



**Pacific Gas and
Electric Company®**

March 14, 2006

PG&E Letter DCL-06-033

James R. Becker
Vice President
Diablo Canyon Operations and
Station Director

Diablo Canyon Power Plant
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Fax: 805.545.4234

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

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Diablo Canyon Power Plant Digital Upgrade Project

Pacific Gas and Electric (PG&E) will meet with the NRC staff on March 16, 2006, to discuss the digital upgrade project at the Diablo Canyon Power Plant. Certain information to be presented at the meeting is proprietary to Westinghouse Electric Company LLC (Westinghouse). PG&E requests that the part of the meeting where this information is discussed be closed to the public, and the Westinghouse proprietary information be withheld from public disclosure in accordance with 10 CFR 2.390. Proprietary and nonproprietary versions of the presentation are included in Enclosures 1 and 2, respectively.

Enclosure 3 includes a Westinghouse authorization letter, CAW-06-2112, an accompanying affidavit, a proprietary information notice, and a copyright notice. The affidavit is signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the Westinghouse proprietary information to be discussed during the meeting and contained in Enclosure 1 may be withheld from public disclosure by the Commission, and it addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the application for withholding, related to the Westinghouse proprietary information or the Westinghouse affidavit provided in Enclosure 3, should reference Westinghouse Letter CAW-06-2112 and be addressed to B. F. Maurer, Acting Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

If you have any questions, please contact Stan Ketelsen at 805-545-4720.

Sincerely,


James R. Becker

A member of the STARS (Strategic Teaming and Resource Sharing) Alliance
Callaway • Comanche Peak • Diablo Canyon • Palo Verde • South Texas Project • Wolf Creek

AP01



Enclosures

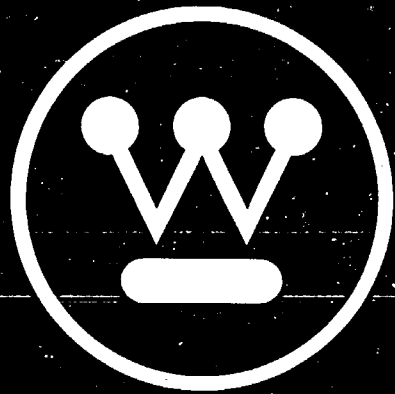
cc: Edgar Bailey, DHS
Terry W. Jackson
Bruce S. Mallett
Diablo Distribution
cc/enc: Alan B. Wang

**PROPRIETARY INFORMATION – WITHHOLD FROM PUBLIC DISCLOSURE
UNDER 10 CFR 2.390**

Westinghouse Electric LLC Information for March 16, 2006, Meeting with NRC
Staff on Diablo Canyon Power Plant Digital Upgrade Project (Proprietary)

Enclosure 2
PG&E Letter DCL-06-033

Westinghouse Electric LLC Information for March 16, 2006, Meeting with NRC Staff
on Diablo Canyon Power Plant Digital Upgrade Project (Nonproprietary)



Westinghouse

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company

Diablo Canyon Diversity and Defense-in-Depth Analysis - RPS/7100 Project

Pete Morris

March 16,
2006

WESTINGHOUSE PROPRIETARY CLASS 3

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Diversity and Defense in Depth (D3) Background

- Developed from general concern over potential reactor protection system software common mode failure
- Evaluation methodology published in NUREG/CR-6303 (1994)
 - Required analysis of consequences of possible SW errors
 - Required all Chapter 15 events to be analyzed with postulated SW errors
 - Permits use of best estimate initial conditions, methods and plant response

Diablo Canyon Diversity and Defense-in-Depth Analysis

Diversity and Defense in Depth (D3) Background

- Regulatory position published in BTP-19 (1997)
 - Endorses NUREG/CR-6303
- Acceptance Criteria
 - 10% of Part 100 offsite releases (Anticipated Operational Occurrences)
 - 100% of Part 100 offsite releases (Design Basis Accidents)
 - Maintain integrity of reactor coolant pressure boundary
 - Maintain integrity of the containment

Diablo Canyon Diversity and Defense-in-Depth Analysis

Analysis Approach for RPS/7100 Project

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Program structured in two parts

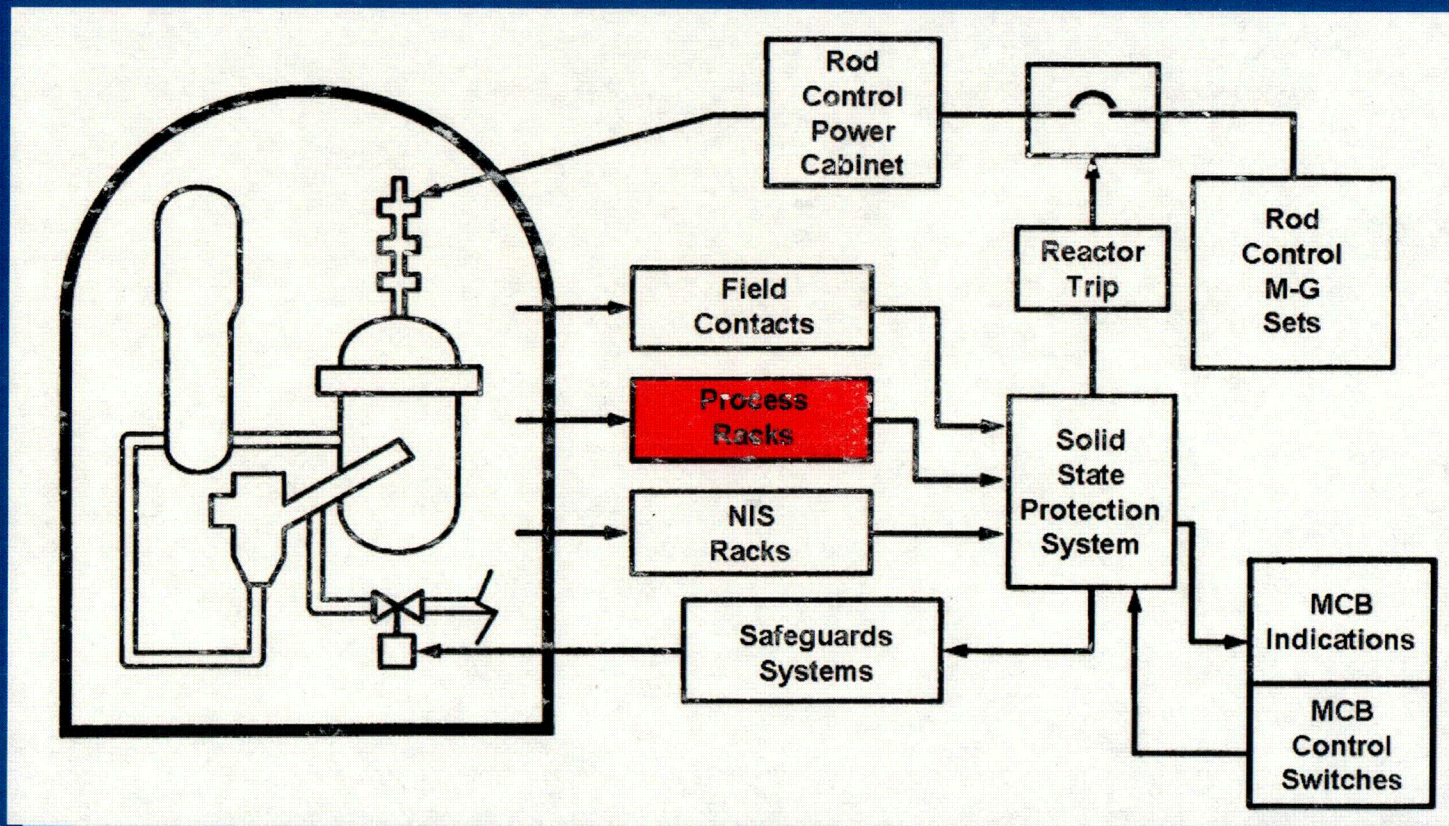
- **Phase 1 – Non-LOCA Chapter 15 Events**
 - Results presented here
- **Phase 2 – LOCA**
 - Not yet analyzed

Diablo Canyon Diversity and Defense-in-Depth Analysis

Phase 1

Non-LOCA Chapter 15 Events

Diablo Canyon Diversity and Defense-in-Depth Analysis



Diablo Canyon Diversity and Defense-in-Depth Analysis

Starting Point for Evaluation of Chapter 15 Events

Existing Function	Independent of RPS/7100
Reactor Trips	
Power Range High Neutron Flux	Yes – NIS / SSPS
Intermediate Range High Neutron Flux	Yes – NIS / SSPS
Source Range High Neutron Flux	Yes – NIS / SSPS
Power Range High Positive Neutron Flux	Yes – NIS / SSPS
Power Range High Negative Neutron Flux	Yes – NIS / SSPS

Diablo Canyon Diversity and Defense-in-Depth Analysis

Starting Point for Evaluation of Chapter 15 Events

Existing Function	Independent of RPS/7100
Reactor Trips	
Overtemperature ΔT	No
Overpower ΔT	No
Pressurizer Low Pressure	No
Pressurizer High Pressure	No
Low-Low Steam Generator Water Level	No

Diablo Canyon Diversity and Defense-in-Depth Analysis

Starting Point for Evaluation of Chapter 15 Events

Existing Function	Independent of RPS/7100
Reactor Trips	
Reactor Coolant Loop Low Flow	No
Reactor Coolant Pump Breakers Open	Yes – Position Switches / SSPS
Reactor Coolant Pump Undervoltage	Yes – UV Relays / SSPS
Reactor Coolant Pump Underfrequency	Yes – UF Relays / SSPS Yes – Stop Valve Position &
Turbine Trip	Oil Pressure Switches / SSPS

Diablo Canyon Diversity and Defense-in-Depth Analysis

Starting Point for Evaluation of Chapter 15 Events

Existing Function	Independent of RPS/7100
Reactor Trips	
Safety Injection Signal	No
Seismic Acceleration	Yes
Engineered Safety Features Actuation Functions	
Auxiliary Feedwater Actuation on Low-Low Steam Generator Water Level	Yes - AMSAC
Turbine Trip on Low-Low Steam Generator Water Level	Yes - AMSAC

Diablo Canyon Diversity and Defense-in-Depth Analysis

Better Estimate Evaluation of Chapter 15 Events

- No additional failures beyond the postulated software error
 - All sensors function
 - Both trains of safety systems function
- Best estimate initial reactor system conditions
 - Temperatures, pressure, flow, peaking factors, SG inventory
- Best estimate safety system responses
 - Pump curves, water temperature, start time

Diablo Canyon Diversity and Defense-in-Depth Analysis

Better Estimate Analysis of Chapter 15 Events

- No coincident loss of offsite power
- No stuck control rod
- Best estimate reactivity coefficients
- Best estimate decay heat
- Reactor coolant activity
- Steam generator tube leakage

Diablo Canyon Diversity and Defense-in-Depth Analysis

Impact of Better Estimate Analysis

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Results of Better Estimate Analysis

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse Automatic Functions Selected

Function	Implementation
Reactor Trips	
Power Range High Neutron Flux	Yes – NIS / SSPS
Intermediate Range High Neutron Flux	Yes – NIS / SSPS
Source Range High Neutron Flux	Yes – NIS / SSPS
Power Range High Positive Neutron Flux	Yes – NIS / SSPS
Power Range High Negative Neutron Flux	Yes – NIS / SSPS
Rate	

Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse Automatic Functions Selected

Function	Implementation
Reactor Trips	
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Reactor Coolant Pump Breakers Open	Yes – Position Switches / SSPS
Reactor Coolant Pump Undervoltage	Yes – UV Relays / SSPS
Reactor Coolant Pump Underfrequency	Yes – UF Relays / SSPS

Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse Automatic Functions Selected

Existing Function	Independent of RPS/7100
Reactor Trips	
Turbine Trip	Yes – Stop Valve Position & Oil Pressure Switches /
Seismic	SSPS Seismic Sensors/SSPS
Auxiliary Feedwater System Actuation	
Low-Low Steam Generator Water Level	Yes - DAS

Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse Automatic Functions Selected

Existing Function	Independent of RPS/7100
Turbine Trip	
Low-Low Steam Generator Water Level	Yes - DAS
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Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse Operator Indications Required

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Other Diverse Operator Indications Available

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Other Diverse Operator Indications Available

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse System Level Manual Controls Required

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse Component Level Manual Controls Available

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Diverse Component Level Manual Controls Available

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Diablo Canyon Diversity and Defense-in-Depth Analysis

Phase 2

LOCA

Diablo Canyon Diversity and Defense-in-Depth Analysis

LOCA Analysis Plan

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Application for Withholding for
Westinghouse Electric LLC Proprietary Information

Westinghouse Authorization Letter, CAW-06-2112; Affidavit; Proprietary
Information Notice; and Copyright Notice



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

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

Direct tel: (412) 374-4419
Direct fax: (412) 374-4011
e-mail: maurerbf@westinghouse.com

Our ref: CAW-06-2112

March 13, 2006

**APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE**

Subject: Presentation Slides, PGE-06-19 P-Attachment, "Diablo Canyon Diversity and Defense-in-Depth Analysis – RPS/7100 Project," dated March 16, 2006 (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-06-2112 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. 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 Pacific Gas and Electric Company.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-06-2112, and should be addressed to B. F. Maurer, Acting 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 'B. F. Maurer'.

B. F. Maurer, Acting Manager
Regulatory Compliance and Plant Licensing

Enclosures

cc: B. Benney
L. Feizollahi

bcc: B. F. Maurer (ECE 4-7A) 1L
R. Bastien, 1L (Nivelles, Belgium)
C. Brinkman, 1L (Westinghouse Electric Co., 12300 Twinbrook Parkway, Suite 330, Rockville, MD 20852)
RCPL Administrative Aide (ECE 4-7A) 1L, 1A (letter and affidavit only)


AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

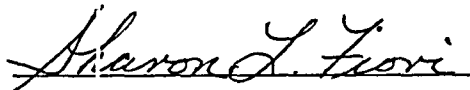
COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared B. F. Maurer, 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:

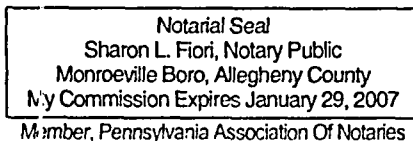


B. F. Maurer, Acting Manager
Regulatory Compliance and Plant Licensing

Sworn to and subscribed
before me this 14th day
of March, 2006



Notary Public



- (1) I am Acting Manager, Regulatory Compliance and Plant Licensing, in Nuclear Services,, 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 the presentation slides, PGE-06-19 P-Attachment "Diablo Canyon Diversity and Defense-in-Depth Analysis – RPS/7100 Project," dated March 16, 2006 (Proprietary), being transmitted by the Pacific Gas and Electric Company letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse for the Diablo Canyon Power Plant is expected to be applicable for other licensee submittals in response to certain NRC requirements for justification of instrumentation and control systems.

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

- (a) Provide documentation, analyses and conclusions for the diversity and defense-in-depth analysis for the Diablo Canyon RPS/7100 I&C project.
- (b) Assist the customer to respond to NRC requests for information.

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 meeting NRC requirements for licensing documentation.
- (b) Westinghouse can sell support and defense of this information to its customers in the licensing process.
- (c) 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 analyses 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.