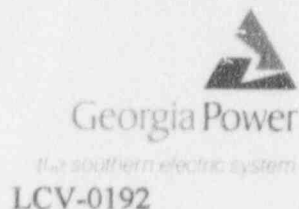


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C. K. McCoy
Vice President, Nuclear
Vogtle Project

March 18, 1994



Docket Nos. 50-424
50-425

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

Gentlemen:

**VOGTLE ELECTRIC GENERATING PLANT
REQUEST TO REVISE TECHNICAL SPECIFICATIONS
ACCIDENT MONITORING INSTRUMENTATION**

In accordance with the provisions of 10 CFR 50.90, Georgia Power Company (GPC) proposes to amend the Vogtle Electric Generating Plant (VEGP) Unit 1 and Unit 2 Technical Specifications (TS), Appendix A to Operating Licenses NPF-68 and NPF-81. The proposed changes would affect TS 3/4.3.3.6, Accident Monitoring Instrumentation, and TS 3/4.6.4.1, Hydrogen Monitors. The proposed changes and their bases are presented in enclosure 1. An evaluation pursuant to 10 CFR 50.92 showing that the proposed changes do not involve significant hazards considerations is provided as enclosure 2, and the proposed changes are provided in the form of marked up pages in enclosure 3. In accordance with 10 CFR 50.91, the designated state official will be sent a copy of this letter and all enclosures.

Mr. C. K. McCoy states that he is a vice president of Georgia Power Company and is authorized to execute this oath on behalf of Georgia Power Company and that, to the best of his knowledge and belief, the facts set forth in this letter and enclosures are true.

GEORGIA POWER COMPANY

BY: C. K. McCoy
C. K. McCoy

Sworn to and subscribed before me this 18th day of March, 1994.

Mary N. Bentley My commission expires: May 6, 1995
Notary Public

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Enclosures:

1. Basis for Proposed Changes
2. 10 CFR 50.92 Evaluation
3. Proposed Technical Specification Changes

xc: Georgia Power Company
Mr. J. B. Beasley, Jr.
Mr. M. Sheibani
NORMS

U. S. Nuclear Regulatory Commission
Mr. S. D. Ebnetter, Regional Administrator
Mr. D. S. Hood, Licensing Project Manager, NRR
Mr. B. R. Bonser, Senior Resident Inspector, Vogtle

State of Georgia
Mr. J. D. Tanner, Commissioner, Department of Natural Resources

ENCLOSURE 1

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

BASIS FOR PROPOSED CHANGES

Proposed Changes

The proposed amendment would revise the existing VEGP Unit 1 and Unit 2 TS 3/4.3.3.6, Accident Monitoring Instrumentation, to incorporate the technical substance of the corresponding specification (LCO 3.3.3) from NUREG-1431, Revision 0, dated September 28, 1992, otherwise known as the improved Standard Technical Specifications (STS) for the Westinghouse Owners Group. Only the technical requirements would be revised; the format would remain consistent with the existing VEGP TS.

The effect of incorporating the substance of STS LCO 3.3.3 would be to first eliminate the column entitled "Total No. of Channels" from VEGP TS table 3.3-8. The column entitled "Minimum Channels Operable" would be replaced by a column entitled "Required Channels," and the required number of channels would be revised from 1 to 2 for all of the instruments specified on table 3.3-8 with the exception of the reactor coolant system T_{hot} (wide range), reactor coolant system T_{cold} (wide range), steam generator water level (wide range), steam line radiation, core exit thermocouples, and containment isolation valve position indication. The required channels for the reactor coolant system T_{hot} (wide range), reactor coolant system T_{cold} (wide range), steam generator water level (wide range), and steam line radiation would remain at one per loop, steam line, or steam generator, as applicable. The required channels for the core exit thermocouples would remain at two per quadrant per train, and the required channels for containment isolation valve position indication would remain at one per valve.

At VEGP, reactor coolant system T_{hot} (wide range), reactor coolant system T_{cold} (wide range), steam generator water level (wide range), and the steam line radiation are monitored by one channel per loop, steam generator, or steam line (as applicable), but the improved STS are written primarily for parameters that are monitored by redundant instrumentation. In the event that one of the required channels is inoperable, the improved STS require the inoperable channel to be restored to operable status within 30 days or a special report must be submitted to the NRC within the next 14 days which, among other things, must provide the plan for restoring the inoperable channel to operable status. A plant shutdown is not warranted based on the fact that the redundant channel remains available to provide the necessary indication and the passive nature of the instrument (no critical automatic action is initiated from this instrumentation). However, this logic is not supported where only one channel is provided. This is an aspect of the improved STS that was discussed with the NRC at the lead plant implementation meeting in Orlando, Florida, on May 20, 1993, and it was concluded that the issue should be resolved on a plant specific basis. Therefore, the VEGP plant specific solution is to specify a diverse variable for each of these parameters and require operability of at least one channel per loop, steam generator, or steam line (as applicable) of the diverse variable in addition to the required channel for the primary variable (except for the core exit thermocouples (CETs), where one channel would consist of two

ENCLOSURE 1 (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

BASIS FOR PROPOSED CHANGES

CETs per quadrant). The proposed change would modify table 3.3-8 consistent with the preceding discussion.

Under the existing TS, action requirements are based on the **total** number of channels and a **minimum channels operable** requirement. For example, the total number of channels for pressurizer level is three with a minimum channels operable requirement of one. Existing action statement 31, which is applied to the pressurizer level, steam line pressure, and core exit thermocouple instrumentation, allows operation for up to 31 days with one less than the total number of channels operable; otherwise, the unit must be in at least hot shutdown within the next 12 hours. With two less than the total number of channels operable, at least one of the inoperable channels must be restored to operable status within 7 days or the unit must be in at least hot shutdown within the next 12 hours. With less than the minimum channels operable, at least one of the inoperable channels must be restored to operable status within 48 hours or the unit must be in at least hot shutdown within the next 12 hours.

Under the proposed change, existing action statement 31 would be replaced by new action statement 31. The new action requirements are based on the number of **required channels** operable rather than the total number of channels and a minimum channels operable requirement. As stated above, the required number of operable channels for pressurizer level will be two. With one required pressurizer level channel inoperable, new action statement 31 would require the inoperable channel to be restored to operable status within 30 days, or a special report must be submitted within 14 days which describes the actions taken (including any preplanned alternate methods of monitoring), the cause of the inoperability, and the plans and schedule for restoring the inoperable channel to operable status. With no channels operable, at least one channel must be restored to operable status within 7 days or the unit must be in hot shutdown within the next 12 hours.

Existing action statement 32 is applied to the containment normal sumps level (narrow range), containment water level (wide range), condensate storage tank level, auxiliary feedwater flow, reactor coolant system subcooling, neutron flux (extended range), and containment pressure (extended range) instrumentation. Existing action statement 32 provides for operation for up to 7 days with one less than the total number of channels operable; otherwise, the unit must be in at least hot shutdown within the next 12 hours. With the number of operable channels less than the minimum channels operable requirement, at least one channel must be restored to operable status within 48 hours or the unit must be in at least hot shutdown within the next 12 hours. Under the proposed change, new action statement 31 (as discussed above) will replace existing action statement 32.

Existing action statement 32 is also applied to the reactor vessel level instrumentation system (RVLIS). Under the proposed change, new action statement 34 would replace existing action

ENCLOSURE 1 (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

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statement 32 as applied to the RVLIS. New action statement 34 requires one inoperable channel to be restored to operable status within 30 days or a special report must be submitted to the NRC within 14 days outlining the actions taken (including the preplanned alternate method of monitoring), the cause of the inoperability, and the plans and schedule for restoring the inoperable channel to operable status. With two required channels inoperable, at least one channel must be restored to operable status within 7 days or a special report must be submitted within 14 days as described above.

Existing action statement 34 is applied to the reactor coolant system T_{hot} (wide range), reactor coolant system T_{cold} (wide range), and steam generator water level (wide range). In each case, the existing TS specify the total number of channels and the minimum channels operable as one per loop. Existing action statement 34 provides for operation for up to 48 hours with less than the minimum channels operable; otherwise, the unit must be in at least hot shutdown within the next 12 hours. Under the proposed change, existing action statement 34 would be replaced by new action statement 35 for reactor coolant system T_{hot} (wide range). In the event that a required channel of T_{hot} is inoperable, new action statement 35 specifies that the required channel be restored to operable status within 30 days, provided that at least two core exit thermocouples per quadrant are operable; otherwise, a special report must be submitted within 14 days which describes the actions taken (including any preplanned alternate methods of monitoring), the cause of the inoperability, and the plans and schedule for restoring the inoperable channel to operable status. The core exit thermocouples serve as diverse indication for T_{hot} (wide range). In the event that both the diverse indication and the required channel for the primary variable are inoperable, new action statement 35 would specify that the action for the core exit thermocouples (new action statement 31) be followed. This would have the effect of requiring the diverse indication to be restored within 7 days or the unit would have to be shut down, which is commensurate with the required action for a total loss of indication for the other variables. Similar new action statements (actions 36, 37, and 38) have been created for reactor coolant system T_{cold} (wide range), steam generator water level (wide range), and steamline radiation. The diverse indication for each of these variables is steamline pressure, auxiliary feedwater flow, and steam generator level (narrow range), respectively.

Existing action statement 35 is applied to the containment radiation level (high range) instrumentation and the steam line radiation monitors. For containment radiation level (high range), the total number of channels is two, and the minimum channels operable requirement is one in the existing TS. Existing action statement 35 provides for continued operation with less than the minimum channels operable provided the alternate monitoring method is initiated within 72 hours, and the inoperable channels are restored to operable status within 7 days. Otherwise, a special report must be submitted within 14 days that provides actions taken, cause of the inoperability, and the plans and schedule for restoring the channels to operable status. Under the

ENCLOSURE 1 (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

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proposed change, new action statement 34, as described above, would replace existing action statement 35.

For steam line radiation, the total number of channels is one per loop and the minimum channels operable requirement is one per loop. Under the proposed change, new action statement 38 would specify the diverse indication for steam line radiation (steam generator level (narrow range)), allowing existing action statement 35 to be replaced by new action statement 38. This is the same philosophy as was applied to reactor coolant system T_{hot} (wide range), T_{cold} (wide range), and steam generator level (wide range).

Existing action statement 36 and the associated footnote * will be deleted since the provisions of these two items applied to the first fuel cycle only.

Existing action statement 37 is applied to the reactor coolant pressure (wide range), steam generator water level (narrow range), containment pressure, and refueling water storage tank level instrumentation. Existing action statement 37 provides for operation for up to 31 days with two less than the total number of channels or the unit must be in at least hot shutdown within the next 12 hours. With the number of operable channels three less than the total, at least one of the inoperable channels must be restored to operable status within 7 days or the unit must be in at least hot shutdown within the next 12 hours. With less than the minimum channels operable, at least one channel must be restored to operable status within 48 hours, or the unit must be in at least hot shutdown within the next 12 hours. Under the proposed change, existing action statement 37 would be replaced with new action statement 31.

Existing action statement 38 is applied to the containment isolation valve position indication, and it invokes the provisions of Specification 3.6.3 for an inoperable containment isolation valve with less than the minimum channels operable. Under the proposed change, existing action statement 38 would be replaced with new action statement 32. In the event that the position indication for a valve that falls within the scope of table 3.3-8 is inoperable, new action statement 32 requires the inoperable channel to be restored to operable status within 30 days or a special report must be submitted to the NRC within the next 14 days. This report should outline the actions taken (including the preplanned alternate method of monitoring), the cause of the inoperability, and the plans and schedule for restoring the inoperable channel to operable status. Footnote * would also be revised to take exception to the requirements of table 3.3-8 for containment isolation valves whose associated penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

ENCLOSURE 1 (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

BASIS FOR PROPOSED CHANGES

Finally, the existing VEGP TS contain a separate specification for the hydrogen monitors (TS 3/4.6.4.1) in addition to the requirements of TS 3/4.3.3.6. The action requirements of existing TS table 3.3-8 (action statement 33) refer to the action requirements of existing TS 3/4.6.4.1. Existing Specification 3.6.4.1 provides for operation for up to 30 days with one monitor inoperable or 72 hours with both monitors inoperable. In either case, if corrective action is not successfully accomplished within the required time frame, the unit must be in at least hot standby within the next 6 hours. Under the proposed change, existing action statement 33 of table 3.3-8 would be replaced by new action statement 33. In the event that one required channel is inoperable, new action statement 33 requires the inoperable channel to be restored to operable status within 30 days or a special report must be submitted within 14 days outlining the actions taken (including preplanned alternate methods of monitoring), the cause of the inoperability, and the plans and schedule for restoring the inoperable channel to operable status. In the event that both required channels are inoperable, at least one required channel must be restored to operable status within 72 hours or the unit must be in hot shutdown within the next 12 hours. The replacement of existing action statement 33 with new action statement 33 renders existing TS 3/4.6.4.1 unnecessary. Therefore, GPC proposes to delete TS 3/4.6.4.1 as part of this proposed change.

The surveillance requirements of existing TS 3/4.6.4.1 require a channel check at least once per 12 hours, an analog channel operational test at least once per 31 days, and a channel calibration at least once per 92 days on a staggered test basis using sample gases containing specified concentrations of hydrogen and nitrogen. The surveillance requirements of existing TS 3/4.3.3.6 (i. e., a channel check every 31 days and a channel calibration every 18 months) would continue to apply without change to the containment hydrogen monitors. In addition, TS 3/4.3.3.6 would be modified to require a channel calibration of the hydrogen monitors every 6 months on a staggered test basis using sample gases, similar to the surveillance requirements of TS 3/4.6.4.1.

Basis

With one exception, the parameters monitored by the instrumentation listed in existing TS table 3.3-8 correspond to the Category 1 and Type A variables identified in VEGP Final Safety Analysis Report (FSAR) table 7.5.2-1 and pursuant to Regulatory Guide 1.97, Revision 2. The exception is containment isolation position indication, which is classified as Category 2 because only a single indication is provided per active valve (i. e., those valves that receive containment phase A isolation or containment ventilation isolation signals). However, the NRC considered the position indication to meet all Category 1 criteria except for the single indication per valve, and this was acceptable since redundant isolation valves are provided for each monitored penetration. The acceptability of the VEGP specific design is documented in the NRC's Safety Evaluation Report (SER) NUREG-1137 and NUREG-1137, Supplement 2.

ENCLOSURE 1 (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

BASIS FOR PROPOSED CHANGES

When existing TS table 3.3-8 was created, it was based on the latest version of the STS at the time which specified the "Total No. of Channels" and the "Minimum Channels Operable." Since that time, the improved STS for accident monitoring instrumentation were developed with the philosophy that the operability requirements should ensure that no single failure should prevent operators from getting the information necessary to determine the safety status of the unit or bringing the unit to and maintaining it in a safe condition following an accident. Therefore, the proposed change would modify table 3.3-8 by increasing the required number of operable channels by one over the existing minimum channels operable requirement or by specifying diverse indication. (Note that the required number of channels for the core exit thermocouples and containment isolation position indication would remain at the current requirement, consistent with the improved STS.) Hence, the proposal to delete the "Total No. of Channels" column and change the "Minimum Channels Operable" column to "Required Channels" is consistent with the improved STS.

As discussed earlier, this necessitated special treatment for four variables that are monitored by only one channel per loop, steam generator, or steam line. The lack of a redundant channel is rectified by specifying the diverse indication associated with these particular variables and requiring that at least one channel of the diverse indication be operable in addition to the instrumentation associated with the "primary" variable. A channel of the "primary" variable is defined as one channel per loop, steam generator, or steam line, as applicable (e. g., all four channels must be operable). A channel of the diverse indication is defined similarly.

The 30 day completion time of the improved STS is based on operating experience and takes into account the remaining operable channel (or in the case of a variable that has only one required channel, diverse indication) and the passive nature of the instrumentation (no critical automatic action is initiated from this instrumentation). The requirement to submit a Special Report in lieu of a plant shutdown is appropriate since alternative actions are identified before a loss of functional capability occurs and given the likelihood of unit conditions that would require information provided by this instrumentation.

The 7 day completion time with the requirement to initiate a plant shutdown at the end of the 7 day interval is based on the relatively low probability of an event requiring the instrumentation during this period and the availability of alternate means of obtaining the information. Continuous operation with no primary indication of a given variable is unacceptable because the alternate indications may not fully meet all performance qualification requirements applied to the accident monitoring instrumentation. Similarly, the 72 hour completion time applied to the containment hydrogen monitors is reasonable based on the backup capability of the post accident sampling system to monitor the hydrogen concentration for evaluation of core damage and to provide information for operator decisions.

ENCLOSURE 1 (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

BASIS FOR PROPOSED CHANGES

With respect to containment radiation level (high range) and the reactor vessel level instrumentation system, new action statement 34 avoids requiring a plant shutdown in the event redundant indication is not available due to inoperable instrumentation. This is acceptable based on the availability of preplanned alternate indication, as stated in the basis for this TS in NUREG-1431. For containment radiation level (high range), the preplanned alternate indication is available in the form of a high range portable survey instrument which can be located at an appropriate place outside containment. The reading at that location can be corrected for the attenuation of the containment wall to arrive at the corresponding radiation field inside containment. In addition, containment area radiation low range and containment ventilation radiation (particulate, gaseous, and iodine) will be available as well as the capability to sample the containment atmosphere via the post accident sampling system. For the reactor vessel level instrumentation system, the preplanned alternate indication is available in the form of the core exit thermocouples, pressurizer level, and reactor coolant system subcooling.

With respect to the proposed deletion of TS 3/4.6.4.1 and the associated action requirements, this change is almost transparent. There are two basic differences between the existing action requirements of TS 3/4.6.4.1 and new action statement 33. New action statement 33 requires a special report after 30 days with one inoperable channel in lieu of shutting the unit down. This is appropriate as discussed above. The second difference is that new action statement 33 requires the unit to be placed in Hot Shutdown as opposed to Hot Standby as required by existing TS 3/4.6.4.1 when both channels are inoperable for more than 72 hours. This change is conservative with respect to the existing requirements.

The surveillance requirements of TS 3/4.6.4.1 call for a channel check at least once per 12 hours, an analog channel operational test at least once per 31 days, and a channel calibration (using sample gasses containing specified concentrations of hydrogen and nitrogen) at least once per 92 days on a staggered test basis. These requirements would be replaced by the proposed markup of TS 3/4.3.3.6, which includes a channel check every 31 days, a channel calibration every 18 months, and, for the hydrogen monitors, a channel calibration every 6 months on a staggered test basis. The VEGP Individual Plant Examination (IPE) Report in response to Generic Letter 88-20 includes an assessment of the susceptibility of the VEGP containment to early failure as a result of hydrogen combustion. This very conservative assessment concluded that it was unlikely that the worst-case scenario would challenge the containment ultimate pressure capacity, and none of the sequences addressed in the VEGP source-term analysis could realistically threaten containment due to hydrogen combustion. Furthermore, the hydrogen monitors are passive in nature in that they initiate no critical automatic function, and their failure would not preclude the use of the hydrogen recombiners. Therefore, the proposed change in the surveillance requirements for the hydrogen monitors would have no effect on risk at VEGP as evaluated in the VEGP IPE, and the proposed surveillance requirements of TS 3/4.3.3.6 are sufficient to ensure that the hydrogen

ENCLOSURE 1 (CONTINUED)

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monitors are capable of performing their safety function commensurate with the other accident monitoring instrumentation.

In summary, the existing TS requirements are unnecessarily restrictive in that they impose requirements that go beyond ensuring redundancy or diversity (i. e., where four channels of instrumentation are required to be operable and only two channels are necessary to maintain redundancy), and action statements require a plant shutdown when only one channel of instrumentation is inoperable. The proposed changes would relieve this situation (and potentially avoid an unnecessary plant shutdown) while maintaining an acceptable level of safety.

ENCLOSURE 2

VOGTLE ELECTRIC GENERATING PLANT REQUEST TO REVISE TECHNICAL SPECIFICATIONS ACCIDENT MONITORING INSTRUMENTATION

10 CFR 50.92 EVALUATION

Georgia Power Company has reviewed the requirements of 10 CFR 50.92 as they relate to the proposed changes and has made the following determination:

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed changes affect instrumentation that would be used to assess the condition of the plant during and following an accident. As such, the changes can have no effect on the probability of any accident previously evaluated since this instrumentation has no bearing on initiating events. The proposed changes will continue to ensure the capability to monitor plant conditions during and following an accident by requiring redundancy or diversity and timely corrective action in the event of inoperable instrumentation. Therefore, the proposed changes will not significantly increase the consequences of any accident previously evaluated.
2. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes affect the operability and action requirements for the post accident monitoring instrumentation system. Accordingly, the proposed changes do not involve any change to the configuration or method of operation of any plant equipment, and no new failure modes have been defined for any plant system or component nor has any new limiting failure been identified as a result of the proposed changes. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.
3. The proposed changes do not involve a significant reduction in a margin of safety. The intent of the existing TS requirements is to ensure the capability to monitor the plant condition during and following an accident so that the operators will have the information necessary to monitor and evaluate the course of the event and take any necessary action. Under the proposed changes this capability will be maintained by ensuring redundancy or diversity and by requiring timely corrective action in the event of inoperable instrumentation. In addition, the proposed changes would avoid unnecessary plant shutdowns by specifying an appropriate level of action in response to inoperable instrumentation. Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Conclusion

Based on the preceding analysis, 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, the proposed changes meet the requirements of 10 CFR 50.92 (c) and do not involve a significant hazards consideration.