

February 27, 2008

Mr. Tom E. Tynan
Vice President - Vogtle
Vogtle Electric Generating Plant
7821 River Road
Waynesboro, GA 30830

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2, ISSUANCE OF
AMENDMENTS REGARDING MEASUREMENT UNCERTAINTY RECAPTURE
POWER UPRATE (TAC NOS. MD6625 AND MD6626)

Dear Mr. Tynan:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 149 to Facility Operating License NPF-68 and Amendment No. 129 to Facility Operating License NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated August 28, 2007, as supplemented by letters dated October 9, 2007, December 21, 2007, January 18, 2008, and January 30, 2008.

The amendments increase the licensed core power level by 1.7% to 3625.6 megawatts thermal. This increase will be achieved by the installation of the Caldon leading edge flow measurement (LEFM) CheckPlus ultrasonic feedwater flow element, which allows for more accurate measurement of feedwater flow.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Siva P. Lingam, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

Enclosures:

1. Amendment No. 149 to NPF-68
2. Amendment No. 129 to NPF-81
3. Safety Evaluation

cc w/encls: See next page

- Direct Current (DC) System
- Emergency Diesel Generators (EDGs)
- Switchyard
- Grid Stability
- SBO
- Equipment Qualification Program

3.3.2.1 AC Distribution System

The AC Distribution System is the source of power to nonsafety-related buses, and to safety-related emergency buses supplying the redundant engineered safety feature loads.

The AC Distribution system consists of the 13.8 kilovolt (kV), 4.16 kV, 480 volt (V), 277 V, 240 V, 208 V, and 120 V systems. As the current Vogtle 1 and 2 heater drain system pumping capability is marginal, the licensee has proposed replacing the associated pumps and motors to improve system performance. The existing heater drain pumps have 1500 horsepower (hp) motors whereas the new ones will have 1800 hp motors. Each motor will represent a load increase of 0.3 megavolt ampere (MVA), and there are two motors per unit. The heater drain pumps are powered from different non-Class 1E 4.16 kV buses. A discussion of the loading effects on the transformers is provided in Section 3.3.2.2.

Additionally, the licensee stated that the new Caldon electronics cabinet power supply will be connected to a non-Class 1E 120 V AC inverter with a rating of 3 kilovolt ampere (kVA). The load being added is 5 ampere (A) or correspondingly, 0.6 kVA, for a total loading of 0.8 kVA on the inverter, which remains within the current inverter rating of 3 kVA.

Based on this information, the NRC staff finds that the AC distribution system will be able to support the loading for uprated conditions.

3.3.2.2 Power Block Equipment (Generator, Exciter, Transformers, Iso-Phase Bus Duct, Generator Circuit Breaker)

As a result of the power uprate, Vogtle 1 and 2 rated thermal power will increase to 3625.6 MWt from the previously analyzed core power level of 3565 MWt. Both generators are rated at 1350 MVA with a 1.0 power factor (pf). Currently, the generator outputs 1225.3 MWe at 0.91 pf. At uprated conditions, the pf is estimated to be 0.93, corresponding to an output of 1249.8 MWe. The generator electrical power output for the MUR power uprate falls within the range of operation on the Generator Reactive Capability Curve. Additionally, the increase in electrical output remains bounded by the design ratings of the generators. Although there will be an increase in cooling water temperature and flow rate in the generator stator water cooling system, the increase in temperature is bounded by the system design basis. In regards to the generator hydrogen system, there is no change in the hydrogen pressure or flow rate as a result of the power uprate. Furthermore, the turbine-generator carbon dioxide system purging requirements are unaffected by the power uprate. As a result, the generator is capable of operation at uprated conditions.