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January 25, 1984

Director, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

NRC DOCKET 50-366
OPERATING LICENSE NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNIT 2
RESPONSE TO ENFORCEMENT ACTION 83-86

Attention: Mr. Richard DeYoung, Director

Gentlemen:

Pursuant to the provisions of 10 CFR 2.201 Georgia Power Company (GPC) submits this response to the Notice of Violation and Proposed Imposition of Civil Penalties dated December 27, 1983 (the Notice).

We wish to emphasize that although three violations were cited, they arose out of one circumstance which involved the improper manipulation of control rods with the single objective of reducing power to avoid a reactor shutdown transient. Each violation cites a different Technical Specification which was violated as a result of the single event described in the Notice. The Nuclear Regulatory Commission (NRC) evaluated these violations collectively when arriving at the proposed civil penalty. We, therefore, wish to respond to the violations collectively.

Enclosed is full payment of the proposed civil penalty in the amount of \$100,000.00. Therefore, this response does not constitute a formal reply under the provisions of 10 CFR 2.205. However, Georgia Power Company does informally request that the NRC reconsider the amount of the civil penalty and reduce the amount of the penalty on the basis of the following considerations:

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- (a) The Civil penalty should be no more than the base penalty of \$64,000.00 under the factors of the enforcement policy, 10 CFR Part 2, Appendix C. The NRC escalated the penalty to \$100,000.00 based on three reasons: (i) the seriousness of the event, (ii) the number of Technical Specifications that were violated, and (iii) the number of personnel involved. None of these factors are among the five factors identified in Appendix C for adjusting the base penalty. The seriousness of the event is already reflected in the base penalty of the classification (i.e., plant operations) and severity level it represents. With respect to the number of Technical Specifications and personnel involved, the Notice previously stated that all violations stemmed from the same fundamental problem and, therefore, under Appendix C a single unescalated application of the base penalty is the appropriate amount despite the latter two reasons given for escalation.
- (b) The enforcement policy provides for the reduction of the civil penalty by up to 50% based on unusually prompt and extensive corrective action. Actions taken by GPC to control and prevent recurrence of such events fully support the intent of GPC to operate Plant Hatch in a safe manner. GPC promptly evaluated the event and its related root causes and implemented corrective actions in such a manner as to improve operator training and reactor safety. These actions support a reduction of the civil penalty. GPC believes that the corrective actions described in this response to the Notice are certainly timely and comprehensive, and show a significant degree of licensee initiative.

VIOLATION:

A special inspection conducted at Hatch Unit 2 on July 14 and 15, 1983, disclosed that while Unit 2 was being returned to service, a problem was experienced with main condenser vacuum. This problem required a reduction in reactor power to avoid a reactor shutdown. The on-shift operators and their supervisors recognized that the normal method of reducing power would not achieve a sufficiently timely power reduction to avoid a scram. These individuals,

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apparently strongly influenced by advice from two shift technical advisors, made a "consensus decision" to achieve the necessary rapid power reduction by bypassing both the Rod Worth Minimizer and the Rod Sequence Controller and by selectively scrambling individual control rods, without an approved procedure, from the Scram Time Test Panel which is out of sight of, and out of normal voice communications with, the reactor control console. The "consensus decision" and the resulting actions resulted in a control rod configuration that had not been analyzed from a reactor safety viewpoint.

To emphasize the need to adhere to facility operations and administrative procedures, and to upgrade plant management control systems relating to licensed personnel, shift technical advisers, and supervisor's decision-making responsibilities, NRC proposes to impose a civil penalty in the amount of \$100,000 for the matter of the improper reactor shutdown event on July 14, 1983. In accordance with the General Policy and Procedure for NRC Enforcement Actions, 10 CFR Part 2, as amended, the violations and the associated civil penalties are set forth below:

- A. Technical Specification 6.8.1 states that procedures shall be written, approved and implemented for reactor operations.

Contrary to the above, on July 14, 1983, control rod manipulations were conducted in violation of written and approved procedures, resulting in control rod patterns outside those analyzed for the Rod Drop Accident described in FSAR chapter 15.1.3.8. These manipulations were improperly accomplished by scrambling control rods from the scram time test panel (2H11-P610) and inserting control rods using the Emergency In switch instead of the approved procedural method of inserting control rods in notch control from the main control panel (2H11-P603).

Examples of procedures which were not followed include:

1. Procedure, HNP-2-34, "Rules for Performing Procedures", requires that verbatim compliance is mandatory (Paragraph 13.2) and that, if an approved procedure cannot be performed as written, stop and change the procedure. On July 14, 1983, Procedures HNP-2-9402 and HNP-2-9207 were not being followed verbatim nor was the event stopped, and the procedures were not changed.

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2. Procedure, HNP-2-9402, "Control Rod Scram Testing", requires, in step E.17, return of the scrambled rod to its initial position prior to scrambling the next rod. On July 14, 1983, the rods scrambled from the time test panel (2H11-P610) were not being returned to their initial position prior to scrambling the next rod.
 3. Procedure, HNP-2-9207, "Control Rod Movement", Paragraph D.4 and Data Sheet 1 requires notch control for rods identified with an asterisk. This asterisk was on all rod groups moved during the shutdown of July 14, 1983, up to the point where the reactor manual scram was initiated, and these movements were not conducted by notch control.
 4. Procedure, HNP-2-9207, "Control Rod Movement", Paragraph E.5 requires that rod movement be stopped if proper operation of the Rod Sequence Control System (RSCS) is not confirmed. On July 14, 1983, rod movement was continued even though the RSCS was circumvented and therefore inoperative.
- B. Technical Specification 3.1.4.1 requires that Rod Worth Minimizer (RWM) to be operable or a second licensed operator or other qualified member of the technical staff to be present at the reactor console to verify compliance with the prescribed control rod pattern.

Contrary to the above, on July 14, 1983, after bypassing the RWM, a second person did not verify compliance with the prescribed rod pattern. As a consequence, the rod insertion sequence was violated as evidenced by Control Rod 42-39 at notch 12 versus the required notch 48.

- C. Technical Specification 3.1.4.1 requires that the Rod Sequence Control System (RSCS) be operable in Operation Condition 1 when thermal power is below 20%.

Contrary to the above, on July 14, 1983, while in Operation Condition, with thermal power below 20%, the RSCS was not operational in that it was not performing its intended function of notch control. The required notch control was circumvented by use of the Emergency In Switch and the scram switches on the scram time test panel.

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RESPONSE:

Admission or Denial of the Alleged Violation: The violation did occur. While the violation occurred within the general context of the violation as stated, personnel and operators involved in the events always felt they were operating within the bounds of approved procedures.

Reason for Violation: Operating personnel failed to adequately follow procedures. Personnel used group discussion to make a "consensus decision" regarding action to be taken for reducing reactor power. In fact, these actions did not comply with the "intent" and "scope" of existing procedures. However, personnel and operators were not aware that actions taken were "outside" of analyzed conditions.

Georgia Power Company performed an indepth critique of this incident immediately following the event and an additional evaluation the following day with the personnel involved. The results of those critiques and actions taken as the impact of the events, are provided as follows:

A. Description of Event:

1. Unit 2 was being maintained at approximately 150 MWE during startup from a refueling outage. Scram time testing and air ejector trouble shooting had been in progress. Condenser vacuum suddenly began decreasing and the turbine was quickly unloaded and tripped. The operator began rapidly inserting rods to reduce power level as vacuum continued to decrease. It became apparent to the control room staff that unless power could be quickly decreased to within the limit of the mechanical vacuum pump so that it could be placed in service, vacuum would soon reach the reactor feed pump low vacuum trip point resulting in a loss of feedwater flow to the vessel, causing a reactor transient and possibly a challenge to a safety system. The cause of the vacuum decrease was not known. The reactor core isolation cooling (RCIC) system was inoperative at the time and the high pressure coolant injection (HPCI) system was operable, as allowed by Technical Specifications.

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B. Operator Actions Taken:

1. In order to reduce reactor power with the fastest possible control rod insertion rate, the rod worth minimizer (RWM) was bypassed, as allowed by Technical Specifications. A second operator was assigned to verify rod movements as required. It is now clear, however, that the functional requirement of the Technical Specification was not being met. Rod movement was being made from the front panel of the operating console at this time. Operators started the insertion of control rods to reduce power due to the vacuum problem.
2. At one point the insertion of control rods was made by the use of the Emergency In (Rod In) switch to reduce reactor power. The use of this switch did not meet the intent of Emergency In use and did result in the Rod Sequence Control System (RSCS) not being used to control rod movement by notch control below 20% of power as required.
3. When the operators reached groups of control rods that were of low rod worth (low effect on reactor power) in the rod insertion sequence, a shift technical advisor (STA) suggested that instead of manually inserting those control rods, that they could be scrammed (rapid insertion), resulting in a quicker insertion rate and reactor power level decrease. It was noted that the control rod scram time test panel was set up to do this as a part of normal startup testing requirements. While such action is allowed with the reactor at power, it is only allowed for one control rod to be scrammed, then returned to its original position before the next rod is tested.

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4. A collective discussion between the licensed operators in the control room resulted in a decision to proceed in that manner in order to prevent loss of the reactor feed pump. Vacuum at the time was approximately 1/2 inch above trip point. It was at this point control rod movement activities were prescribed to be completed in a manner contrary to procedures and requirements. Personnel involved failed to be aware that such control rod movement was not approved by existing procedures because the control rod that was scrammed was not to be returned to its original position before the next rod was scrammed. Involved personnel did not address the concern of conducting an operation outside of the bounds of analyzed conditions. Because of the failure to address such concerns, a possible "control rod drop accident" condition was not considered.
5. After the decision to scram control rods to effect rapid reactor power reduction was made, a plant operator continued to insert rods at the reactor panel while two additional operators proceeded to the scram timing panel with the rod sequence sheets to insert rods with the individual scram switches. When the front panel operator observed rods going in, he stopped inserting and verified further insertions from the scram panel. Personnel involved believed these actions complied with the two person verification requirements for rod movement with the RWM system bypassed.
6. After rod insertion in this manner, it was found that one rod was in an "out of sequence" position at notch 12. The vacuum pump was placed in service and vacuum stabilized at a low level. Because of the out of sequence condition, the reactor was manually scrammed (shutdown) as required by rod movement procedures.
7. Although their actions were incorrect, the involved plant operators actions were reasoned through and deliberate. During the critique the involved personnel became aware of the factors that had led them to incorrect conclusions.

It should be obvious from the above discussion that the operator actions were not performed to provide for the generation of electric power, because the turbine was already disconnected, but were done in the interest of reactor safety. The actions taken were intended to avoid or limit a transient on the reactor.

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C. Impact of Events

1. The intent of the operators to reduce reactor power for existing conditions was in itself proper, but the means of doing so were not within approved procedures or analysis.
2. The bypassing of the RWM and the assignment of a second operator to verify rod movement was in itself proper, but the failures to maintain this double verification and the movement of control rods from two different locations at the time of rod movement from the scram time test panel did not meet requirements.
3. The use of the scram time test panel to scram more than one control rod was improper and not within analyzed conditions as was the use of the emergency in switch, but had limited impact due to the low worth of the rods involved.
4. While not mitigating the seriousness of the events and the possible effects had other high worth rods been involved, the health and safety of the public were not affected by these events.

Corrective Steps Which Have Been Taken and Results Achieved: The following corrective actions were taken as the result of these events:

1. The Unit 2 reactor was placed in cold shutdown.

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2. Individuals involved with the event were removed from licensed duties [Operations Superintendent, Operations Supervisor on Shift (OSOS), Reactor Operator, Shift Technical Advisor (STA)]. Individuals were trained in the significance of the event and were allowed to assume licensed duties only after review by plant management.
3. Plant management conducted a session with Operations Supervisors to emphasize GPC's commitment to following procedures and to operation within analyzed regions. The role of the OSOS in management of the plant was clarified.
4. Results of the management investigation and proposed corrective actions were discussed with USNRC Region II personnel and their concurrence was obtained for Unit 2 restart.
5. Standing orders were issued for the control of the following activities:
 - A. Operation of emergency rod in switch. (This has since been placed in procedures HNP-1&2-9207.)
 - B. Rod worth minimizer bypass controls. (This has since been placed in procedures HNP-1&2-9207.)
 - C. Requirement for Plant Manager approval of SRO procedure changes. (This has since been placed in procedure HNP-9.)
6. Licensed operators and STA's were briefed on shift duties and detailed discussions were held in the following areas:
 - A. Description of the July 14 event;
 - B. Lessons learned from the event;
 - C. Operational philosophy;
 - D. Corrective actions to be taken for this event;
 - E. The need to avoid "consensus decisions".
7. Involved operating and STA personnel were counseled by GPC Power Generation Management.

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8. Supervisors and above viewed a GPC Power Generation presentation made by Mr. J. T. Beckham, Jr., Vice President and General Manager Nuclear Generation, on this event.
9. HNP-1&2-9207, Rod Movement Procedures, were revised to clarify the use of emergency rod in switch and bypassing of rod worth minimizer.
10. HNP-1&2-9402, Scram Time Testing Procedures, were reviewed in detail to assure they did not require revision.
11. Training was provided in the following areas:
 - A. A control room management course was presented to licensed operations supervisory personnel, SRO's, and selected Site Management personnel.
 - B. A special seminar and discussion of the NRC position regarding plant operations were presented by Mr. Paul Bemis of the USNRC. This presentation was presented to licensed personnel and other site personnel.
 - C. The manager of the Core Analysis section of Southern Company Services presented a lecture on Final Safety Analysis Report (FSAR) transient and accident analyses, procedure compliance, and the consequences of operations outside of analyzed areas. This was presented to licensed control room supervisors.
 - D. Site personnel were retrained in procedure compliance through the use of Departmental Directives.
 - E. GPC site personnel attended a taped lecture by H. C. Nix, Plant Hatch General Manager, on operating philosophy and procedure compliance.

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Corrective Steps Which Will Be Taken to Avoid Future Violations: In addition to steps already listed, the following ongoing actions have been taken:

1. Simulator training now stresses the lessons learned from this event.
2. Special "FSAR Analyzed Regions of Operation" topics are now being presented to licensed operators and STA's in training classes.
3. Training for STA's now stresses the role of the STA in the control room and Reactor Engineer duties for overview and standback approach.
4. The following training is planned to re-emphasize periodically the attitudes desired in the operation of the plant:
 - A. Long Term (Repetitive) Seminars - The Georgia Power philosophy of operation of Plant Hatch will be presented to licensed personnel and site management personnel who may be involved in decision making activities regarding the day-to-day operation of Plant Hatch. This will be done as a forum to provide for the free exchange of thoughts in the specific areas of: 1) why group decisions are not appropriate for operation; 2) system operation outside of the intent of existing procedures; 3) operation outside of procedures; and 4) lines of responsibility and authority in the control room during periods of non-routine operation. Other items which may be identified in the future can be added to assure that the desired operational philosophy is instilled in the appropriate personnel. This forum will be conducted on a schedule such that affected personnel are re-exposed to the desired attitudes on an annual basis.
 - B. Notable industry personnel will also be utilized in seminars on a long term basis.

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- C. As part of the long term training the subject of plant operating philosophy will be in new employee training and annual retraining.
5. There are presently several activities performed by site management to monitor and evaluate shift activities on an on-going basis. The General Manager and Deputy General Manager, as well as the Operations Manager, make random audits of shift operations. This is complemented by the Duty Officer who generally observes night shift turnover activities and by management audits that require an assessment of backshift activities once per week. During outages, different members of management are assigned to the back shifts for audits and/or coordination functions. QA performs back shift audits periodically.

Date When Full Compliance Will Be Achieved: Compliance with requirements was achieved on July 14, 1983, with the conclusion of the Unit 2 reactor shutdown. By August 31, 1983, full compliance with long-term actions committed to in our July 18, 1983 response to this event was achieved.

Special Concerns: Those special concerns and questions expressed in the Proposed Imposition of Civil Penalties Notice have been addressed as follows:

1. Has the Georgia Power Company's (GPC) policy of "safety first" been compromised by improper plant "running" without proper consideration of overall plant safety? It has always been GPC's policy to operate and maintain the Plant Hatch reactors in a safe manner. While decisions made regarding the July 14, 1983, events were incorrect, they were never made with the intent, nor knowledge, to compromise safety. Those actions taken are isolated events and are contrary to the general operating policy of both GPC and its operators. To assure full understanding of the GPC policy, actions listed in the "Corrective Steps Which Have Been Taken" section of this response were completed. Additionally, site personnel were presented an August 22, 1983, memo from J.H. Miller, President, that defines the right, obligations and requirements with respect to providing for the safety of and standards of performance for all Plant Hatch personnel. Also, as a result of this event, QA has increased the frequency of their operations

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audits. The QA Department participates in a rotation program which currently includes a licensed (SRO) power generation engineer to better facilitate their audit process. Safety Review Board members are receiving additional classroom and simulator training in order to better assess the operation of the plant in their reviews and audits. These actions reflect GPC's and its operators' policy to always place safety first.

2. Has the GPC's policy of strict adherence to approved operating procedures been compromised at Plant Hatch by individual supervisors and managers and has an effective system of audits been implemented to assure compliance with policy? As stated, GPC believes that the actions carried out in the course of the July 14, 1983 events were taken with the mistaken belief that existing procedures allowed these actions. Managers, Superintendents and Supervisors have been reminded of the need to monitor plant activities and to assure procedure compliance. The existing procedure "Self Audit" program has been re-emphasized to all site departments to improve the quality of procedures. Procedure self-audits will assure that existing procedures are reviewed on a timely basis and should result in improved procedures.
3. Is each operations supervisor fully aware of his/her individual responsibilities for making decisions? The additional training steps, counseling and presentations discussed in the "Corrective Steps Which Have Been Taken" section of this response have assured that supervisors have been fully trained and understand their responsibilities.
4. Is the role and the authority of the shift technical advisor (STA) clear to them and to each operations supervisor? As part of an on-going program, training for STA's now stresses the role of the STA in the control room. STA's and operations supervisors understand the role and authority of STA's.

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5. Is each licensed operator aware of the importance of adherence to Technical Specifications and knowledgeable of approved interpretations of those specifications? Licensed personnel and STA's were provided a copy of the failure to follow Rod Movement Procedures as related to the July 14, 1983 event. This was presented in Departmental Directive O-83-14. With the additional training completed to date, licensed operators are fully aware of the importance of complying with Technical Specifications and the GPC policy for such compliance and fully understand the intent and interpretation of these specifications.

Additional Improvements

In addition to our response in accordance with 10 CFR 2.201 and in addition to the Special Concerns expressed by the NRC in their Proposed Imposition of Civil Penalties Notice, GPC has made other general plant operations and management improvements since the July 14, 1983 event. Some of these are:

- A. A program to hold formal shift meetings at the start of each shift has been implemented. These meetings address concerns with the operation of the units and proposed actions to resolve problem areas.
- B. A new position of a supervisor whose function is to control maintenance activities during outages has been added to relieve the Shift Supervisors from the paper work duties of maintenance activities. This action allows full attention to be directed towards current unit operations.

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- C. An improved interface between departments has been achieved, resulting in better support of the Operations Department by other departments. This interface results in maintenance and engineering support being provided directly to Operations at the time of operational needs rather than an after the fact support. Further, it defines the responsibility of the Operations Supervisor and the support to be given him.
- D. The daily work schedule meeting has been moved to 8:30 a.m. rather than the 2:00 p.m. meeting time. This results in problems with unit operations being addressed in a more timely manner. Resolution of problems are proposed and carried out with the full support of all departments.
- E. Selected superintendents now attend the work schedule meetings. This results in more fully supervised problem resolutions.
- F. Department informational meetings are now held monthly. These meetings have improved communications between departments, resulting in more active involvement between the departments. Training efforts and operating philosophy are passed on to all levels of plant personnel. These actions have resulted in a better awareness by all personnel which leads to safe plant operations.
- G. Managers are becoming more involved in the day to day operations of the plant, resulting in better supervision of plant operations and activities.

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Georgia Power Company recognizes and concurs with the NRC's concerns as set forth in the Notice and in the enforcement conferences. We have responded and intend to continue to respond to this event in a manner which will ensure that safety will be the foremost concern of all involved with Plant Hatch. We believe the actions documented in this letter evidence such a prompt and extensive response. As previously noted, Georgia Power Company is enclosing payment of the proposed civil penalty. However, for the reasons previously given, and based on the actions presented herein, we respectfully request that NRC reconsider and reduce the civil penalty.

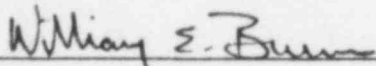
J. T. Beckham, Jr. states that he is Vice President of Georgia Power Company and is authorized to execute this oath on behalf of Georgia Power Company, and that to the best of his knowledge and belief the facts set forth in this letter are true.

GEORGIA POWER COMPANY

By: 

J. T. Beckham, Jr.

Sworn to and subscribed before me this 25th day of January, 1984.



Notary Public Notary Public, Georgia, State at Large
My Commission Expires Aug. 26, 1986

DLT/mw

Enclosure

xc: H. C. Nix, Jr.
Senior Resident Inspector
J. P. O'Reilly, (NRC-Region II)

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