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JUN 0 1 2007

U. S. Nuclear Regulatory Commission
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Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED LICENSE AMENDMENT NO. 285
FOR UNIT 1 OPERATING LICENSE NO. NPF-14
AND PROPOSED LICENSE AMENDMENT NO. 253
FOR UNIT 2 OPERATING LICENSE NO. NPF-22
EXTENDED POWER UPRATE APPLICATION RE:
INSTRUMENTATION AND CONTROLS TECHNICAL REVIEW
REQUEST FOR ADDITIONAL INFORMATION
RESPONSES
PLA-6204

Docket Nos. 50-387
and 50-388

References: 1) PPL Letter PLA-6076, B. T. McKinney (PPL) to USNRC, "Proposed License Amendment Numbers 285 for Unit 1 Operating License No. NPF-14 and 253 for Unit 2 Operating License No. NPF-22 Constant Pressure Power Uprate," dated October 11, 2006.

2) *Letter, R. V. Guzman (NRC) to B. T. McKinney (PPL), "Request for Additional Information (RAI) – Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2) – Extended Power Uprate Application Re: Instrumentation and Controls Technical Review (TAC Nos. MD3309 and MD3310)," dated April 27, 2007.*

3) *PPL letter PLA-6130 B. T. McKinney (PPL) to USNRC, "Proposed License Amendment No. 279 for Unit 1 Operating License No. NPF-22 and No. 248 for Unit 2 Operating License NPF-22 ARTS/MELLLA Implementation - Response to NRC Request to NRC Request for Additional Information, dated December 01, 2006.*

Pursuant to 10 CFR 50.90, PPL Susquehanna LLC (PPL) requested in Reference 1 approval of amendments to the Susquehanna Steam Electric Station (SSES) Unit 1 and Unit 2 Operating Licenses (OLs) and Technical Specifications (TS) to increase the maximum power level authorized from 3489 Megawatts Thermal (MWt) to 3952 MWt, an approximate 13% increase in thermal power. The proposed Constant Pressure Power Uprate (CPPU) represents an increase of approximately 20% above the Original Licensed Thermal Power (OLTP).

The purpose of this letter is to provide responses to the "Request for Additional Information" transmitted to PPL in Reference 2.

A001
NRC/NRR

The Attachments contain the PPL responses.

Attachment 1 contains General Electric Company proprietary information. As such, General Electric Company requests that the proprietary information be withheld from public disclosure in accordance with 10 CFR 2.390 (a) 4 and 9.17 (a) 4. The affidavit supporting this request is contained in Attachment 3. Attachment 2 contains a non-proprietary version of the responses.

There are no new regulatory commitments associated with this submittal.

PPL has reviewed the "No Significant Hazards Consideration" and the "Environmental Consideration" submitted with Reference 1 relative to the Enclosure. We have determined that there are no changes required to either of these documents.

If you have any questions or require additional information, please contact Mr. Michael H. Crowthers at (610) 774-7766.

I declare under perjury that the foregoing is true and correct.

Executed on: 6-1-07

B. T. McKinney

Attachment 1: Proprietary Version of the Request for Additional Information Responses
Attachment 2: Non-Proprietary Version of the Request for Additional Information Responses
Attachment 3: General Electric Company Affidavit
Attachment 4: GE Calculation: Instrument Limits Calculation PPL Susquehanna, LLC Susquehanna Steam Electric Station Units 1 & 2 - Main Steam Line High Flow MSIV Isolation

Copy: NRC Region I
Mr. A. J. Blamey, NRC Sr. Resident Inspector
Mr. R. V. Guzman, NRC Sr. Project Manager
Mr. R. R. Janati, DEP/BRP

Attachment 2 to PLA-6204
Non-Proprietary Version of the Request for Additional Information Responses

NRC Question 1:

Setpoint Calculation Methodology: Provide documentation (including sample calculations) of the methodology used for establishing the limiting nominal setpoint and the limiting acceptable values for the As-Found and As-Left setpoints as measured in periodic surveillance testing as described below. Indicate the related analytical limits and other limiting design values (and the sources of these values) for each setpoint.

PPL Response:

Pursuant to NRC Question 6, the setpoints (Allowable Value (AV), Nominal Trip Setpoint (NTSP), and Process Setpoint) for the Main Steam Line High function were determined using GE setpoint methodology. The GE setpoint methodology is described in NEDC-31336 P-A, General Electric Setpoint Methodology, September 1996 and has been approved by the NRC as documented in the associated SER.

Attachment 4 to this response provides the calculation using this methodology.

NRC Question 2:

Safety Limit (SL) - Related Determination: Provide a statement as to whether or not the setpoint is a limiting safety system setting for a variable on which a safety limit (SL) has been placed as discussed in 10 CFR 50.36(c)(1)(ii)(A). Such setpoints are described as "SL-Related" in the discussions that follow. In accordance with 10 CFR 50.36 (c)(1)(ii)(A), the following guidance is provided for identifying a list of functions to be included in the subset of LSSSs specified for variables on which SLs have been placed as defined in Standard Technical Specifications (STS) Sections 2.1.1, Reactor Core SLs and 2.1.2, Reactor Coolant System Pressure SLs. This subset includes automatic protective devices in TSs for specified variables on which SLs have been placed that: (1) initiate a reactor trip; or (2) actuate safety systems. As such, these variables provide protection against violating reactor core safety limits, or reactor coolant system pressure boundary safety limits.

Examples of instrument functions that might have LSSSs included in this subset in accordance with the plant-specific licensing basis, are pressurizer pressure reactor trip (pressurized water reactors (PWRs)), rod block monitor withdrawal blocks (boiling water reactors (BWRs)), feedwater and main turbine high water level trip (BWRs), and end of cycle recirculation pump trip (BWRs). For each setpoint, or related group of setpoints, that you determined not to be SL-Related, explain the basis for this determination.

PPL Response:

Reference 1 proposes two allowable value setpoint changes: the Average Power Range Monitors Simulated Thermal Power - High (Technical Specification (TS) Table 3.3.1.1-1 function 2b) and the Main Steam Line Flow - High (TS Table 3.3.6.1-1, Function 1.c.). Neither of these is SL-Related. 10 CFR 50.36(c)(1)(ii)(A) applies to function settings that are chosen so that an automatic protective action function corrects the abnormal situation before a safety limit is exceeded.

The Average Power Range Monitors Simulated Thermal Power - High is not a SL-Related function as described in the PPL response NRC RAI 2 to the NRC request for additional information contained in Reference 3. The proposed CPPU does not change this basis. The basis is provided in the response below for convenience.

> "As described in the "Applicable Safety Analyses, LCO, and Applicability" portion of the TS Bases for Table 3.3.1.1-1, Function 2.b, Simulated Thermal Power - High, the Average Power Range Monitor Simulated Thermal Power - High Function is not credited in any plant Safety Analyses. The Average Power Range Monitor Simulated Thermal Power - High Function is set above the APRM Rod Block to provide defense in depth to the APRM Fixed Neutron Flux - High Function (Function 2.c) for transients where thermal power increases slowly (such as loss of feedwater heating event). During these events, the thermal power increase does not significantly lag the neutron flux response and, because of a lower trip setpoint, will initiate a scram before the fixed high neutron flux scram. For rapid neutron flux increase events, the thermal power lags the neutron flux and the Average Power Range Monitor Fixed Neutron Flux - High Function will provide a scram signal before the Average Power Range Monitor Simulated Thermal Power - High Function setpoint is exceeded. The associated SSES TS Bases states: "Functions not specifically credited in the accident analysis are retained for the overall redundancy and diversity of the RPS as required by the NRC-approved licensing basis." "Therefore, this function is part of the Reactor Protective System and is included in the TS since it is part of the RPS design and is part of the existing licensing basis."

The Main Steam Line Flow - High function is not a SL-Related function. As described in the "Applicable Safety Analyses, LCO, and Applicability" portion of the TS Bases for Table 3.3.6.1-1, Function 1.c, Main Steam Line Flow - High, this function is only credited in the Main Steam Line Break (MSLB) accident. It states:

> "Main Steam Line Flow—High is provided to detect a break of the MSL and to initiate closure of the MSIVs. If the steam were allowed to continue flowing out of the break, the reactor would depressurize and the core could uncover. If the RPV water level decreases too far, fuel damage could occur. Therefore, the isolation is

initiated on high flow to prevent or minimize core damage. The Main Steam Line Flow - High Function is directly assumed in the analysis of the main steam line break (MSLB) (Ref. 1). The isolation action, along with the scram function of the Reactor Protection System (RPS), ensures that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46 and offsite doses do not exceed the 10 CFR 100 limits. The MSL flow signals are initiated from 16 instruments that are connected to the four MSLs. The instruments are arranged such that, even though physically separated from each other, all four connected to one MSL would be able to detect the high flow. Four channels of Main Steam Line Flow - High Function for each un-isolated MSL (two channels per trip system) are available and are required to be OPERABLE so that no single instrument failure will preclude detecting a break in any individual MSL."

SSES Final Safety Analysis Report (FSAR) Section 15.6.4.1.2 identifies that the MSLB as a "Limiting Fault" event. FSAR Section 15.0.3.1 defines limiting faults as follows:

"Limiting faults - these are occurrences that are not expected to occur but are postulated because their consequences may result in the release of significant amounts of radioactive material. This event is referred to as a "design basis (postulated) accident."

Safety limits are exceeded by design basis accidents. The acceptance criteria for design basis accidents is defined in FSAR Section 15.0.3.1.3. It states:

"The following are considered to be unacceptable safety results for limiting faults (design basis accidents):

1. Radioactive material release which results in dose consequences that exceed the guideline values of 10CFR100.

2. Failure of fuel cladding which would cause changes in core geometry such that core cooling would be inhibited.

3. Nuclear system stresses in excess of those allowed for the accident classification by applicable industry codes.

4. Containment stresses in excess of those allowed for the accident classification by applicable industry codes when containment is required.

5. Radiation exposure to plant operations personnel in the main control room in excess of 5 Rem whole body, 30 Rem inhalation, and 75 Rem skin."

Reference 1, Attachment 4, Section 10.1.1 indicates that the MSLB event is not affected by the proposed uprate. The FSAR identifies in Table 15.6-6 that core uncovery occurs for the MSLB. With core uncovery, the Minimum Critical Power Ratio (MCPR) safety limit has been violated (MCPR per the TS 2.1.1 bases is selected so that in the event of an Anticipated Operational Occurrence (AOO), at least 99.9% of the fuel rods in the core would be expected to avoid boiling transition).

Since the Main Steam Line Flow - High function is only credited in a design basis accident event, it is not a variable that protects against violating reactor core safety limits. It is, therefore, not considered a SL-Related function.

NRC Question 3:

For setpoints that *are* determined to be Safety Limit (SL)-Related, the NRC letter to the Nuclear Energy Institute Setpoint Methods Task Force dated September 7, 2005 (ML052500004), describes Setpoint-Related TS (SRTS) that are acceptable to the NRC for instrument settings associated with SL-Related setpoints. Specifically, Part "A" of the enclosure to the letter provides limiting condition for operation notes to be added to the TS, and Part "B" includes a check list of the information to be provided in the TS Bases related to the proposed TS changes.

i. Describe whether and how you plan to implement the SRTS suggested in the September 7 letter. If you do not plan to adopt the suggested SRTS, explain how you will ensure compliance with Title 10CFR50.36 by addressing items 3ii and 3iii, below.

ii. As-Found Setpoint evaluation: Describe how surveillance test results and associated TS limits are used to establish operability of the safety system. Show that this evaluation is consistent with the assumptions and results of the setpoint calculation methodology. Discuss the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be "inoperable" or "operable but degraded." If the criteria for determining operability of the instrument being tested are located in a document other than the TS (e.g., plant test procedure) explain how the requirements of 10 CFR 50.36 are met.

iii. As-Left Setpoint control: Describe the controls employed to ensure that the instrument setpoint is, upon completion of surveillance testing, consistent with the assumptions of the associated analyses. If the controls are located in a document other than the TS (e.g., plant test procedure) explain how the requirements of 10 CFR 50.36 are met.

PPL Response:

Since none of the setpoints that are proposed to be revised are SL- Related as described in Response to NRC Question 2, this question is not applicable and thus no response is provided.

NRC Question 4:

For setpoints that are *not* determined to be SL-Related, describe the measures to be taken to ensure that the associated instrument channel is capable of performing its specified safety functions in accordance with applicable design requirements and associated analyses. Include in your discussion information on the controls you employ to ensure that the as-left trip setting after completion of periodic surveillance is consistent with your setpoint methodology. Also, discuss the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be "inoperable" or "operable but degraded." If the controls are located in a document other than the TS (e.g., plant test procedure), describe how it is ensured that the controls will be implemented.

PPL Response:

The PPL response NRC RAI 3 to NRC Request for additional information contained in Reference 3 describes the PPL measures that ensure the associated instrument channel is capable of performing its specified safety functions in accordance with applicable design requirements and associated analyses. The response also addresses the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be "inoperable" or "operable but degraded" and the document that describes how it is ensured that the controls will be implemented.

The response from Reference 3 is repeated below for convenience.

> "For setpoints that are not determined to be SL-Related, the SSES Setpoint Control Program ensures that the associated instrument channel is capable of performing its specified safety functions in accordance with applicable design requirements and associated analyses.
>
> The Setpoint Control Program at SSES is implemented utilizing engineering process controls, plant procedural controls, and the corrective action process.
>
> As-left trip settings are controlled under the Surveillance and Preventative Maintenance Programs. As-found settings found to be outside acceptable tolerances are controlled through the SSES 10 CFR 50, Appendix B,

Criterion XVI, Corrective Action Program. Operability and Reportability determination are integral to the Corrective Action Program.

The as-found and as-left tolerances specified in calculations are incorporated into appropriate surveillance procedures. The Surveillance Testing Program establishes the administrative controls for Surveillance Testing. Requirements include the following:

- Specifies requirements for preparation and control of surveillance test procedures.
- Specifies the requirement to generate a Condition Report for any failed calibration activity that references a surveillance procedure.

The Maintenance and Calibration of Installed Plant Instrumentation Process controls maintenance and calibration of installed plant instrumentation. This procedure defines the responsibilities and controls for I&C activities affecting installed plant instrumentation and applies to activities associated with testing, calibration, corrective maintenance, and modification.

Calibration corrective action is controlled under this procedure. This procedure requires, "(1) If an instrument is found outside of the as-found tolerance, it shall be calibrated and left within the Final tolerance, and (2) An Action Request (AR) shall be generated for any equipment exceeding as-found tolerances or any other condition considered adverse to quality." The AR is then processed as required by the corrective action process, "Action Request and Condition Report Process".

Process setpoint changes at the SSES are controlled by the Engineering Change Process. Under this process, any setpoint change is an engineering change. This procedure defines a setpoint change as "An Engineering Change to the designed actuation point in process units for a bi-stable or adjustable device, where the value at which the actuation takes place assures design bases requirements are met." Requirements for performing design calculations for setpoints are specified by procedure and design standards.

The Setpoint Calculation Methodology provides requirements for the calculation of certain instrument setpoints, including the consideration of instrument and instrument calibration uncertainties, to ensure compliance with applicable guides and standards as specified in the SSES Final Safety Analysis Report (FSAR). Specifically, FSAR 3.13, Instrument Spans and Setpoints, states that the plant design meets the provisions of Reg. Guide 1.105, Revision 1, November 1976, with exceptions as noted in that Section. This Design Standard provides a discussion of the instrument setpoint methodologies of General Electric and the Instrument Society of America (ISA). Use of the GE Setpoint Methodology is

required unless deviation from that methodology is specifically justified. Among the concepts discussed in this required standard are: accuracy and its constituents, Allowable Value, Analytic Limits, "As-Found" Tolerance, "As-Left" Tolerance, Calibration Accuracy, Design Drift, Design Limit, Design Tolerance, Design Value, Device Setpoint, Drift, Instrument Accuracy, Instrument Loop Accuracy, Process Setpoint, Safety Limit, and Trip Setpoint.

Use of the GE Setpoint Methodology ensures that applicable uncertainties, specifically including As-Left and As-Found tolerances, are accounted for and applied appropriately (random vs. bias error, etc.)."

NRC Question 5:

PPL has requested that the local power range monitor calibration interval be increased from 1000 MWD/MT to 2000 MWD/MT. Describe expected changes in accuracy between calibrations including changes due to higher neutron flux and longer duration of calibration which is likely to cause higher drift between calibrations. Address any thermal margin changes in core monitoring due to changes in uncertainty.

PPL Response:

AREVA NP has identified an instrument uncertainty associated with the LPRM detector. For calibration intervals of 1000 MWD/MTU, the value of this uncertainty is 3.4%. The uncertainty increases to 4.3% for calibration intervals of 2000 MWD/MTU due to the longer exposure period. This uncertainty is only one component of the overall measured radial assembly power uncertainty that is used in determining the safety limit. The methodology for determining the measured radial assembly power uncertainty is described in the topical report EMF-2158(P)(A). The higher neutron flux level is not a significant component of LPRM accuracy since the values are normalized for use in the thermal limits calculation. The safety limit analysis performed for the EPU conditions used the higher value of LPRM detector uncertainty in order to support the longer calibration interval.

NRC Question 6:

Main steam flow increased from 14.437 Mb/hr to 16.532 Mb/hr. The previous setpoint was 121 psid and the new suggested setpoint is 179 psid. The revised setpoint appears to be too high as compared to the calculated setpoint for the increase in flow. Provide additional justification for the setpoint change and applicable sample calculations as identified under Item 1 above. In addition, since the restriction of reducing power when the leading edge flow meter is not available has been removed, explain how the higher inaccuracy has been accounted for in the setpoint calculation.

PPL Response:

The revised setpoint is determined based on equations I-5-37 (flow element differential head equation) and I-5-26 (expansion factor equation) of ASME Fluid Meters. These equations are used to calculate the differential pressure across the steam line flow elements.

The equations and terms are:

Equation I-5-37:

$$m(lb_m / hr) = 358.93\left(\frac{CYd^2F_a}{\sqrt{1-\beta^4}}\right)\sqrt{\rho_1 h_w}$$

Where:
C = Coefficient of Discharge
Y = Expansion factor (See Equation I-5-26 below)
F_a = Thermal Expansion Factor
ß = d/D - ratio of diameters
d = Diameter of Primary Element Throat
D = Diameter of Pipe at upstream Section
ρ_1 = Density of Fluid at upstream Section
h_w = Effective differential pressure

Equation I-5-26:

$$Y = \left[r^{\frac{2}{\gamma}} \left(\frac{\gamma}{\gamma-1}\right)\left(\frac{1-r^{\frac{\gamma-1}{\gamma}}}{1-r}\right)\left(\frac{1-\beta^4}{1-\beta^4 r^{\frac{2}{\gamma}}}\right)\right]^{\frac{1}{2}}$$

Where:
$r = p_2/p_1$ – ratio of pressures
$\gamma = c_p/c_v$ - Ratio of specific heats of an ideal gas

As can be seen from these equations, the use of the flow squared function for calculating differential pressures across the steam line flow elements for different flows is not accurate because of the expansion factor (Y) in the flow element differential head equation I-5-37. The adiabatic expansion factor is a product of the pressure ratio, or the ratio of the upstream pressure minus the differential pressure divided by the upstream pressure, along with other constants. The net result is that the expansion factor changes as the MSL flow changes. Thus, the flow element differential pressure cannot be accurately estimated by using the flow squared function.

The calculation for the Main Steam Line High function setpoints is provided in Attachment 4 as described in response to question 1.

Inaccuracy in the power level is not accounted for in the setpoint methodology. Per 10CFR50 Appendix K, any inaccuracy in power level is accounted for in the accident analyses. The accident analyses are performed at an initial power level of 102% of CPPU licensed power level. The MSLB transient analysis was not performed for EPU because it is bounded by the LOCA analysis that was performed at an initial power level of 102%.

NRC Question 7:

Average Power Range Monitors (APRM) flow biased simulated thermal power based scram setpoint for allowable values are being changed due to CPPU in TS Table 3.3.1-1, Function 2.b as well as Note b. The NRC Staff notes that the basis for this change may be addressed, in part, by the Bases changes associated with the APRM/Rod Block Monitor/TSs/Maximum Load Line Limit Analysis implementation. However, please provide the basis and any additional justification (i.e., sample calculations) for this setpoint change specific to the proposed CPPU.

PPL Response:

Section 5.3.3 of Reference 1 Attachment 4 provides an explanation of the basis for the change in the APRM Simulated Thermal Power based scram Analytical limit (AL). As described in Section 5.3.3, the GE setpoint methodology adjusts the Allowable Values and Nominal Trip Setpoints by the same difference as the changes in the ALs. This allows the current license basis to be maintained through the application of the same uncertainties in the same manner as previous setpoint evaluations.

For the AV's specified in the Technical Specification, [[

]]

The intercept term in the setpoint equation changes from 64.2% to 60.7% because of the change in slope and minimum allowable core flow at the 100% CPPU power level. The CPPU APRM flow biased scram AL intercept is calculated such [[

]]

118% (PUSAR Table 5-1). The APRM flow biased equation is a function of drive flow in percent of rated drive flow. At the minimum allowable core flow of 99 Mlb/hr (PUSAR Figure 1-1, Point D), the drive flow is approximately 99%. Thus, the intercept is solved as follows.

[[ ]]

or

Intercept = [[ ]]

The intercept for the APRM flow biased AL for CLTP is 67. The difference between the AL intercepts of 67 and 63.5 is 3.5, which is used to determine the difference in the AV intercepts between CLTP and CPPU. Subtracting 3.5 from the CLTP AV intercept of 64.2% (PUSAR Table 5-1) yields the CPPU AV intercept of 60.7% (PUSAR Table 5-1).

Attachment 3 to PLA-6204
General Electric Company Affidavit

General Electric Company

AFFIDAVIT

I, George B. Stramback, state as follows:

(1) I am Manager, Regulatory Services, 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 1 to GE letter GE-SSES-AEP-324, Larry King (GE) to Mike Gorski (PPL), *GE Proprietary Review of PPL Letter PLA-6204,* dated May 24, 2007. The proprietary information in the Enclosure 1, which is entitled *GE Proprietary Review of PPL Letter PLA-6204*, is delineated by a [[dotted underline inside double square brackets.{3}]] Figures and large equation objects are identified with double square brackets before and after the object. In each case, the sidebars and the superscript notation{3} 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, 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 2.390(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 information about the results of analytical models, methods and processes, including computer codes, which GE has developed, obtained NRC approval of, and applied to perform evaluations of loss-of-coolant accident events in the GE Boiling Water Reactor ("BWR"). The development and approval of the BWR loss-of-coolant accident analysis computer codes was achieved at a significant cost to GE, on the order of several million dollars.

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 GE asset.

(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 24th day of May 2007.

George B. Stramback
General Electric Company