UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

GEORGIA POWER COMPANY
OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION
MUNICIPAL ELECTRIC ASSOCIATION OF GEORGIA
CITY OF DALTON, GEORGIA

EDWIN I. HATCH UNITS NOS. 1 AND 2

DOCKETS NOS. 50-321 AND 50-366

Dated: October 4, 1978

May 16, 1978

EDWIN I. HATCH SAFETY EVALUATION REPORT
FIRE PROTECTION REVIEW
UNIT NOS. 1 AND 2

TABLE OF CONTENTS

EDWIN I. HATCH, UNIT NOS. 1 AND 2
FIRE PROTECTION SAFETY EVALUATION REPORT

I. INTRODUCTION

Following a fire at the Browns Ferry Nuclear Station in March, 1975, the Nuclear Regulatory Commission (NRC) initiated an evaluation of the need for improving fire protection programs at all licensed nuclear power plants. As part of this continuing evaluation, the NRC, in February 1976, published a report by a special review group entitled, "Recommendations Related to Browns Ferry Fire," NUREG-0050. This report recommended that improvements in the areas of fire prevention and fire control be made in most existing facilities and that consideration should be given to design features that would increase the ability of nuclear facilities to withstand fire without the loss of important safety functions. To implement the report's recommendations, NRC initiated a program for reevaluation of fire protection programs at all licensed nuclear power stations and for a comprehensive review of all new license applications.

The NRC issued new guidelines for fire protection programs in nuclear power plants which reflect the recommendations in NUREG-0050. These guidelines are contained in the following documents:

> "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," NUREG-75/087, Section 9.5.1, "Fire Protection," May 1976, which includes, "Guidelines for Fire Protection for Nuclear Power Plants," (BTP APCSB 9.5-1), August 23, 1976).

"Guidelines for Fire Protection for Nuclear Power Plants," (Appendix A to BTP APCSB 9.5-1), August 23, 1976.

"Supplementary Guidance on Information Needed for Fire Protection Program Evaluation," September 30, 1976.

"Sample Technical Specifications."

"Nuclear Plant Fire Protection Functional Responsibilities Administrative Controls, and Quality Assurance," June 14, 1977.

All licensees were requested to: (1) compare their fire protection programs with the new guidelines; and (2) analyze the consequences of a postulated fire in each plant area. The results of these actions as applied to Hatch, Unit Nos. 1 and 2 are discussed below.

We have, with the assistance of our fire protection consultants,* reviewed Georgia Power Company's (the licensee) analysis and visited both Units 1 and 2, to examine the relationship of safety related components, systems, and structures to both combustible materials, and to the associated fire detection and suppression systems. Our review was based on the licensee's proposed program for fire protection as described in the following docketed information: (1) Edwin I. Hatch Nuclear Plant, Unit Nos. 1 and 2, Fire Hazards Analysis, dated October 27, 1976; and (2) the licensee's docketed response to requests for additional information and staff positions.

The overall objective of our review of the Hatch Nuclear Plant Fire Protection Program was to ensure that in the event of a

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fire at the facility, the units would maintain the ability to safely shutdown and remain in a safe shutdown condition and minimize the release of radioactivity to the environment.

Our conclusion is that the Fire Protection Program at the Hatch Plant is adequate for the present and meets General Design Criterion 3. However, to further ensure the ability of the plant to withstand the damaging effects of fires that could occur, we are requiring, and the licensee has agreed, to provide additional fire protection features. These additional features will be completed for Unit No. 1 prior to the end of the next refueling outage. For Unit No. 2, the program will be implemented prior to the end of the first refueling outage. The schedule for specific fire protection system improvements is presented in the Conclusion section of this report. This report summarizes the results of our evaluation of the Fire Protection Program at the Edwin I. Hatch Nuclear Plant. When the modifications itemized in Table 1 are completed, the Fire Protection Program at Hatch Nuclear Plant Units Nos. 1 and 2 will meet the guidelines of Appendix A to BTP 9.5.1 except for certain fire doors for which an acceptable alternative is discussed in Section IIIB of this evaluation. In the interim period until all modifications are

completed, we consider that the improved administrative controls of combustibles and ignition sources and the establishment of a fire brigade and brigade training program provide adequate protection against a fire that would affect safe plant shutdown.

II. FIRE PROTECTION SYSTEMS DESCRIPTION

A. Water Suppression Systems

The water fire protection system is designed to provide water in sufficient quantities and at the proper pressure to fight any fires that could occur at the Hatch Nuclear Plant. The system is common to both units and consists of a 2500 gpm motor driven pump, two 2500 gpm diesel engine driven pumps, a 75 gpm pressure maintenance pump (jockey pump), two 300,000 gallon storage tanks, a yard loop with sectionalizing post-indicator isolation valves.

The jockey pump and fire pumps take their suction from either one of the 300,000 gallon storage tanks. All pumps are located inside the fire protection pump house and the pump installation is consistent with NFPA 20. Separate alarms monitoring pump running, drive availability, or failure to start are provided in the control room for the motor driven pump and for the combination of the two diesel driven pumps. The power supply associated with the control signal which starts the fire pumps automatically, is supplied by the Class 1E station battery system.

The fire pumps are located in a common fire pump building which is provided with automatic sprinklers; however, there are no fire barriers between the pumps. We were concerned that a single fire could damage all the fire pumps and cause loss of all sprinklers and hose stations water supply throughout the plant. The licensee has agreed to provide floor-to-ceiling one-hour rated fire barriers between the fire pumps and elevate the existing sprinklers to the roof of the fire pump building.

The automatic sprinkler system and manual hose station hose standpipe system are fed by a main loop inside the turbine and control building, and a separate main loop inside the reactor building. Every standpipe within each building is individually connected to the inside main loop.

The inside main loop for the turbine building and reactor building is fed from the yard loop by two lines with sectionalizing valves between the connections at the yard loop. The licensee has committed to provide either electrically supervised or locked open valves controlling water supply to the fixed water extinguishing systems. Since Unit No. 1 electrically supervised valves only alarm locally, but not in the control room, these valves will be locked open and their positions verified periodically. For Unit No. 2, the electrically supervised valves alarm locally and in the control room, but do not have trouble alarms. The circuit for these valves in Unit No. 2 will be tested monthly.

The automatic sprinklers have water flow alarms which initiate an alarm for fire in the affected area. The licensee is also committed to test monthly the alarm circuits which do not have trouble alarms. The automatic sprinkler systems, e.g., wet sprinkler system, pre-action sprinkler systems, deluge and water spray systems, are designed to the requirements of NFPA Standard No. 13, "Standard for Installation of Sprinkler Systems," and NFPA Standard No. 15, "Standard for Water Spray Fixed System."

Manual hose stations are located throughout the plant to ensure that an effective hose stream can be directed to any safety related area in the plant. These systems are consistent with the requirements of NFPA Standard No. 14, "Standpipe and Hose System for Sizing, Spacing, and Pipe Support Requirements."

Areas that have been equipped or will be equipped with automatic water suppression systems are:

(a) Cable Spreading Room;[1],[2]
(b) HPCI Room;
(c) RCIC Room;
(d) M-G Set Rooms;
(e) East Cableway;
(f) West Cableway;
(g) HVAC Room;
(h) Turbine Building Oil Spill Protection Zone;
(i) Reactor Feedpump Turbine Room;
(j) Reactor Feedpump Turbine Oil Conditioner Area;
(k) Oil Storage Room on El 112';
(l) Standby Gas Treatment Rooms;
(m) Drywell;
(n) Radwaste Building

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[1] Sprinkler systems to be installed

[2] Cable spreading room is already equipped with CO_2 flooding system see Section IV A for evaluation of cable spreading room.

(o) RPS vertical cable way;[1]
(p) Control Building Corridor - elevation 130';[1]
(q) Intake structure RHR service water pumps;[1]
(r) Primary system Recirculation pumps[1]

We have reviewed the design criteria and bases for the water suppression systems and conclude that these systems meet the guidelines of Appendix A to Branch Technical Position 9.5.1 and are in accord with the applicable portions of the National Fire Protection Association (NFPA) Codes, and are, therefore, acceptable. Until the committed suppression systems are installed and operational, we consider the licensee's improved administrative procedures for control of combustibles and ignition sources, and fire brigade training to provide adequate protection against a fire occurring in these areas. These areas have detection systems to provide alarm in the event of a fire, and manual fire fighting equipment is available.

B. Gas Suppression System

Low pressure carbon dioxide flooding systems have been provided for the following areas:

(a) Emergency diesel generator rooms;
(b) Cable spreading room; and
(c) Computer room.

Also, manual CO_2 hose stations have been provided in the electrical switchgear areas.

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[1] Sprinkler systems to be installed

The CO_2 system for the diesel generator rooms is automatically actuated. Actuation of this system provides audible and visual alarms locally and in the main control room. The ventilating systems for these rooms shutdown automatically in the event of actuation of the automatic CO_2 system, thus, isolating the diesel rooms. An inadvertent actuation of the CO_2 system for a diesel room would not affect the combustion air intake for the other diesels, because the combustion air source is separate for each diesel generator.

The CO_2 suppression systems are designed according to NFPA Standard No. 12, "Carbon Dioxide Extinguishing Systems." We have reviewed the design criteria and basis for these fire suppression systems. We conclude that these systems satisfy the provisions of Appendix A to Branch Technical Position 9.5.1 and are provided in accordance with the applicable portions of the National Fire Protection Associate Code and are, therefore acceptable.

C. Fire Detection Systems

The fire detection system consists of the detectors, associated electrical circuitry, electrical power supplies, and the fire annunciator panel. The two types of detectors used at the Hatch Nuclear Plant are ionization (products of combustion), and thermal (heat sensors).

Fire detection systems given audible and visual alarm and annunciation in the control room. Local, audible and/or visual alarms are also provided. Both the fire detection systems are connected to the emergency power supply.

Appendix A to Branch Technical Position 9.5-1 contains guidelines that detectors be placed in control room cabinets so that fires occurring in these cabinets may be detected rapidly. The licensee is committed to install smoke detectors with local, visual and audible alarms in those control room cabinets containing redundant safety related cabling divisions and whose configuration could trap smoke from a cabinet fire and prevent the room ceiling detectors from providing rapid alarm.

At our request, the licensee agreed to install additional smoke detectors along the east cable way ceiling, in the peripheral rooms adjacent to the main control room, at the vertical cable trays adjacent to the reactor protection system M-G set room at 130' El and 140' El, in the northwest and southwest cable areas at reactor building 130' El, in t control building corridor-elevation 130' and elevation 112' and at each reactor coolant recirculation pump.

The fire detection systems have been installed or will be installed according to NFPA No. 72D, "Standard for the Installation, Maintenance, and Use of Proprietary Protection Signalling Systems."

We have reviewed the fire detection systems to ensure that fire detectors are located to provide detection and alarm of fires that could occur. We have also reviewed the fire detection system's design criteria and bases to ensure that it conforms to the applicable sections of NFPA No. 72D. We conclude that the design and the installation of the fire detection systems with the additional detectors to be installed, meet the guidelines of Appendix A to Branch Technical Position ASB 9.5-1 and the applicable portions of NFPA No. 72D, and are therefore, acceptable.

III. OTHER ITEMS RELATING TO THE STATION FIRE PROTECTION PROGRAM

A. Fire Barriers and Fire Barrier Penetrations

All floors, walls, and ceilings enclosing fire areas are rated at a minimum of 3-hour fire rating. The main control room area contains peripheral rooms which are located within the main control room 3-hour fire barrier. These peripheral rooms will be provided with detectors and alarms and one-hour rated fire barriers and fire doors.

The licensee has provided documentation to substantiate the fire rating of the 3-hour penetration seals used in the penetrations for cable trays, conduits, and piping.

B. Fire Doors and Dampers

We have also reviewed the placement of the fire doors to ensure that fire doors of proper fire rating have been provided.

The licensee's submittal identified certain fire doors that are located in heavily trafficked plant areas. For these doors the licensee proposed an alternative to the staff guidance of locking or alarming these doors. The alternative is a daily check that the doors are closed. We have reviewed the list of fire doors involved and determined that the institution of administrative controls to check daily that these fire doors are closed is an acceptable alternative to the staff guidelines because it will assure fire barrier integrity.

The alarms will annunciate in a constantly manned area having direct communication with the staff supervisor.

Fire dampers installed in Unit No. 2 ventilation ducts are 3-hour rated. Some of the fire dampers installed in Unit No. 1 were 1-1/2 hour rated. The licensee agreed to upgrade all these dampers in Unit No. 1 to 3-hour rated. This modification was completed in June 1978.

We conclude that the fire barriers, barrier penetrations, fire doors and dampers are provided in accordance with the guidelines of Appendix A to Branch Technical Postion ASB 9.5-1 except for the alternative discussed above and are, therefore acceptable.

IV. FIRE PROTECTION FOR SPECIFIC AREAS

A. Cable Spreading Room

The cable spreading room is shared by both units. The walls, floors, and ceilings in this room are designed to have a fire rating of three hours. At present a fixed low pressure manually operated CO_2 system is provided for total flooding of the cable spreading room. Back-up fire protection is provided by a manual hose station. Smoke detectors are provided that will initiate a local alarm and audible and visual alarms in the control room.

During our site visit, we noted that the cable spreading room contained many cables and cable trays with limited accessibility for manual fire fighting operations; however the cable separation criteria of the FSAR are met. We are concerned nevertheless, that a damaging fire could disable the redundant safety related cable trains for both units. At our request, the licensee agreed to provide an automatic, closed-head, preaction sprinkler system in accordance with NFPA 13, at the ceiling level of the cable spreading room of Unit Nos. 1 and 2,

including the open area between the two units cable trays. In addition, the licensee will establish and implement emergency procedures and associated modifications of the remote shutdown panels, as necessary, to achieve safe cold shutdown without reliance on the cable spreading room or the control room. Interim emergency shutdown procedures and modifications will be in effect by initial fuel loading of Unit No. 2. The interim emergency shutdown procedure which have been implemented requires that in the event of a fire involving cable in either the cable spreading room or the control room that the plant be taken to hot shutdown condition. If it became necessary to evacuate the control room, plant control would be isolated from the control room by means of the isolation switch and transferred to the remote shutdown panel. Hot shutdown condition would be maintained and monitored from the remote shutdown panel. After reaching hot shutdown and extinguishing the fire, the extent of plant damage would be assessed to determine the need for cold shutdown. If necessary, cold shutdown would be achieved by dispatching operators to perform local manual operation of individual systems necessary for cold shutdown. Communication between the control room or the remote shutdown panel and local station operators would be maintained by any of the plant communication systems, including portable radios which are available if necessary. We find the interim emergency shutdown procedures to be acceptable. The final procedures and

modifications will be implemented by October 1978.

We have reviewed the licensee's fire hazards analysis and fire protection provided for the cable spreading room and consider that appropriate fire protection and emergency shutdown procedures have been provided and conform to the provisions of Appendix A to BTP 9.5-1 and are therefore, acceptable.

B. East Cableways

The east cableways are on the east side of elevation 130' floor of the control building. The Unit 1 and Unit 2 portion of the cableways are separated by 3-hour rated fire walls. These areas contain primarily Division 2 cables. The combustible loading in these areas consists mainly of cable insulations. Automatic sprinklers are installed at the ceiling level and hose stations are available at convenient locations.

At our request the licensee has committed to install a sprinkler head at the side of the fire barrier which separates the redundant cable divisions in close proximity and a fire barrier (kaowool) will be installed around the redundant cables. In addition, smoke detectors will be installed along the ceiling level. Transient combustibles will be controlled by administrative procedures and the floor areas will be appropriately marked to prohibit storage of combustible materials.

We conclude that these additional fire protection measures for the east cableway area meet the positions of Appendix A to BTP 9.5-1 and are therefore, acceptable.

C. River Intake Structure

The intake structure is a shared facility and contains the RHR service water pumps, the plant service water pumps, and the diesel generator 1B service water pump for both units.

To protect against a potential fire involving oil contained in the pumps' motors, the licensee has committed to add a curb around each RHR service water pump to contain oil spills. Also, he will provide an automatic wet pipe sprinkler system with directional nozzles as protection for each pump motor. Hose stations will be added to locations near each entrance and on the rear wall of the intake structure. In addition, kaowool will be installed as a barrier around the overhead cable trays and conduits for approximately ten feet in either side of divisional crossings. The remaining open floor areas will be appropriately marked to exclude transient combustibles. Early warning ionization-type fire detectors located throughout the intake structure will alarm in the main control room.

We conclude that the protection to be provided for the river intake structure meet the positions of Appendix A to BTP 9.5-1 and is, therefore, acceptable. Until the kaowool

barriers around the overhead cable trays and conduits have been installed and the fire suppression system for the RHR service water pumps becomes operational, we consider the licensee's improved administrative procedures for control of combustibles ignition sources and fire brigade training will provide adequate protection against a damaging fire occurring in the intake structure. In addition, fire detection systems provided in this area will alarm in the control room in the event of a fire, thus, a timely manual fire fighting operation can be initiated if necessary.

D. Fire Protection Inside Containment

The major fire hazards in the drywell area are lubrication oil contained in the recirculation pumps and electrical cables. The licensee will provide curbing under the pumps to contain any oil that might leak out, and will install dry sprinkler systems to protect the area under the recirculation pumps in the event of an oil fire. Fire detection systems will be placed under the pumps and will annunciate in the control roo

Safety related cable Division 1 and Division 2 containment cable penetration areas are located 180° apart in the drywell thus providing adequate separation. Cable trays will be covered with kaowool to reduce the probability of propagation of electrically initiated fire from one tray to the other within a division.

If containment access is not possible, the containment sprays can be used to extinguish a cable tray fire. When containment access is possible, the area hose stations and portable extinguishers located outside the containment may be used for manual fire fighting.

We have reviewed the licensee's Fire Hazards Analysis for the areas inside containment and conclude that appropriate fire protection which meets the positions of Appendix A has been provided and is acceptable, subject to the addition of the protection to be provided for the recirculation pumps and cable trays as stated above.

E. Other Plant Areas

The licensee's Fire Hazards Analysis addresses other plant areas not specifically discussed in this report. The licensee has committed to install additional detectors, portable extinguishers, hose stations, and some additional emergency lighting as identified in the licensee's installation schedule. With the commitment made by the licensee, we find these areas to be in accordance with the guidelines of Appendix A of BTP 9.5-1, and the applicable sections of the National Fire Protection Association Code and are therefore acceptable.

V. ADMINISTRATIVE CONTROLS

The administrative controls for fire protection consists of the fire protection organization, the fire brigade training, the controls over combustibles and ignition sources, the prefire plans and procedures for fighting fires.

In response to Appendix A to Branch Technical Position ASB 9.5-1, the licensee described briefly those procedures and controls that were in existence at that time.

The licensee has agreed to revise his administrative controls and training procedures to follow supplemental staff guidelines contained in "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance," dated 6/14/77, and implement them according to the schedule as presented in Table 1 for the following activities:

(a) Fire Brigade Training;

(b) Control of Combustibles;

(c) Control of Ignition Sources; and

(d) Fire Fighting Procedures.

The plant fire brigade of at least five members is organized to provide immediate response to fires that may occur at the site. Spare air cylinders and recharge capability are provided to satisfy the guidelines of Appendix A to Branch Technical Position ASB 9.5-1.

The plant fire brigade will also be equipped with pressure demand breathing apparatus, portable communications equipment, portable lanterns, and other necessary fire fighting equipment.

The fire fighting brigade participates in periodic drills. Liaison between the plant fire briade and the local fire departments has been established. The local fire departments have been on plant

tours and have also been involved in training sessions with the plant fire brigade.

We conclude that the fire brigade equipment and training conform to the recommendations of the supplemental National Fire Protection Association, Appendix A to Branch Technical Position 9.5-1 and supplemental staff guidelines and are, therefore, acceptable.

VI. TECHNICAL SPECIFICATIONS

The Technical Specifications for the fire protection systems in use have been issued for Unit No. 1. The same standard fire protection Technical Specifications were issued for Unit No 2 with the initial Unit No. 2 Plant Technical Specifications.

We have reviewed the currently approved Technical Specifications for Units Nos. 1 and 2 and find that they are consistent with our Standard Technical Specifications for fire protection. Following the implementation of the modifications of fire protection systems and administrative controls resulting from this review, the Technical Specifications will be modified accordingly to incorporate the limiting conditions for operation and surveillance requirements to reflect these modifications.

The amendment for Hatch Unit No. 1, which is supported by this evaluation, adds a license condition requiring the licensee to maintain in effect an approved Fire Protection Program. The licensee is authorized to make changes in the program provided such changes do

not degrade the effectiveness of the program. This condition would insure that the licensee will not deviate from the descriptions of approved modifications but will allow the licensee to make additional improvements without prior Commission approval.

VII. ENVIRONMENTAL CONSIDERATION

We have determined that the license conditions incorporated on both Hatch Units Nos. 1 and 2 do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the action is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this action.

VIII. CONCLUSION

During the course of our review we have reviewed the licensee's submittals and his responses to our requests for additional information. In addition, we have made a site visit to evaluate the fire hazards that exist in the Hatch Nuclear Plant and the design features and protection systems provided to minimize these hazards.

The licensee has proposed to make many modifications to improve the fire resistance capability for fire doors, dampers, fire barriers and barrier penetration seals.

The licensee has also proposed to install additional sprinkler systems for areas such as the cable spreading rooms, HVAC rooms, intake structure, recirculation pumps, and various other areas. To ensure that fires can be detected rapidly and the plant operators informed promptly, additional detectors will be installed in various areas of the plant.

In addition, the licensee has established emergency shutdown procedures to bring the plants to safe cooldown condition in the event of a damaging fire in the cable spreading room or the main control room.

The licensee committed to making all improvements for Unit No. 1 prior to the end of the first refueling outage following our acceptance of the plan unless the refueling outage occurs within six months of acceptance.* Accordingly, improvements will be made before the end of the third refueling outage. For Unit No. 2, all improvements will be implemented prior to the end of the fire first refueling outage. We have reviewed the licensee's schedule and find it acceptable and have included it in Table 1.

Our overall conclusion is that a fire occurring in any area of the Edwin I. Hatch Nuclear Plant will not prevent either unit from being brought to a controlled safe cold shutdown, and further, that such a fire would not cause the release of significant amounts of radiation.

*Issuance of Hatch 2 SER indicates our acceptance

We find that the Fire Protection Program for the Edwin I. Hatch Nuclear Plant with the improvements already made by the licensee, is adequate for the present and, with the scheduled modifications, will meet the guidelines contained in Appendix A to Branch Technical Postion 9.5-1 with a single acceptable alternative and meets the General Design Criterion 3 and is, therefore, acceptable. In the interim period until all modifications are completed, we consider that the improved administrative controls of combustibles and ignition sources and the establishment of a fire brigade and brigade training program provide adequate protection against a fire that would affect safe plant shutdown.

In the report of the Special Review Group on the Browns Ferry Fire (NUREG-0050) dated February 1976, consideration of the safety of operation of all operating nuclear power plants pending the completion of our detailed fire protection evaluation was presented. The following quotations from the report summarize the basis for our conclusion that the operation of the facility, pending resolution of the incomplete items and the implementation of all facility modifications, does not present an undue risk to the health and safety of the public.

"A probability assessment of public safety or risk in quantitative terms is given in the Reactor Safety Study (WASH-1400). As the result of the calculation based on the Browns Ferry fire, the study concludes that the potential for a significant

release of radioactivity from such a fire is about 20% of that calculated from all other causes analyzed. This indicates that predicted potential accident risks from all causes were not greatly affected by consideration of the Browns Ferry fire. This is one of the reasons that urgent action in regard to reducing risks due to potential fires is not required. The study (WASH-1400) also points out that 'rather straightforward measures, such as may already exist at other nuclear plants, can significantly reduce the likelihood of a potential core melt accident that might result from a large fire'.

"Fires occur rather frequently; however, fires involving equipment unavailability comparable to the Browns Ferry fire are quite infrequent (see Section 3.3 of NUREG-0500). The Review Group believes that steps already taken since March 1975 (see Section 3.3.2) have reduced this frequency significantly.

"Based on its review of the events transpiring before, during, and after the Browns Ferry fire, the Review Group concludes that the probability of disruptive fires of the magnitude of the Browns Ferry event is small, and that there is no need to restrict operation of nuclear power plants for public safety. However, it is clear that much can and should be done to reduce even further the likelihood of disabling fires and to

improve assurance of rapid extinguishment of fires that occur. Consideration should be given also to features that would increase further the ability of nuclear facilities to withstand large fires without loss of important functions should such fires occur."

We have concluded, based on the considerations discussed above, that: (1) because the license conditions incorporated on both Hatch Units Nos. 1 and 2 do not involve a significant increase in the probability or consequences of accidents previousy considered and do not involve a significant decrease in a safety margin, the conditions do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this action will not be inimical to the common defense and security or to the health and safety of the public.

TABLE 1
SCHEDULE

I. Overall Schedule

(a) Unit 1

The program will be implemented prior to the end of the third refueling outage.

(b) Unit 2

The program will be implemented for Unit 2 prior to the end of the first refueling outage.

II. Items to be completed prior to HNP-2 initial fuel loading:

(a) Installation of 3-hour rated penetrations for Unit 2.

(b) Emergency lighting and communication system for Units 1 and 2.

(c) Place into effect procedures for fire protection administrative and training activities for Units 1 and 2.

(d) Fire retardant material on cable trays and conduit at the intake structure.

(e) Complete interim revised modifications and procedures to provide for safe cold shutdown without reliance on cable spreading room or control room.

III. Specific Schedule

1. Separate peripheral rooms from the control room and provide smoke detector.	January 1979
2. Provide control cabinets that contain redundant safety functions with smoke ventilation or smoke detection as proposed.	January 1979
3. Provide dampers for CO_2 system.	Refueling
4. Remove unused cable tray from cable spreading room.	Refueling

*Issuance of Edwin I. Hatch Unit 2 SER indicated our acceptance

5.	Install sprinklers and additional smoke detection in cable spreading room.	Refueling
6.	Complete revised final modifications and procedures to achieve safe cold shutdown without reliance on cable spreading room or the control room.	October 1978
7.	Provide disconnect switches to aid in remote shutdown.	October 1978
8.	Remove loose hanging cable in the east cable way.	July 1978*
9.	Improve barrier in east cable way.	July 1978*
10.	Addition of fire retardant material on cable trays near the barrier in the east cable way.	July 1978*
11.	Modify the sprinkler to spray both sides of the barrier in east cable way.	July 1978*
12.	Place into effect procedures for control of combustible material in the east cable way.	July 1978*
13.	Mark floors of east cable way.	July 1978*
14.	Provide smoke detection in east cable way.	Refueling
15.	Provide 3 hr barriers for the RPS vertical cable way.	April 1978*
16.	Provide smoke detection for the RPS vertical cable way.	Refueling
17.	Provide sprinkler system for RPS vertical cable way.	Refueling
18.	Remove cable temperature monitoring equipment.	Refueling
19.	Provide sprinkler and smoke detection for the Control Building corridor at elevation 130'.	Refueling
20.	Provide smoke detection in the Control Building Corridor and work area at elevation 112'.	Refueling
21.	Sprinkler system for the pumps in the intake structure.	January 1979
22.	Provide spray barriers between divisional pumps at the intake structure.	January 1979

*Completed

23.	Provide oil collection curbs around pumps at the intake structure.	January 1979
24.	Fire retardant coating for divisional crossings in the intake structure.	April 1978*
25.	Mark floors to prohibit transient combustibles in the intake structure.	April 1978*
25A.	Provision of separation between HPCI and RHR rooms.	May 1, 1978*
26.	Provide smoke detection in the CRD areas.	Refueling
27.	Add Kaowool to cable trays in the drywell.	April 1978*
28.	Curbing for recirc pump in the drywell.	Refueling
29.	Sprinkler system for recirc pump.	Refueling
30.	Fire detectors for recirc pump.	Refueling
30A.	Lock or Alarm Fire doors.	April 1978*
31.	Qualification of fire dampers.	June 1978*
31A.	Replace 3 hr barriers.	July 1978*
32.	Provision of smoke handling equipment.	January 1979
32A.	Training of fire team in revised procedures.	September 15, 1978
32B.	Training of fire Brigade in revised procedures.	January 1, 1979
33.	The circuits of unsupervised flow switches and alarms to be tested monthly.	April 1978*
34.	Unsupervised valve alarm circuitry will be tested monthly and valve positions checked.	April 1978*
35.	Provide separate monitoring for the electric fire pump.	July 1978*
36.	Barriers will be provided between fire pumps and the sprinkler system raised.	October 1978
37.	Above ground valves controlling water to fixed water extinguishing system will be locked or have position alarms in the control room.	April 1978*

*Completed

38.	Additional smoke detection for northwest and southwest cable areas.	Refueling
39.	Mobile platform for northwest and southwest cable areas.	Refueling
40.	Protect cable trays in the northwest and southwest cable areas with Kaowool.	Refueling
41.	Provide smoke detection and sprinklers in the HVAC area of the 158' floor of the reactor buildings.	Refueling
42.	Lock closed the MG set oil drain valve and seal the penetration.	Refueling
43.	Provide curbs around the MG set area (pg. Q25-5).	Refueling
44.	Coat exposed structural steel of the MG set fire wall.	Refueling
45.	Relocate obstructed sprinkler nozzles in the MG set area.	January 1979

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Attn: Robert Hall, Bldg. 130

Gentlemen: Fire Protection Safety Evaluation, Hatch Units No. 1 and 2

The fire protection safety evaluation report for Hatch Units No. 1 and 2, dated May 16, 1978, has been reviewed and adequately reflects our concerns and recommendations. We concur in the NRC findings and the conclusion that upon implementation of the modifications listed in the report the fire protection program will be acceptable. Our review was based on the guidelines set forth in Appendix A to Branch Technical Position APCSB 9.5-1.

The review process of the plant's fire protection program was a joint effort of NRC and GBA staff personnel, and frequent contact was maintained during the review process. However, the GBA concurrence is based on an independent evaluation of documents submitted by Georgia Power Company, of conditions noted during a site visit in February 1977, and of documents supplied in response to requests for information generated during the evaluation.

Very truly yours,

J.D.B.

James D. Behn
Fire Protection Engineer

cc: Vic Beneroya
Phil Matthews