Enclosure 1 to
KMLNRC 84-235

Westinghouse Electric Corporation
Water Reactor Divisions
Box 355
Pittsburgh Pennsylvania 15230

December 12, 1984

CAW-84-111

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: Post Critical Testing
Reference: Kansas Gas & Electric Company letter to NRC dated December, 1984

Dear Mr. Denton:

The proprietary material for which withholding is being requested in the reference letter by Kansas Gas & Electric Company is further identified in an affidavit signed by the owner of the proprietary information, Westinghouse Electric Corporation. 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 10CFR Section 2.790 of the Commission's regulations.

The proprietary material for which withholding is being required is of the same technical type as that proprietary material previously submitted with Application for Withholding AW-76-8.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Kansas Gas & Electric Company.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-84-111, and should be addressed to the undersigned.

Very truly yours,

Robert A. Wiesemann

Robert A. Wiesemann, Manager
Regulatory & Legislative Affairs

/pj
Enclosure(s)

cc: E. C. Shomaker, Esq.
Office of the Executive Legal Director, NRC

AW-76-8

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

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COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared Robert A. Wiesemann, 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 Corporation ("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 A. Wiesemann

Robert A. Wiesemann, Manager
Licensing Programs

Sworn to and subscribed
before me this 11th day
of August 1976.

Notary Public

NOTARIAL SEAL
[illegible]
MY COMMISSION EXPIRES NOV. 15, 1978

(1) I am Manager, Licensing Programs, in the Pressurized Water Reactor Systems Division, of Westinghouse Electric Corporation 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 or rule-making proceedings, and am authorized to apply for its withholding on behalf of the Westinghouse Water Reactor Divisions.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.790 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 Nuclear Energy Systems 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 2.790 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.

(g) It is not the property of Westinghouse, but must be treated as proprietary by Westinghouse according to agreements with the owner.

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 which 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 in 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 2.790, it is to be received in confidence by the Commission.

(iv) The information is not available in public sources 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 attachment to Westinghouse letter number NS-CE-1139, Eicheldinger to Stolz, dated July 19, 1976, concerning supplemental information for use in the Augmented Startup and Cycle 1 Physics Program. The letter and attachment are being submitted as part of the above mentioned program in response to concerns of the Advisory Committee on Reactor Safeguards with the new Westinghouse PWR's, which are rated at higher power densities than currently operating Westinghouse reactors.

This information enables Westinghouse to:

(a) Justify the Westinghouse design correlations.

(b) Assist its customers to obtain licenses.

(c) Provide greater flexibility to customers assuring them of safe reliable operation.

(d) Optimize performance while maintaining a high level of fuel integrity.

(e) Justify operation at a reduced peaking factor with a wider target band than normal.

(f) Justify full power operation and meet warranties.

Further, the information gained from the Augmented Startup and Cycle 1 Physics Program is of commercial value and is sold for considerable sums of money as follows:

(a) Westinghouse uses the information to perform and justify analyses which are sold to customers.

(b) Westinghouse uses the information to sell to its customers for the purpose of meeting NRC requirements for full power licensing.

(c) Westinghouse could sell testing services based on the experience gained and the analytical methods developed using this information.

Public disclosure of this information concerning the Augmented Startup program is likely to cause substantial harm to the competitive position of Westinghouse by allowing its competitors to develop similar analysis methods and models at a much reduced cost.

The analyses performed, their methods and evaluation represent a considerable amount of highly qualified development effort, which has been underway for many years. If a competitor were able to use the results of the analyses in the attached document, to normalize or verify their own methods or models, the development effort and monetary expenditure required to achieve an equivalent capability would be significantly reduced. In total, a substantial amount of money and effort has been expended by Westinghouse which could only be duplicated by a competitor if he were to invest similar sums of money and provided he had the appropriate talent available.

Further the deponent sayeth not.

Wolf Creek Low Power and Power Ascension Test Results Review Program

Position C.8 of Regulatory Guide 1.68 Revision 2 dated August 1978, recommends that hold points be established so that "relevant test results are evaluated and approved... prior to progressing with the power-ascension test phase." (Emphasis added). The Guide suggests hold points be established for PWRs like Wolf Creek at approximately 25%, 50%, and 75% power. Appendix C suggests that, for power-ascension procedures, controls be set up to "(r)eview the completed testing program at each plateau, perform preliminary evaluations,... and obtain the required management approvals before ascending to the next power level..." (Emphasis added).

Considering this guidance, KG&E has established initial test program controls as follows:

1. Concerning the time frame for evaluating specific test results, Westinghouse determined those tests which are related to safety/Technical Specification parameters, in contrast to tests related to control system optimization and "historical tests." A table relating tests, power level of testing, and recommended power level threshold for evaluation was supplied by Westinghouse to KG&E. The table defines those parameters measured at lower power levels which are not relevant when considering reactor safety until the plant exceeds the higher power level. At the higher level, the results are relevant and management reviews and approvals must be obtained prior to exceeding that power level.

   The table; Table II-1 of the Startup Test Program Reference Document, SNP-SU-3.1.1, from the SNUPPS NSSS Startup Manual; is attached and contains Westinghouse proprietary information.

   The rationale for the recommendations made in Table II-1 derive from a need to verify the fundamental parameters affecting NSSS core performance:

   1) power distribution parameters F_Q, $F_{\Delta H}$, quadrant power tilt

   2) primary heat removal parameters, flow, T_{avg}, ΔT_{Vessel}

   3) reactivity parameters, control bank worth, $\partial\rho/\partial T$, $\partial\rho/\partial C_B$

   and the following transient characteristics:

   1) reactor coolant pump trip/flow coastdown

   2) normal load transients

   3) large load transients/plant trips

The hot zero power tests yield the basic core neutronic performance results. In order to verify basic core neutronic performance, the required measurements are an all rods out flux map, the reactivity worth of the first control bank, and the all-rods-out plus control-bank-in isothermal temperature coefficient. These measurements are evaluated prior to proceeding to the next testing plateau to conform compliance with applicable Technical Specifications. From these tests it is confirmed that the power distribution parameters are within the design constraints for the plant. Subsequent power distribution measurements reveal the effect of doppler and xenon on power distribution. The hot zero power tests also yield the moderator temperature coefficient which is used to comply with the Technical Specification on moderator temperature coefficient.

Measurements related to pseudo rod ejection have shown over the years to yield data of little significance when compared with design margins. Recently, twin unit stations have succeeded in deleting these tests for the second unit with NRC concurrence. Based on results from many Westinghouse plants, the tests can be properly evaluated in the time frame shown on Table II-1.

Again, reviews and approvals of test results will be obtained prior to exceeding power levels where the <u>results become relevant.</u>

2. To further amplify on the power ascension program, attached is a modified Table 3.8 of WCAP-7905, Revision 1. The modification consists of updated information based on current testing methodology and Technical Specifications. This WCAP has not yet been submitted for NRC review and approval. The Table delineates the Westinghouse recommended "Minimum Test Requirements for Power Escalation." It is based on considerations described in Item 1. above regarding the significance of test results to plant safety.

   KG&E has endorsed the Westignhouse recommendations and established the following testing holdpoints of Table 3.8:

   a) Initial criticality
   b) Power escalation above 10%
   c) Power escalation above 50%
   d) Power escalation above 75%
   e) Power escalation above 90%

   Each acceptance criteria, verification activity, measurement, alignment, calibration, or check given in the Table has been determined to be a <u>relevant test result</u> and must be satisfied and management approvals obtained prior to going above the noted holdpoint.

3. Specific holdpoints, as required by Regulatory Guide 1.68, are established at approximately 25%, 50% and 75% power. At these levels, <u>preliminary evaluations</u> of test results not already covered by Items 1. and 2. above will be performed and management approvals attained prior to ascent above the holdpoint.

TABLE II-1

Test Results Evaluation Schedule Exceptions

Test Description	Reference Test Sequence		Test Performed at	Test Results Required Before Exceeding
	Number	Paragraph		
Reactor Coolant System Flow Measurement	3.1.3	5.3.3	Hot Shutdown	Before Initial Criticality
Reactor Coolant System Flow Coastdown	3.1.3	5.3.10	Hot Shutdown	[ ] +a,c
Low Power Nuclear Tests	3.1.4	5.4 thru 5.15	Low Power	
RCCA Pseudo Ejection (HZP Case)	3.1.4	5.16	Low Power	
RCCA Pseudo Ejection (HFP Case)	3.1.5	5.18	30%	
Load Swing	3.1.5	5.19	30%	
Power Coefficient	3.1.5	5.21	30%	
RCCA Pseudo Drop	3.1.6	5.8 except 5.8.5	50%	
M/D Flux Map	3.1.6	5.8.5	50%	
Rods Drop and Plant Trip	3.1.6	5.12	50%	

Test Description	Reference Test Sequence		Test Performed at	Test Results Required Before Exceeding
	Number	Paragraph		
Power Coefficient	3.1.6	5.9	50%	[ ]+a,c
Power Coefficient	3.1.7	5.8	75%	
Load Swing	3.1.7	5.9	75%	
Large Load Reduction	3.1.7	5.10	75%	
Reactor Coolant System Flow Measurement	3.1.6		50%	

TABLE 3.8

MINIMUM TEST REQUIREMENTS FOR POWER ESCALATION

(These Criteria Assume That All Safety Related Preoperational Tests Have Been Performed Satisfactorily)

I. PRIOR TO INITIAL CRITICALITY

+a,c

TABLE 3.8 (continued)

II. PRIOR TO POWER ESCALATION ABOVE 10%

[redacted] +a,c

III. PRIOR TO POWER ESCALATION ABOVE 50%

[redacted] +a,c

TABLE 3.8 (continued)

IV. PRIOR TO POWER ESCALATION ABOVE 75%

+a,c

TABLE 3.8 (continued)

[redacted] +a,c

V. **PRIOR TO POWER ESCALATION ABOVE 90%**

[redacted] +a,c

14.2.5 REVIEW, EVALUATION, AND APPROVAL OF TEST RESULTS

The responsibility for review, evaluation, and recommendation for approval of test results from all preoperational tests rests with the JTG. In the case of all initial start-up tests, it rests with the PSRC.

Following completion of a preoperational test, the responsible system startup engineer will assemble the test data package for submittal to the members of the JTG for evaluation. Each test data package will be reviewed to ensure that the test has been performed in accordance with the approved procedure and that all required data, checks, and signatures have been properly recorded and that system performance meets the approved acceptance criteria.

Members of the JTG will review the evaluation findings and recommend corrective action to be taken to resolve any outstanding deficiencies. If the deficiencies are not resolved to the satisfaction of the JTG, then appropriate retesting may be required. If the evaluation indicates that deficiencies in the test method are responsible for unsatisfactory test results, the test procedure will be revised accordingly before retesting is initiated. The review and approval process for procedure revisions is carried out in the manner described in Section 14.2.3. Whenever an evaluation of test results indicates deficiencies in system performance, the JTG will refer the problem to the responsible engineering organization for evaluation.

If the test documentation and system performance are acceptable, the JTG will recommend approval of the test by the Startup Manager and the Plant Manager.

Following each major phase of the initial startup test program, the PSRC will verify that all required tests have been performed and that the test results have been approved. This verification will ensure that all required systems are operating properly and that testing for the next major phase will be conducted in a safe and efficient manner. This type of review will be performed to the extent required before major initial startup test phases such as fuel load, initial criticality, and power ascension. During the power ascension phase, review and approval of initial startup test procedure results will be completed for each of these plateaus - 25 percent, 50 percent, and 75 percent, prior to proceeding to the next plateau.

14.2.6 TEST RECORDS → Replace

Test procedures and test data relating to preoperational and initial startup testing will be retained in accordance with the measures described in Section 17.2.17.

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