



Westinghouse
Electric Corporation

Energy Systems

Box 355
Pittsburgh Pennsylvania 15230-0355

January 18, 1993
CAW-93-399

Document Control Desk
US Nuclear Regulatory Commission
Washington, DC 20555

Attention: Dr. Thomas Murley, Director

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: WCAP-13376, Rev. 2 "Bypass Test Instrumentation for the Vogtle Electric Generating Plant
Units 1 and 2" (Proprietary)

Dear Dr. Murley:

The proprietary information for which withholding is being requested in the above-referenced letter is further identified in Affidavit CAW-93-399 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 10 CFR Section 2.790 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Georgia Power Company.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-93-399, and should be addressed to the undersigned.

Very truly yours,

N. J. Liparulo, Manager
Nuclear Safety & Regulatory Activities

/cld
Enclosures

cc: M. P. Siemien, Esq.
Office of the General Counsel, NRC

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CLD029 JMB/011493

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

COUNTY OF ALLEGHENY:

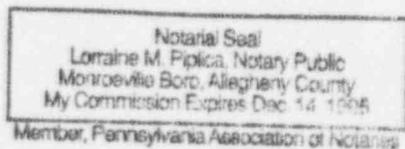
Before me, the undersigned authority, personally appeared Peter J. Morris, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Corporation ("Westinghouse") and that the averments of fact set forth in this Affidavit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

Peter J. Morris

Peter J. Morris, Manager
Strategic Safety and Regulatory Issues

Sworn to and subscribed
before me this 18th day
of January, 1993

Lorraine M. Pipica
Notary Public



- (1) I am Manager, Strategic Safety and Regulatory Issues, in the Nuclear and Advanced Technology Division, of the 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 and rulemaking proceedings, and am authorized to apply for its withholding on behalf of the Westinghouse Energy Systems Business Unit.
- (2) I am making this Affidavit in conformance with the provisions of 10CFR 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 the Westinghouse Energy Systems Business Unit 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.

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 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 10CFR Section 2.790, 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 "Bypass Test Instrumentation for the Vogtle Electric Generating Plant Units 1 & 2", WCAP-13376 Rev. 2 (Proprietary), June, 1992 for Plant Vogtle, being transmitted by the Georgia Power Company (GPC) letter and Application for Withholding Proprietary Information from Public Disclosure, GPC to NRC Document Control Desk. The proprietary information as submitted for use by Georgia Power Company for the Vogtle units is expected to be applicable in other licensee submittals in response to certain NRC requirements for justification of the capability to perform channel surveillance testing while in bypass.

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

- (a) Identify the regulatory and industry criteria applicable to the test in bypass function.
- (b) Present an assessment of these criteria against the test in bypass hardware design to demonstrate its acceptability.
- (c) Assist the customer to obtain NRC approval.

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 demonstrating that regulatory and industry criteria are met by the bypass test instrumentation design.
- (b) Westinghouse can sell support and defense of this technology to its customers in the licensing process.

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 design evaluation, justification 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 for the design and design assessment of bypass testing hardware.

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 2.790 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 (g) contained within parentheses 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)(g) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.790(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 2.790 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. The NRC is not authorized to make copies for the personal use of members of the public who make use of the NRC public document rooms. 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 1

VOGTLE ELECTRIC GENERATING PLANT
PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS
3/4.3.1 and 3/4.3.2

BASIS FOR PROPOSED CHANGES

PROPOSED CHANGES:

The proposed revisions to TS 3/4.3.1 include:

- (i) Removal of the requirement to perform the RTS analog channel operational test on a staggered basis from table 4.3-1 (Note 17).
- (ii) Addition of a new Action to allow 6 hours to restore an inoperable channel to Operable status before requiring shutdown to Hot Standby within the next 6 hours and to allow surveillance testing, provided the other channel is Operable (Action 7).
- (iii) Removal of table notations g and 18 and appropriate references from tables 3.3-1 and 4.3-1 indicating that the ESFAS Actions are more restrictive and, therefore applicable.
- (iv) Changes to Action statements to allow for "test in bypass" (Actions 2 and 6).
- (v) Retention of the current Action 6 as Action 9 for the reactor coolant pump undervoltage and underfrequency trip functions.
- (vi) Addition of table notation f to identify those instrument functional units which have "test in bypass" capability.

The proposed revisions to TS 3/4.3.2 include:

- (i) Increase in STIs for ESFAS analog channel operational tests from once per month to once per quarter (Functional Units 1.c, 1.d, 1.e, 2.c, 4.c, 4.d, 4.e, 5.c, 6.b, 6.d, and 9.a).
- (ii) Increase in the time that an inoperable ESFAS channel may be maintained in an untripped condition from 1 hour to 6 hours (Action 20 and new Action 29).
- (iii) Removal of current Action 15 which is no longer used. Functional Units which used current Action 15 are now applied to other Actions. Note that a new Action 15 has been created (see item iv) since that number was no longer used.
- (iv) Increase in the time that an inoperable ESFAS channel may be bypassed to allow testing of another channel in the same function from 2 hours to 4 hours (Actions 14, 17, 20, 22, and 25). New Actions 15 and 29 have been created since the semi-automatic switchover to containment emergency sump function's AOT and the loss of power to the 4.16 kv ESF bus, for a channel to be bypassed during surveillance testing, were kept at 2 hours.

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BASIS FOR PROPOSED CHANGES

- (v) Revision to Actions 14, 22, and 25 to allow 6 hours to restore an inoperable Channel to Operable status before requiring shutdown to Hot Standby within the next 6 hours.
- (vi) Changes to Action statement 20 to allow for "test in bypass".
- (vii) Addition of new Action 29 to allow Startup and/or Power Operation to proceed when the number of Operable channels is one less than the Total Number of Channels provided certain conditions are met.
- (viii) Removal of table notation d and appropriate references to establish consistency with previous GPC submittal regarding implementation of Generic Letter 87-09 dated May 27, 1992.
- (ix) Addition of table notation "##" to identify those instrument functional units which have "test in bypass" capability.
- (x) Administratively increasing each Action Statement number 29 and higher in tables 3.3-4 and 3.3-8 so that each Action Statement number would continue to be unique.

Proposed revisions to the bases for TS 3/4.3.1 and 3/4.3.2 are also included. The detailed technical discussions on the above revisions have been separated into two subject areas. The first subject deals with those revisions generically approved by the NRC under WCAP-10271 while the second subject involves those revisions to be implemented to allow VEGP to implement a routine "test in bypass" surveillance program.

BASIS FOR PROPOSED CHANGE ASSOCIATED WITH WCAP-10271:

In response to growing concerns related to the impact of current testing and maintenance requirements on plant operation, particularly as related to instrumentation systems, the Westinghouse Owners' Group (WOG) initiated a program to develop a justification to be used to revise generic and plant specific instrumentation TS. Operating plants have experienced many inadvertent safeguards actuations during performance of instrumentation surveillance, causing unnecessary transients and challenges to safety systems. Significant time and effort on the part of the operating staff is devoted to performing, reviewing, documenting, and tracking the various surveillance activities, which in many instances, are unwarranted based on the high reliability of the equipment. Significant benefits for operating plants can be achieved through revision of instrumentation test and maintenance requirements. As a result of these concerns and the potential benefits, analyses were performed which demonstrated that relaxations in

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such items as STIs and AOTs were achievable without compromising plant safety. The initial issue of WCAP-10271 and its Supplement 1 addressed the potential relaxations for the RTS while later supplements addressed the potential relaxations for the ESFAS. The NRC issued the Safety Evaluation Report (SER) for WCAP-10271 and Supplement 1 in their letter dated February 21, 1985. This SER approved quarterly testing, 6 hours to place a failed channel in a tripped mode, increased AOTs for test, and testing in bypass for analog channels of the RTS. The quarterly testing had to be conducted on a staggered basis.

The NRC issued the SER for WCAP-10271 Supplement 2 and Supplement 2, Revision 1 in their letter dated February 22, 1989. This SER approved quarterly testing, 6 hours to place a failed channel in a tripped mode, increased AOTs for test, and testing in bypass for analog channels of the ESFAS. The ESFAS functions approved in the SER were those presented in Appendix A1 of the referenced WCAPs. These functions are all included in the Westinghouse Standard Technical Specifications. Additionally, with the NRC approval of these ESFAS relaxations, the NRC Staff concluded that a staggered test strategy need not be implemented for ESFAS analog channel testing and need no longer be required for RTS analog channel testing. This conclusion was based on the small relative contribution of the analog channels to RTS/ESFAS unavailability, process parameter signal diversity, and normal operational testing sequencing.

In their letter dated April 30, 1990, the NRC issued the Supplemental SER (SSER) for WCAP-10271 Supplement 2 and Supplement 2, Revision 1. This SSER approved STI and AOT extensions for the ESFAS functions which were included in Appendix A2 of WCAP-10271, Supplement 2, Revision 1. The functions approved are associated with the safety injection, steam line isolation, main feedwater isolation, and auxiliary feedwater pump start signals. The configurations contained in Appendix A2 are those that are not contained in the Westinghouse Standard Technical Specifications but may be included in specific plant designs.

In WCAP-10271 and its supplements, the WOG evaluated the impact of the proposed STI and AOT changes on core damage frequency (CDF) and public risk. The NRC Staff concluded with the issuance of the SERs and SSER that an overall upper bound of the CDF increase, due to the proposed STI/AOT changes, is less than 6 percent for Westinghouse PWRs. The NRC Staff also concluded that actual CDF increases for individual plants are expected to be substantially less than 6 percent. The NRC Staff considered this CDF increase to be small compared to the range of uncertainty in the CDF analyses and therefore acceptable.

With the issuance of the second SER and its associated SSER, the relaxations for the analog channels of the RTS and ESFAS are now the same and the special conditions which were applied to shared analog channels of the RTS in the VEGP TS are no longer applicable.

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BASIS FOR PROPOSED CHANGES

"Loss of or Degraded 4.16 kV ESF Bus Voltage" to initiate the auxiliary feedwater system (Functional Unit 6d in technical specifications table 3.3-2) is not explicitly identified in WCAP-10271 or its supplements. However, WCAP-10271 did analyze auxiliary feedwater pump start for reactor coolant pump bus undervoltage. The WCAP-10271 analyses for initiation of the auxiliary feedwater pumps only analyzed that for an undervoltage initiation, not from which bus it occurred. Instrument logics of two out of three and one out of two taken twice were addressed. Since the VEGP instrument logics for this function presented in Technical Specifications table 3.3-2 are two out of four and therefore more conservative than those instrument logics analyzed in the WCAP, GPC has determined that this functional unit is enveloped by the WCAP analyses.

RESPONSES TO CONDITIONS IMPOSED IN NRC'S SERS AND SSER:

The proposed changes are consistent with the NRC Staff's letters dated February 21, 1985, February 22, 1989, and April 30, 1990, to the Westinghouse Owners Group regarding the evaluation of WCAP-10271; WCAP-10271, Supplement 1; WCAP-10271, Supplement 2; and WCAP-10271, Supplement 2, Revision 1. The Staff has stated that approval of these changes is contingent upon confirmation that certain conditions are met. Several of these conditions were only applied to the RTS instrumentation in the NRC's SER on WCAP-10271 and the corresponding Supplement 1, although they might equally apply to the ESFAS instrumentation. Where appropriate, GPC has applied those conditions to the ESFAS instrumentation. Following is the response to these conditions as provided by GPC:

RTS SER Conditions (February 21, 1985)

1. SER Condition - The RTS SER required the use of a staggered test plan for the RTS channels change that were to receive analog channel operational testing (ACOT) on a quarterly basis as opposed to monthly. In the ESFAS SER, this requirement was removed for these RTS channels.

GPC Response - The provisions for the RTS channels were issued with the original issuance of the TS for VEGP. Therefore this submittal includes changes to delete the use of the staggered test plan for the RTS channels.
2. SER Condition - The RTS SER required implementation of plant procedures that identify and evaluate common cause failures in those channels whose ACOT frequency was revised from monthly to quarterly and specify additional testing for plausible common cause failures.

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GPC Response - GPC will evaluate the RTS components included in original WCAP-10271 implementation for common cause failures as required. Prior to approval of the proposed TS revision, GPC will implement enhancements to existing procedures and procedural steps to evaluate ESFAS failures for common cause with the WOG position given in Section 3.2 of the "Westinghouse Owners Group Guidelines for Preparing Submittals Requesting Revisions of Reactor Protection System Technical Specifications, Revision 1" dated August 1990.

3. SER Condition - The NRC Staff stated in the RTS SER that the approval of items that extend STIs and AOTs apply only to the RTS function for channels which provide dual inputs to other safety related systems such as ESFAS.

GPC Response - The ESFAS SER has been issued. The extensions approved for the ESFAS analog channels are the same as the RTS so that this SER Condition is no longer applicable. This submittal contains revisions to delete the notations in the RTS specifications which indicate that the ESFAS Action statements may be more restrictive.

4. SER Condition - The NRC Staff stated in the RTS SER that approval of channel testing in a bypassed condition is contingent on the capability of the RTS design to allow such testing without lifting leads or installing temporary jumpers.

GPC Response - Routine testing in the bypass mode of certain Technical Specifications instruments will be accomplished with plant modifications which will allow ESFAS and RTS testing in bypass to be performed routinely without the use of temporary jumpers or by lifting leads. These instruments (with the exception of the Reactor coolant pump undervoltage and underfrequency trip functions which are not being proposed for "test in bypass" as a part of this submittal) are defined in WCAP-13376, Revision 2, tables 1, 2, and 3. A detailed discussion of the bypass test instrumentation can be found in this submittal under the proposed changes associated with test in bypass.

5. SER Condition - The NRC Staff stated in the RTS SER that acceptance was contingent on confirmation that the instrument setpoint methodology include sufficient margin to offset the drift anticipated as a result of less frequent surveillance.

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GPC Response - This SER condition is not applicable to this submittal in that the RTS surveillances are not being revised by this submittal.

ESFAS SER and SSER (February 22, 1989 and April 30, 1990)

1. SER Condition - The NRC Staff stated in the ESFAS SER that the licensee must confirm the applicability of the generic analyses to the plant.

GPC Response - The generic analyses used in WCAP-10271 and its supplements are applicable to VEGP except for the operational tests of the input relays which is discussed later in this submittal. The Westinghouse 7300 Process Control System and the Westinghouse Solid State Protection System (SSPS) are used by VEGP for both the ESFAS and the RTS. Both of these systems were specifically modeled in the generic analyses. The ESFAS Functional Units whose testing frequencies and AOTs are proposed to be revised for VEGP are all addressed by the generic analyses.

2. SER Condition - The NRC Staff stated in the ESFAS SER that the licensee must confirm that any increase in instrument drift due to the extended STIs is properly accounted for in the setpoint calculation methodology.

GPC Response - Setpoint drift has been evaluated in accordance with the WOG position given in Section 3.5 of the "Westinghouse Owners Group Guidelines for Preparing Submittals Requesting Revisions of Reactor Protection System Technical Specifications, Revision 1" dated August 1990. Based on a review of "as-found" and "as-left" data over a 12-month period, there is sufficient margin in the setpoint methodology to accommodate the change in STIs from monthly to quarterly.

BASIS FOR PROPOSED CHANGE ASSOCIATED WITH TEST IN BYPASS:

Routine testing in the bypass mode will be accomplished with plant modifications which will allow routine ESFAS and RTS testing in bypass to be performed without the use of temporary jumpers or by lifting leads. A detailed discussion of the bypass test instrumentation can be found in enclosure 4 which is WCAP-13376, Revision 2. Since this WCAP contains Westinghouse proprietary information, it is requested that it be withheld from the public document room. A Westinghouse proprietary affidavit along with other supporting information is provided in enclosure 6. The non-proprietary version of this WCAP (WCAP-13377, Revision 2) can be found in enclosure 5.

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BASIS FOR PROPOSED CHANGES

The RTS and ESFAS utilize 2-out-of-3 and 2-out-of-4 coincidence logic from redundant channels to initiate protective actions. Within these systems, analog channel comparators, with the exceptions of nuclear instrumentation system (NIS) 1-out-of-2 functions, are currently placed in the tripped state for channel testing or in response to a channel being out of service. With an inoperable channel in the tripped state, a redundant channel cannot be maintained or tested without causing a reactor trip or safeguards actuation. For example, with a channel in the tripped condition, a second comparator trip in a redundant channel caused by human error, a spurious transient, or channel failure would initiate a reactor trip or safeguards actuation. The exception to this is the 1-out-of-2 NIS channels that are permitted to violate the single failure criteria during channel bypass.

The bypass test instrumentation (BTI) program will introduce bypass circuitry for NIS reactor trip functions, 7300 Process Protection System reactor trip functions, ESF functions, and turbine runback functions. With the implementation of the BTI, the spurious reactor trip or safeguards actuation will be avoided since the partial trip condition that would have been present is eliminated, and the coincidence logic is maintained as requiring signals from two additional channels to actuate the protective function. This provides the benefits of reducing the challenges to the plant safety systems which may result from spurious actuations and thus potentially increasing plant availability. Administrative controls will be provided to prevent the simultaneous bypassing of more than one redundant protection set at any one time.

In order to implement the bypass testing capability, it is necessary for the VEGP units to modify TS tables 3.3-1, "Reactor Trip System" and 3.3-2, "Engineered Safety Features Actuation System Instrumentation" to provide for the "test in bypass" feature. The modifications amount to clarifications in Actions which delineate the capability to perform surveillance testing while in bypass for the specified functions and to table notations to identify the specific functional units with "test in bypass" capability. No modifications to setpoint actuations or channel response which would affect the safety analyses are associated with this change.

Hardware modifications will be made to install a NIS bypass panel, a 7300 Process Protection NSSS bypass panel, and a 7300 Process Protection BOP bypass panel. Each panel is designed to perform the same function, which is to enable the channel to be tested while still not tripping the channel. The bypass panels perform this function by imposing a signal either in parallel or in series with the channel output and thus keeping the SSPS in an untripped condition. Both control room and local status indication for each channel is provided.

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BASIS FOR PROPOSED CHANGES

The attached WCAPs reference the installation of a reactor coolant pump bypass panel also. Since this panel provides the "test in bypass" feature for the reactor coolant pump undervoltage and underfrequency trip functions (trip functions for which GPC has elected to not implement the "test in bypass" feature within the VEGP design), GPC will not be installing this panel in this modification. Accordingly, the current Actions in Technical Specifications for these trip functions will remain.

Each of the panels will be mounted in instrumentation racks. Qualification of the panels installed in Class 1E instrumentation racks has been demonstrated by a test program which subjected the equipment to multi-axis, multi-frequency inputs. This test program showed that installation of the bypass panels does not adversely affect the seismic qualification of the racks, and that the panels are able to withstand the required seismic levels associated with the VEGP site while maintaining structural integrity and electrical continuity.

In accordance with the surveillance provisions of the technical specifications, periodic analog channel operational tests (ACOTs) will be performed. The ACOT will include adjustments, as necessary, of the alarm, interlock and/or trip setpoints such that the setpoints are within the required range and accuracy. However, with regulatory approval of the Technical Specifications changes associated with the test in bypass modification, the ACOT may be performed in a bypass condition. It is implicit that the SSPS input relay will not be cycled, which would result in a partial trip of the plant. During the channel calibration, a test of the entire protection channel including trip functions will be performed. This channel calibration test will verify operability of the solid state protection system input relays and provide assurance that there are no failures with the test in bypass circuitry which would prevent the actuation of a required trip function once the bypass condition is removed. The ACOT will continue to include adjustments, as necessary, of the alarm, interlock, and/or trip setpoints such that the setpoints are within the required range and accuracy.

The WCAP-10271 analyses did assume that the input relays would be tested as part of the ACOT on a quarterly basis. As the input relays are normally energized, most relay failures will result in an alarm/annunciation being generated. The ACOT is used only to detect failures that are not self-annunciating. Failures which do not result in an alarm being generated are extremely improbable (e.g. a failure where the relay de-energizes and the relay contacts to the annunciator fail to close.) In addition, the failure of any one input relay would not violate single failure for the function since two logic cabinets are used in the design. For a two out of three trip function design, four failures would be required to cause a loss of function. With one failure of this input relay being extremely improbable,

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multiple failures of the annunciator contacts failing to close for this device during an eighteen month surveillance interval is even less probable. Therefore, it is acceptable for these relays to not be tested as part of the ACOT but as part of the channel calibration on an eighteen month frequency.

The design of each panel has also addressed these additional considerations:

- FAULT CONDITIONS - Prevention of fault conditions (overcurrent or overvoltage) from damaging the bypass panels is accomplished by utilization of circuit breakers and fuses with fuse status indication. Downstream fault propagation is prevented by protection set separation such that a single nonprotection system fault would not cause a problem in redundant channels. Class 1E circuits are isolated from non-Class 1E circuits by qualified isolators.
- FAILURE DETECTION - Credible failure scenarios have been defined and a detection scenario for each has been identified.
- RELIABILITY - The bypass test instrumentation is designed to be consistent with the reliability characteristics necessary to preserve the total integrity of the protection system. The components are mechanical or electromechanical and are reliable for at least 50,000 operations under operating conditions.

These considerations have been specifically addressed in order to demonstrate compliance with the following licensing criteria and industry standards:

10CFR50 APPENDIX A GENERAL DESIGN CRITERIA (GDC)

GDC 2 GDC 19 GDC 20 GDC 21 GDC 22 GDC 24

REGULATORY GUIDES (RG)

RG 1.47 RG 1.53 RG 1.75 RG 1.39 RG 1.100 RG 1.118

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE) STANDARDS

IEEE 279-1971 IEEE 379-1972 IEEE 384-1974 IEEE 344-1975
IEEE 338-1975 IEEE 323-1974

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3/4.3.1 and 3/4.3.2

BASIS FOR PROPOSED CHANGES

Georgia Power Company has prepared two significant hazards evaluations to address the scope of these changes. The first significant hazards evaluation addresses the STI and AOT changes to the ESFAS and RTS instrumentation specifications allowed by WCAP-10271 and its supplements. The second significant hazards evaluation addresses the changes necessary to implement routine "test in bypass" without the use of temporary jumpers and leads.

RELATIONSHIP TO EXISTING TECHNICAL SPECIFICATIONS:

In its May 27, 1992, submittal to the NRC titled "Proposed Changes to Technical Specifications As a Result of Generic Letter 87-09," Georgia Power Company provided TS revisions to the NRC to implement the provisions of Generic Letter 87-09. Among other changes in the package, this submittal modified limiting condition for operation (LCO) 3.0.4 and then deleted many references to LCO 3.0.4 throughout the Technical Specifications. In table 3.3-2, Note d referencing that the "provisions of 3.0.4 are no longer applicable" remained because the need for the note continued with Action 15. With the implementation of this submittal, Action 15 is being deleted, and the instruments which referenced Action 15 are being changed to Action 20. However, the basis for the deletion of Note d for Action 20 (and similarly the New Action 29) is provided in the May 27, 1992 submittal associated with Generic Letter 87-09. Therefore, the need for Note d or its references in table 3.3-2 will no longer be necessary in this submittal if the May 27, 1992, submittal has been previously implemented. Accordingly, since Georgia Power Company anticipates approval of its May 27, 1992, submittal prior to the approval of this submittal, Note d has been deleted from those Action 20 and 29 revisions in this package (Ref: table 3.3-2, functional units 1.c, 1.d, 1.e, 4.c, 4.d, 4.e, 5b, 8.a, and 8.b) and Note d has been shown deleted in the marked-up pages of this submittal. The clouded areas of the mark-up indicate these locations in this submittal where the previous submittal would not have included the changes. Other references to Note d currently shown in table 3.3-2 which were not changed by this submittal will be deleted upon approval of the May 27, 1992, submittal.

ENCLOSURE 2

VOGTLE ELECTRIC GENERATING PLANT
PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS
3/4.3.1 and 3/4.3.2

10 CFR 50.92 EVALUATIONS

Pursuant to 10 CFR 50.92, each application for amendment to an operating license must be reviewed to determine if the proposed changes involve a significant hazards consideration. This proposed TS amendment, which involves changes to incorporate the relaxations for AOTs and STIs of the ESFAS contained in WCAP-10271 and to incorporate the routine test in bypass for system channels in the 7300 Process Protection System and nuclear instrumentation system, has been reviewed and deemed not to involve significant hazards considerations. The basis for these determinations is presented below.

SIGNIFICANT HAZARDS EVALUATION REGARDING WCAP-10271:

Georgia Power Company has reviewed the requirements of 10 CFR 50.92 as they relate to the identified proposed changes to the TS regarding WCAP-10271 and considers these changes not to involve a significant hazards consideration. In support of this conclusion, the following analysis is provided:

- (1) The proposed changes will not involve a significant increase in the probability or consequences of an accident previously evaluated. The determination that the result of the proposed changes are within all acceptable criteria has been established in the SERs prepared for WCAP-10271, WCAP-10271 Supplement 1, WCAP-10271 Supplement 2 and WCAP-10271 Supplement 2, Revision 1. Implementation of the proposed changes results in a slight increase in the postulated instrumentation yearly unavailability. This slight increase, which is primarily due to less frequent surveillance, results in a slight increase in core damage frequency (CDF) and public health risk. The values determined by the WOG and presented in the WCAP for the increase in CDF were verified by Brookhaven National Laboratory (BNL) as part of an audit and sensitivity analyses for the NRC Staff. Based on the small value of the increase compared to the range of uncertainty in the CDF, the increase is considered acceptable. The proposed changes do not result in an increase in the severity or consequences of an accident previously evaluated. Implementation of the proposed changes may affect the probability of failure of the RTS, but does not alter the manner in which protection is afforded nor the manner in which limiting criteria are established.
- (2) The proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes do not result in a change in the manner in which the RTS/ESFAS provides plant protection or the manner in which surveillances are performed to demonstrate operability. Therefore, a new or different kind of accident will not occur as a result of these changes.

ENCLOSURE 2

VOGTLE ELECTRIC GENERATING PLANT
PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS
3/4.3.1 and 3/4.3.2

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- (3) The proposed changes do not involve a significant reduction in a margin of safety. The proposed changes do not alter the manner in which safety limits, limiting safety system setpoints or limiting conditions for operation are determined. The impact of reduced testing, other than as addressed above, is to allow a longer time interval over which instrument uncertainties (e.g., drift) may act. Evaluations have been performed to assure that the plant setpoints properly account for these instrument uncertainties over the longer time interval.

Implementation of the proposed changes is expected to result in an overall improvement in safety as follows:

- a. Less frequent testing will result in fewer inadvertent actuations of ESFAS components.
- b. Longer AOTs provide for better assessment of problems and easier repairs ultimately resulting in better equipment performance.
- c. Less frequent distraction of the operator and shift supervisor to attend to and support instrumentation testing will improve the effectiveness of the operating staff in monitoring and controlling plant operation.

SIGNIFICANT HAZARDS EVALUATION REGARDING "TEST IN BYPASS":

Georgia Power Company has reviewed the requirements of 10 CFR 50.92 as they relate to the identified proposed changes to the TS involving routine test in bypass and considers these changes not to involve a significant hazards consideration. In support of this conclusion, the following analysis is provided:

- (1) The bypass testing capability does not involve a significant increase in the probability or consequences of an accident previously evaluated. Surveillance testing in the bypass condition will not cause any design or analysis acceptance criteria to be exceeded. The structural and functional integrity of the reactor protection and engineered safety features actuation systems, or any other plant system, is unaffected. Operability of the reactor trip and engineered safety features actuation systems is defined by the TS. These systems are part of the accident mitigation response and do not themselves act as an initiator for any transient. Therefore, the probability of occurrence is not affected.

ENCLOSURE 2

VOGTLE ELECTRIC GENERATING PLANT PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS 3/4.3.1 and 3/4.3.2

10 CFR 50.92 EVALUATIONS

Implementation of the bypass testing capability does not affect the integrity of the fission product barriers utilized for mitigation of radiological dose consequences as a result of an accident. Plant response as modeled in the safety analyses is unaffected. Hence, the offsite mass releases used as input to the dose calculations are unchanged from those previously assumed. Therefore, the offsite dose predictions remain within the acceptance criteria for each of the transients affected. Since it has been determined that the transient results are unaffected by surveillance testing in bypass, it is concluded that the consequences of an accident previously evaluated are not increased.

- (2) Implementation of the bypass test capability does not create the possibility of a new or different kind of accident from any accident previously evaluated. Surveillance testing in bypass does not affect accident initiation sequences or response scenarios as modeled in the safety analyses. No new operating configuration is being imposed by the surveillance testing in bypass that would create a new failure scenario. In addition, no new failure modes are being created for any plant equipment. Integrity of the bypass test instrumentation has been demonstrated by design conformance to applicable industry standards, evaluation, and testing for fault condition control, failure detection, reliability, and equipment qualification. Therefore, the types of accidents defined in the Final Safety Analysis Report (FSAR) continue to represent the credible spectrum of events to be analyzed which determine safe plant operation.
- (3) The margin of safety associated with reactor trip and engineered safety features functions is evident by the results of the accident analyses. Results of the safety analyses confirm that the acceptance criteria are met. The required margin of safety regulated for each affected safety analysis is maintained. These conclusions are not affected by performing surveillance testing in bypass. Thereby, the adequacy of the revised TS for bypass testing implementation to maintain the plant in a safe operating range is also confirmed, and this change does not involve a significant reduction in a margin of safety.

CONCLUSION:

Based upon the analyses provided herein, Georgia Power Company has determined that the proposed changes to the TS will not significantly increase the probability or consequences of an accident previously evaluated, create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in a margin of safety. Therefore, Georgia Power Company has determined that the proposed changes meet the requirements of 10 CFR 50.92(c) and do not involve any significant hazards considerations.