

ENCLOSURE 1

VOGTLE ELECTRIC GENERATING PLANT REVISION TO TECHNICAL SPECIFICATION 5.3.1

BASIS FOR PROPOSED CHANGE

Proposed Change

The proposed change will add the following three sentences to the end of Specification 5.3.1, "Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions".

Basis

Reload fuel for the Vogtle Electric Generating Plant consists of fuel elements with top nozzles which allow for reconstitution. This design feature will allow removal of individual fuel rods from the assembly if they are found to be damaged or have the potential for clad breach in subsequent cycles. This would allow the fuel assemblies to be reused without the associated radiological consequences of leakage from damaged fuel rods. In such cases the removed fuel rod may be replaced with a zirconium alloy or stainless steel filler rod. This Technical Specification change recognizes the acceptability of the use of reconstituted fuel assemblies provided that they are in accordance with NRC-approved applications of fuel rod configurations and are analyzed with applicable NRC-approved methodologies and are shown to comply with all fuel safety design bases. The change will allow the use of reconstituted assemblies and lead test assemblies without requiring a specific Technical Specification change.

The NRC recommended that such changes be made in Technical Specifications in Generic Letter 90-02. This proposed change is a line item improvement in accordance with the guidance of Supplement 1 to Generic Letter 90-02.

ENCLOSURE 2

VOGTLE ELECTRIC GENERATING PLANT REVISION TO TECHNICAL SPECIFICATION 5.3.1

10 CFR 50.92 EVALUATION

Pursuant to 10 CFR 50.92, Georgia Power Company (GPC) has evaluated the attached proposed amendment to the VEGP Units 1 and 2 Technical Specifications and has determined that operation of the facility in accordance with the proposed amendment would not involve significant hazards considerations.

Background

Section 5.3.1 of the Technical Specifications provides a description of the fuel assemblies used for the Vogtle Electric Generating Plant (VEGP). It is desirable to have the flexibility to remove individual fuel rods from a fuel assembly, during a refueling outage, if it is determined that the fuel rod is damaged or is a probable source of future leakage. Such flexibility would result in reductions of both occupational radiation exposure and plant radiological releases. Since it may not be possible to replace a removed fuel rod with a fuel rod as currently described in section 5.3.1, the proposed revision to the Technical Specification will allow replacement with a stainless steel or zirconium alloy filler rod. The change also allows the use of lead test assemblies without requiring a specific Technical Specification revision.

The proposed change is in accordance with the proposed line item Technical Specification improvement contained in NRC Generic Letter 90-02, Supplement 1.

Analysis

The Technical Specifications do not prohibit the reuse of fuel assemblies that have a leaking fuel rod. However, good operating practice is that such a fuel assembly be reconstituted by removing the leaking fuel rod. The proposed change to the Technical Specifications will provide the conditions under which such reconstitution can be performed without requiring a specific license amendment for each case.

The existing requirements of Specification 5.3.1 are not being changed by the proposed amendment. The proposed amendment will set forth the condition under which stainless steel or zirconium alloy filler rods can be used in place of the rods described in Specification 5.3.1. The condition will require analysis using NRC-approved methods and the use of NRC-approved applications of fuel rod configurations. These conditions will ensure that all of the fuel configurations are consistent with previously approved designs, and within existing acceptance limits.

Results

The safety analyses to be performed for each reload cycle will include any effects associated with the use of filler rods in reconstituted fuel

ENCLOSURE 2 (CONTINUED)

VOGUE ELECTRIC GENERATING PLANT REVISION TO TECHNICAL SPECIFICATION 5.3.1

10 CFR 50.92 EVALUATION

assemblies. These safety analyses will continue to be performed with the NRC-approved methods that are applicable to the reconstituted fuel assemblies. The effects of the proposed change have been evaluated using the criteria of 10 CFR 50.92 and the results are listed below:

1. The proposed change to the Technical Specifications will not involve a significant increase in the probability or consequences of an accident previously evaluated because it will not result in a change to any of the process variables that might initiate an accident. The operating limits will not be changed and the analysis methods to demonstrate operation within the limits will remain in accordance with NRC-approved methodology. Other than the changes to the fuel assemblies, there are no physical changes to the plant associated with this Technical Specification change. The consequences of an accident previously evaluated will not be increased because the safety analyses to be performed for each cycle will continue to demonstrate compliance with all fuel safety design bases. The ability to remove potentially leaking fuel rods should result in a reduction in the radiological consequences of any transients or accidents.
2. This change to the Technical Specifications will not create the possibility of a new or different kind of accident from any accident previously evaluated because it will only affect the assembly configuration and will be limited to NRC-approved applications of fuel rod configurations. The other aspects of plant design, operation, limitations and responses to events will remain unchanged.
3. The use of stainless steel or zirconium alloy filler rods in fuel assemblies will not involve a significant reduction in a margin of safety because analyses using NRC-approved methods will be performed for each configuration to demonstrate continued operation within the limits that assure acceptable plant response to accidents and transients. These analyses will be performed using NRC-approved methods that have been approved for application to the fuel configuration.

Conclusion

Based on the preceding analysis, GPC has determined that the proposed change to the Technical Specifications does not involve a significant increase in the probability or consequences of an accident previously evaluated, create the possibility of a new or different kind of accident from any previously evaluated or involve a significant reduction in a margin of safety. Therefore, GPC concludes that the proposed change meets the requirements of 10 CFR 50.92(c) and does not involve a significant hazards consideration.

ENCLOSURE 3

VOGTLE ELECTRIC GENERATING PLANT
REVISION TO TECHNICAL SPECIFICATION 5.3.1

INSTRUCTIONS FOR INCORPORATION

The proposed amendment to Section 5.3.1 of the Vogtle Electric Generating Plant Technical Specifications would be incorporated as follows:

Remove Page

5-3* and 5-4

Insert Page

5-3* and 5-4

* Overleaf page containing no change

Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel DESIGN FEATURES designs that have been analyzed with applicable NRC

5.3 REACTOR CORE

FUEL ASSEMBLIES

staff-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

5.3.1 The core shall contain 193 fuel assemblies with each fuel assembly containing 264 fuel rods clad with Zircaloy-4 except for two fuel assemblies which may each contain up to twelve (12) fuel rods clad with ZIRLO™. Each fuel rod shall have a nominal active fuel length of 144 inches. The initial core loading shall have a maximum enrichment not to exceed 3.2 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment not to exceed 4.55 weight percent U-235.

CONTROL ROD ASSEMBLIES

5.3.2 The core shall contain 53 full-length control rod assemblies. The control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal absorber composition shall be 95.5% natural hafnium and 4.5% natural zirconium and/or 80% silver, 15% indium, and 5% cadmium. All control rods shall be clad with stainless steel.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The Reactor Coolant System is designed and shall be maintained:

- In accordance with the Code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,
- For a pressure of 2485 psig, and
- For a temperature of 630°F, except for the pressurizer which is 680°F.

VOLUME

5.4.2 The total water and steam volume of the Reactor Coolant System is 12,240 ± 100 cubic feet at a nominal T_{avg} of 588.5°F.

5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-1 and 5.1-2.