if its competitors are able to use the results of the Holtec International 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 Holtec International 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 Holtec International of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

Executed at Marlton, New Jersey, this 2nd day of June, 2009.



Evan Rosenbaum
Holtec International

ENCLOSURE 4

Westinghouse Non-Proprietary Class 3

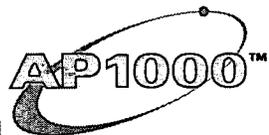
PowerPoint, AP1000 Spent Fuel Pool Criticality Analysis,
NRC Audit, May 5th – 7th, 2009

AP1000 Spent Fuel Pool Criticality Analysis

NRC Audit

May 5th – 7th, 2009

Westinghouse Energy Center



WESTINGHOUSE NON-PROPRIETARY CLASS 3



Introduction/Agenda/Safety Brief

- Parking Lot Safety:
 - Walk Inside Lined Areas (no zig-zag)
 - Watch Moving Cars (pseudo-parking, space-hunt)
- Self-Introductions
- Agenda:
 - Internet Access (IDs, wireless, wired)
 - Technical Overviews
 - 2+ days Technical Audit

Summary of Licensing Needs/Issues

- Resurging Nuclear Industry is typically viewed as a “single” group (i.e. utility, vendor, finances, regulators, value, safety)
- Integrated Initiatives Demand Technical, Fiscal, Regulatory, and Schedule Co-ordination and Co-operation
- Avoid Concerns that “...nuclear industry can’t manage it’s spent fuel...”
- Target RAI Responses Meet Client and Regulatory Needs
 - RAI-SRP9.1.1-SRSB-05, SFP Criticality Analysis
 - RAI-SRP4.3-SRSB-03, Reactor Reactivity Uncertainties
 - OI-SRP9.1.1-SRSB-01, Use of WCAP-14416-P
- Meet/Improve on Current NRC SER Section Review Dates with Complete Acceptable Answers



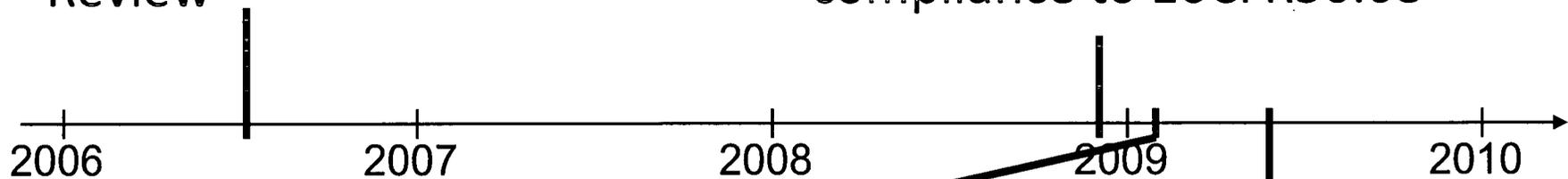
AP1000 SFP Analysis - Background

June 2006

- Original Criticality Analysis Completed
- TR-65 Sent to NRC for Review

Dec. 2008

- Received RAI-SRP9.1.1-SRSB-05
- Referenced WCAP-14416-P
- Methodology doesn't show compliance to 10CFR50.68



Jan. 2009

- "Backup" Analysis drafted
- No Soluble Boron Credit
- Less SFP storage capacity

May. 2009

- Holtec reperforming analysis
- Uses different method
- Addresses NRC and client concerns and industry need

WESTINGHOUSE NON-PROPRIETARY CLASS 3





RAI Response Plan

- Basic Responses
 - RAI-SRP9.1.1-SRSB-05
 - Will Submit New Holtec Analysis
 - Proprietary Version with Affidavit
 - Non-Proprietary, Releasable Version
 - RAI Response will include DCD Markup
 - RAI-SRP4.3-SRSB-03
 - Will be covered by Response to RAI-SRP9.1.1-SRSB-05
 - OI-SRP9.1.1-SRSB-01
 - Will be covered by Response to RAI-SRP9.1.1-SRSB-05

- Target Submittal – end of May

WESTINGHOUSE NON-PROPRIETARY CLASS 3



Overview of New SFP Criticality Methodology



- CASMO-4 used to calculate reactivity effect of rack and fuel manufacturing tolerances, temperature effects and depletion uncertainty
- CASMO-4 used to calculate isotopic inventory of spent fuel
- MCNP4a used to calculate reactivity of Region 1, Region 2 spent fuel racks
- Same basic methodology used by Holtec on several previous and upcoming submittals.

Overview of New SFP Criticality Acceptance Criteria



- Region 1 racks (flux-trap rack)
 - K_{eff} less than 0.95 at 95/95 level for normal conditions, no soluble boron
 - K_{eff} less than 0.95 at 95/95 level for accident conditions, with soluble boron credit.
- Region 2 Racks (high-density storage rack)
 - K_{eff} less than 1.0 at 95/95 level for normal conditions, no soluble boron
 - K_{eff} less than 0.95 at 95/95 level for normal conditions, with soluble boron credit
 - K_{eff} less than 0.95 at 95/95 level for accident conditions, with soluble boron credit

Overview of New SFP Criticality [CASMO]^{a,c} Validation



- Holtec Wet Storage Licensing Reports contain Appendix A with MCNP and KENO Benchmarking

[

]a,c

Overview of New SFP Criticality



[]^{a,c}

- Use of CASMO
 - Reactivity effects of tolerances, considered as uncertainties
 - Reactivity effects of temperature changes, considered as bias
 - Depletion and Decay calculations, used as input for MCNP calculations

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Overview of New SFP Criticality



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WESTINGHOUSE NON-PROPRIETARY CLASS 3





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WESTINGHOUSE NON-PROPRIETARY CLASS 3



Westinghouse

Consideration of CASMO-4 [

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Overview of New SFP Criticality Assumptions



- Region 1 racks
 - All fresh fuel, maximum enrichment of 4.95 wt% ^{235}U .

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Overview of New SFP Criticality Assumptions



- Region 2 racks

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Overview of Criticality Models

Region 1

Region 2

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Overview of Criticality Models Axial Burnup Distribution



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WESTINGHOUSE NON-PROPRIETARY CLASS 3



Overview of Criticality Models Results



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