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July 20, 1992



ELV-03873
000496

Docket Nos. 50-424
50-425

TAC M83229
M83230

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

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING PROPOSED CHANGE TO
TURBINE OVERSPEED PROTECTION TECHNICAL SPECIFICATIONS

By letter dated April 28, 1992, (ELV-03576) Georgia Power Company (GPC) applied for an amendment to the Vogtle Electric Generating Plant (VEGP) Unit 1 and Unit 2 Technical Specifications (TS), specifically TS 4.3.4.2.a concerning turbine overspeed protection. The proposed amendment would revise the schedule for inspection of the stop valves, control valves, low-pressure turbine intermediate stop valves, and low-pressure turbine intercept valves. The current schedule requires that one of each type of valve be inspected at least once per 40 months. The proposed change would require all of the valves to be inspected at least once per 60 months.

By letter dated June 9, 1992, the NRC staff requested additional information regarding the following points:

1. The current reliability of the subject valves and the extent and manner that we would expect this reliability to change if the requested amendments are granted. Provide data (both plant specific and vendor) supporting the reliability of the relevant valves.
2. The effect of the proposed change with respect to early detection of a generic failure of a given type of valve, particularly valves of equivalent age that are exposed to similar operating conditions.

In an effort to respond to item 1, we contacted the vendor and were told that in the early 1980's they stopped maintaining records related to the reliability

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of these valves. Furthermore, these historical records are no longer available for reference. In addition, due to the relatively short time that the plant has been in operation, plant specific data is very limited. Nevertheless, the vendor did state that they have not experienced any significant generic problems (i.e., problems that would have caused the valves to fail to close on demand) and this has been demonstrated by our own experience. Therefore, with respect to item 2, it would be reasonable to assert that the contribution to the failure probability due to a generic condition would be small.

Qualitatively, the expected improvement in reliability due to the proposed change can be characterized as follows. Given that the probability (P) of a random failure of these valves can be described as the product of a failure rate (R) and the inspection interval (I) divided by 2,

$$P = R * I/2.$$

The probability of failure of a stop valve under the existing requirements (i.e., each valve is inspected on the average every 160 months (40 months * 4 valves) would be

$$P = R * 160/2 = 80R.$$

However, under the proposed requirement (all four stop valves are inspected every 60 months), assuming the same failure rate (R), the probability of failure would be

$$P = R * 60/2 = 30R.$$

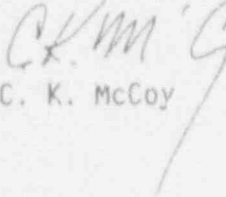
Therefore, we would expect an improvement in reliability by a factor of 2.67 for the stop valves under the proposed change. Similar arguments can be made for the remaining classes of valves.

Furthermore, with respect to item 2, under the proposed change we will know conclusively the condition of all of the subject valves at least every 60 months. Under the existing requirement, we know conclusively the condition of only one of each type of valve every 40 months. When a problem with a given type of valve is identified, a judgement must be made as to the generic implications of that problem. However, under the proposed change, a problem identified for one valve of the type being inspected during that outage can be investigated for all of the valves of that type.

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Consequently, we believe that the expected improvement in reliability under the proposed change far outweighs the negative aspect associated with not inspecting a valve of each type under the existing requirement.

Sincerely,


C. K. McCoy

LKM/NJS

xc: Georgia Power Company
Mr. W. B. Shipman
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