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# Georgia Public Service Commission

244 WASHINGTON STREET, S.W.  
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December 6, 1990

Secretary  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

ATTENTION: Docketing and Service Branch

Dear Sir:

On October 26, 1990, the Nuclear Regulatory Commission published a Draft Policy Statement on Possible Safety Impacts of Economic Performance Incentives. The Georgia Public Service Commission (GPSC) staff has reviewed the NRC Draft Policy Statement and our comments are attached as well as background information on the Nuclear Performance Incentive Program adopted in 1989 by the GPSC for Georgia Power Company's (GPC) Hatch and Vogtle nuclear units.

The GPSC concurs with the NRC that the first priority of regulatory requirements and guidance exercised over the owners and operators of nuclear power plants should be that of protecting public health and safety. This does not, however, preclude the adoption of strong regulatory incentives to encourage economic operation of such facilities. Because of the low cost nuclear fuel relative to other fuel sources and the high capital and O&M costs of nuclear power plants, nuclear power plants must consistently achieve high capacity factors to remain as economically viable power generation resources. This factor is extremely important both to ratepayers, the competitive position of utilities with nuclear power plants and to the future of the nuclear power industry. GPC management, in apparent recognition of these factors, has implemented salary incentives to upper nuclear management based upon the performance of Plants Hatch and Vogtle versus internally developed performance standards. We believe that in order for nuclear plants to achieve sustained good performance they must be operated safely. Good planning, good maintenance practices, good operational performance and sound

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outage management will minimize the number of unplanned outages and challenges to plant safety systems and thus will help ensure safe and economic operation of nuclear power plants. Compromising safety, for the sake of short-term gain is certain to lead to operating and regulatory problems which will greatly reduce the opportunity for sustained, long-term good performance.

Therefore, it is important that State Public Service Commissions not be precluded from adopting performance standards which encourage both economic and safe operation of nuclear power plants. The current NRC plans for publishing concerns, monitoring activities, and encouraging communication appear to be helpful in assuring safe and economic operation of nuclear power plants. We believe that the NRC's Draft Policy Statement takes an appropriate stance in providing for continued NRC monitoring of economic incentive plans and in encouraging communication between licensees, State Public Service Commissions, the Federal Energy Regulatory Commission and the NRC.

The Georgia Nuclear Performance Incentive Program includes none of the features identified by the NRC that could result in adverse impacts on plant operation and public health and safety. Likewise, the Georgia program has no specific features that are identified in the Draft Policy Statement as causing NRC concern. The GPSC nuclear performance standard provides for:

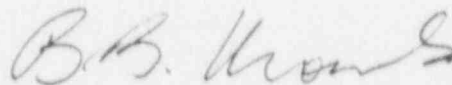
- a three year rolling average capacity factor evaluation period which encourages management decisions which are directed towards long-term good performance, which minimize the cyclical affects of refueling outages and which does not unduly penalize for outages in the short-term;
- capacity factor targets based upon the industry average performance during the period performance is evaluated, thus preventing undue penalties resulting from standards which do not reflect contemporaneous industry wide influences or regulatory initiatives;
- a capacity factor performance dead band to account for normal variation in performance; within the deadband there is no penalty or incentive;

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- equal opportunities for rewards and penalties;  
flexibility to exempt from the program periods in which catastrophic or clearly extraordinary operating events occurred which are beyond the control of the utility,
- penalties or rewards which are limited to 50% of the replacement power costs (or savings) associated with capacity factor performance which is above or below the established deadband; and
- no reliance upon NRC periodic performance assessments and performance indicators.

We hope that our comments and the information provided on the Georgia Nuclear Performance Incentive Program will be helpful in preparing a final NRC Policy Statement on the possible Safety Impacts of Economic Performance Incentives. If you have any questions, or if we can be of assistance, please let us know.

Very truly yours,



B. B. Knowles  
Director of Utilities

BBK/JKB/OJY

ATTACHMENTS

GEORGIA PUBLIC SERVICE COMMISSION  
COMMENTS ON THE  
NUCLEAR REGULATORY COMMISSION  
DRAFT POLICY STATEMENT  
ON  
POSSIBLE SAFETY IMPACTS OF  
ECONOMIC PERFORMANCE INCENTIVES

On October 26, 1990, the Nuclear Regulatory Commission issued a Draft Policy Statement on Possible Safety Impacts of Economic Performance Incentives. Background information on the Georgia Nuclear Performance Incentive Program and comments of the Georgia Public Service Commission on the Draft Policy Statement are provided below.

**Georgia Nuclear Performance Incentive Program**

In April 1989, Georgia Power Company (GPC) applied to the Georgia Public Service Commission (GPSC) for authority to increase its retail electric service rates principally due of inclusion of Plant Vogtle in the rate base of the GPC. The GPSC considered this application in its Docket No. 3840-U. In its Second Supplemental Order on Docket No. 3840-U, the GPSC adopted a Nuclear Performance Incentive Program for GPC's Hatch and Vogtle nuclear units.

GPC has consistently justified its large capital investments in Plants Hatch and Vogtle and the high operations and maintenance expenses associated with those plants on the basis of the differences in the costs of nuclear energy and other energy sources as well as on projected increases in those differences. Prior to issuing the order to implement the Georgia Nuclear Performance Incentive Program, the GPSC had long urged GPC to produce a proposal for an equitable sharing of the risks and benefits of GPC's decision to invest in nuclear power generation. GPC however failed to make such a proposal. The GPSC Adversary Group Staff recommended a nuclear performance incentive program which was the basis of the program adopted by the GPSC.

This program was adopted in order to (1) provide an incentive program for GPC to improve economic performance of Plants Hatch and Vogtle and (2) provide assurance to GPC's ratepayers that GPC will be accountable for a fair share of additional costs in the event that Plants Hatch and Vogtle perform poorly.

A number of issues were considered at length prior to the adoption of the nuclear performance incentive program. The most

significant of these was the issue of nuclear safety. GPC argued that adoption of a performance standard might jeopardize nuclear safety. This factor was of grave concern to the GPSC which would under no circumstances adopt any policy or program which it believed would endanger the people of Georgia. Following careful assessment, the GPSC determined that there were no facts to support GPC's argument that nuclear safety would be jeopardized by adoption of the proposed performance incentive program. The GPC executives and managers of both Plants Hatch and Vogtle testified in regard to this particular issue that they would not allow safety to be compromised for any reason. In addition, GPC management acknowledged during testimony that it had voluntarily implemented a salary incentive program for upper nuclear management based upon certain performance standards (including capacity factor) in order to encourage efficient nuclear plant operation. This program can increase compensation to GPC management by as much as 5% for high capacity factor performance.

Key features of the Nuclear Performance Incentive Program adopted by the GPSC are:

1. Use of capacity factor as the primary performance indicator;
2. Evaluation of performance every three years with the first evaluation to be conducted in early 1993 covering performance of the 1990-1992 period;
3. Capacity factor targets for each plant based on the average capacity factor for all comparable U.S. reactors in commercial operation for the entire evaluation period and operating at an average capacity factor of fifty percent or higher during the evaluation period;
4. Monitoring of O&M and capital expenditures for reasonableness;
5. A dead band equal to plus or minus four percent of GPC's combined maximum dependable capacity, net, for Hatch and Vogtle during the evaluation period;
6. Rewards or penalties equal to 50% of the difference between GPC's system production cost resulting from the difference between actual and target nuclear performance level, adjusted for the deadband;
7. Computation of rewards and penalties by using production cost models;
8. Exclusion of any GPC unit operating with an average capacity factor lower than 50% from consideration under the performance standard;

9. Flexibility for the GPSC, in the appropriate circumstances, to exclude any unit from consideration under the performance incentive program for the purpose of performing a separate prudence evaluation;
10. Reflection of rewards or penalties through a base rate adjustment or through GPC's fuel adjustment clause;
11. No detailed evaluation requirement so long as the combined performance of Hatch and Vogtle falls within the established deadband;
12. The maximum penalty shall not exceed the maximum potential reward; and
13. GPC may request that the GPSC exclude or adjust the target capacity factors of certain units in cases of unusual or extraordinary circumstances.

We have also noted that NUREG/CR-5509 Incentive Regulation of Nuclear Power Plants by State Public Utility Commissions (dated December 1989) does not quantify the potential financial impacts of the Georgia Nuclear Performance Incentive Program. During the hearings where the program was considered, the maximum potential rewards or penalties associated with the program for a three year period was estimated to be \$20 - \$30 million total for all four units.

#### **Specific Comments on the Draft Policy Statement**

1. The GPSC agrees with the NRC position that economic incentive programs should not create an incentive to operate a plant when it should be shut down for safety reasons. Since any economic incentive program, even one carefully constructed to avoid such a safety disincentive, could nevertheless be improperly interpreted as providing such an incentive, we suggest that the wording at the end of the Background section be changed to "... should not create undue incentives to operate a plant when it should be shut down for safety reasons." This change in wording avoids the appearance of inappropriately blaming an incentive program for operating a plant when it should be shut down for safety reasons.
2. The Potential Impacts section of the Draft Policy Statement states that "A desirable plan provides incentives to make improvements in operation and maintenance that result in long-term improvement in the reliability of the reactor, main generator and their support systems." The GPSC believes that appropriate operation and maintenance expenditures are needed

both to assure safety and to assure economic operation. The question arises as to what is an appropriate level of expenditures. Expenditures for improved reliability need to be carefully considered by utility management to avoid undertaking programs which are not cost justified or which do not have a reasonable chance of success. Furthermore, a program which blindly provides incentives to make such improvements without some form of checks and balances could be inappropriate for safety as well as for economic reasons. The Georgia Nuclear Performance Incentive Program provides for review to assure that capital and operation and maintenance expenses are reasonable. This provision is intended to avoid situations where some unreasonable expense might be incurred for the sole purpose of improving capacity factor (perhaps on a short term basis). There is no intent to hinder appropriate operating and maintenance expenditures or capital improvements which are needed to assure safe or economic operations. We believe that the NRC should consider expanding this discussion to clarify this issue.

3. In the Potential Adverse Impacts section of the Draft Policy Statement, the first feature identified is the existence of sharp thresholds between rewards and penalties or between null zones and either rewards or penalties. The Georgia Nuclear Performance Incentive Program does not contain such sharp thresholds. The reward or penalty is 50% of the avoided or excess cost between the actual performance and the edge of the null zone. This results in a gradual onset of rewards or penalties. The capacity factor standard for the Georgia program is based upon the three year average capacity factor performance of other comparable units during the same evaluation period. In the event that there are industry wide problems, this tends to avoid disincentives to safe operation that might be caused by an absolute standard under such circumstances. In addition, provision is made to set the plan aside for specific units with exceptionally poor performance or at utility request if there are unusual justifying circumstances. These features of the Georgia program tend to limit maximum rewards or penalties to a reasonable level. The GPSC does not suggest that these features would be appropriate for all economic incentive programs, but these issues are appropriate for discussion in the Draft Policy Statement. As currently written, the Draft Policy Statement does not discuss either widespread industry problems or other unusual situations beyond the control of NRC licensees which may in the presence of an economic incentive program provide a disincentive to safety. The Draft Policy Statement should be modified to include such considerations.

4. The second potential adverse impact which is identified is the use of short time intervals for evaluation periods in economic incentive programs. The Georgia program provides for a three year evaluation period. Since the plan is being applied to four units and since normal refueling cycle lengths for nuclear units are in the range of 12 - 18 months, we believe that this duration is appropriate to minimize the cyclical affects of refueling outages upon performance and to avoid other disincertives to safe operation that could possibly result from a short time interval.
5. The Specific Features of Concern section of the Draft Policy Statement identifies the use of NRC performance assessments and performance indicators as a basis for rewards or penalties as being of specific concern to the NRC. The Georgia program does not use SALP ratings or other NRC performance indicators as a basis for rewards or penalties.
6. The GPSC believes that the NRC's proposed policy of encouraging communications with regard to economic incentive programs is appropriate.