

May 12, 1988

Docket Nos: 50-321
and 50-366

Mr. R. P. McDonald
Executive Vice President -
Nuclear Operations
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. McDonald:

SUBJECT: ISSUANCE OF AMENDMENT NOS. 154 AND 92 TO FACILITY OPERATING
LICENSES DPR-57 - AND NPF-5 - EDWIN I. HATCH NUCLEAR PLANT,
UNITS 1 AND 2 (TACS 62127/62128)

The Commission has issued the enclosed Amendments Nos. 154 and 92 to Facility Operating Licenses DPR-57 and NPF-5, for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your application dated September 9, 1986, as supplemented May 8 and December 15, 1987.

The amendments modify the Technical Specifications related to the minimum water level required for plant operation.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

Original signed by:


Lawrence P. Crocker, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II


Enclosures:

1. Amendment No. 154 to DPR-57
2. Amendment No. 92 to NPF-5
3. Safety Evaluation

cc w/ enclosures:
See next page

LA:PDII-3
MRB
4/18/88


PM:PDII-3
LCrocker:pw
5/12/88


PD:PDII-3
DMatthews
5/13/88

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PDR ADOCK 05000321
P PDR

Mr. R. P. McDonald
Georgia Power Company

Edwin I. Hatch Nuclear Plant,
Units Nos. 1 and 2

cc:

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270 Washington Street, N.W.
Atlanta, Georgia 30334

Chairman
Appling County Commissioners
County Courthouse
Baxley, Georgia 31513

DATED May 12, 1988

AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE DPR-57, EDWIN I. HATCH, UNIT 1
AMENDMENT NO. 92 TO FACILITY OPERATING LICENSE NPF-5, EDWIN I. HATCH, UNIT 2

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

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA
DOCKET NO. 50-321
EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 154
License No. DPR-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 1 (the facility) Facility Operating License No. DPR-57 filed by Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia, (the licensee) dated September 9, 1986, as supplemented May 8 and December 15, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-57 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 154, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects-I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 12, 1988

OFFICIAL RECORD COPY

LA:PDII-3
MR600
4/18/88

PM:PDII-3
LCrocker:
4/18/88

PSB
4/15/88

OGC-WF
4/25/88

PDII-3
DMatthews
5/3/88

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5/3/88

ATTACHMENT TO LICENSE AMENDMENT NO. 154

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Revised Page

3.5-11

3.5-19

3.5-20

4.5.H.1. Maintenance of Filled Discharge Pipes (con't)

from the high point and water flow observed.

2. Following any period where the LPCI or core spray systems have not been required to be operable, or have been inoperable the discharge piping of the system or systems being returned to service shall be vented from the high point prior to return of the system to service.
3. Whenever the HPCI or RCIC system is lined up to take suction from the condensate storage tank, the discharge piping of the HPCI and RCIC shall be vented from the high point of the system and water flow observed on a monthly basis.
4. The level switches which monitor the discharge lines shall be functionally tested every month and calibrated every three months.

3.5.I. Minimum River Level

1. If the water level, as measured in the pump well, is less than 61.2 feet MSL, the discharge from each plant service water pump will be throttled such that each pump does not exceed 7000 gpm.
2. If the water level as measured in the pump well decreases to less than 60.7 feet MSL, or if the level in the river* would drop to a level equivalent to less than 60.7 feet in the pump well of the intake structure, an orderly shutdown of the reactor shall be initiated, and the reactor shall be in the Cold Shutdown Condition within 24 hours until the level in the river is greater than or equal to 60.7 feet MSL equivalent in the pump well.

I. Minimum River Level

The water level as measured in the pump well and the level in the river* shall be verified with the following frequencies:

<u>Level (MSL)</u>	<u>Frequency</u>
1. >61.7 feet	Biweekly
2. ≤61.7 feet	Every 12 hrs

*Only pump well monitoring is required if a temporary weir is not in place.

3.5.H Maintenance of Filled Discharge Pipes

If the discharge piping of the core spray, LPCI, HPCI system, and RCIC system are not filled, a water hammer can develop in this piping when the pump and/or pumps are started. To minimize damage to the discharge piping and to ensure added margin in the operation of these systems, this Technical Specification requires the discharge lines to be filled whenever the system is in an operable condition. If a discharge pipe is not filled, the pumps that supply that line must be assumed inoperable for Specification purposes.

The core spray and RHR system discharge piping high point vent is visually checked for water flow once a month prior to testing to ensure that the lines are filled. The visual checking will avoid starting the core spray or RHR system with a discharge line not filled.

Assurance that the HPCI and RCIC discharge piping remains filled is provided by observing water flow from these system high points monthly.

I. Minimum River Level

A very low flow river stage-discharge relationship was developed at the Plant Hatch intake structure location. USGS rating data were available for flows above 1740 cfs at the Baxley gauge (at U.S. Highway No. 1 Bridge, which is on the plant site). This data, which includes bathymetric surveys of the rating cross-section, was used to extend the USGS rating curve by computation. Since the USGS data used in these computations result in the highest flow for a given low flow stage ever recorded at the location, the computed rating curve should give a conservative low stage for a given flow. The river rating curve at the Plant Hatch intake structure was developed by subtracting 0.1 ft from the USGS gauge evaluation for a given discharge. The 0.1 ft adjustment was determined by level survey when the river level at the USGS gauge was approximately 62 ft (msl). At the Plant Hatch site, the river level would be 61.3 ft (msl) for 1200 cfs which is the low flow of record at Charlotte and 60.8 ft (msl) for the hypothetical minimum low flow of 950 cfs.

The minimum low flow is important because of its effect on the operation of Plant service water and RHR service water pumps. The RHR service water pumps at rated flow conditions require, for NPSH, a river stage of only 59.0 feet. Thus, no further consideration is required on river stage with regard to submergence of these pumps.

At the rated flow of 8500 gpm each for the PSW pumps, 4 feet of submergence will satisfy the NPSH and vortexing requirement. This corresponds to a stage in the pump well of 61.2 feet. Normal operation requires about 7840 gpm for each of three pumps. Shutdown or emergency conditions require only one pump with a discharge flow of 4428 gpm. This corresponds to a pump well level of 59.9 feet for safe shutdown. For a 0.1 foot head loss through the trash rack and traveling screen, the corresponding river level would be 60.0 ft (msl), which corresponds to a flow of 660 cfs. Similarly,

BASES FOR LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

I. Minimum River Level (Continued)

the river level associated with the shutdown level in the pump well of 60.7 ft (msl) is 60.8 ft (msl), which corresponds to a flow of 950 cfs. Therefore, the shutdown level of 60.7 ft (msl) in the pump well provides an additional margin that ensures that Plant Hatch is protected against incredibly low flows and that the ultimate heat sink (Altamaha River) is available for at least 30 days. Operationally, it may be desirable to have a higher level in the intake structure during power operation because of the larger PSW flow requirements during plant operation. Supplementation of the river level or flow is permissible to support power operations. River flow is capable of being supplemented by additional discharge from upstream reservoirs. The capability of the upstream reservoirs to supplement river flow is approximately 70 days from normal full pool in Lake Oconee. An additional means of supplementing river stage at the intake structure to support power operation is construction of a temporary weir downstream of the intake structure. In order to assure the 30 day margin for safe shutdown, a river level measurement is taken at a location not affected by the weir and correlated back to the intake structure. When no weir is in place, it is only necessary to read river level in the pump well and compare with the minimum river level LCO.



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

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA
DOCKET NO. 50-366
EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 92
License No. NPF-5

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 2 (the facility) Facility Operating License No. NPF-5 filed by Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia, (the licensee) dated September 9, 1986, as supplemented May 8 and December 15, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-5 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 92, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

original sigend by:

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects-I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 12, 1988

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LA:PDII-3
MRood
4/18/88

PM:PDII-3
LCrocker:
4/16/88

PSB
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4/25/88

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DMatthews
5/3/88

AD/DPY/II
GLAhas
5/3/88

ATTACHMENT TO LICENSE AMENDMENT NO. 92

FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Revised Page

3/4 7-3

3/4 7-4

3/4 7-5

B 3/4 7-1

B 3/4 7-1a (new page)

PLANT SYSTEMS

SERVICE WATER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.1.2 Two independent plant service water system loops and the standby service water subsystem shall be OPERABLE with:

- a. The water level in the pump well of the intake structure greater than or equal to:
 1. 61.2 feet mean sea level (MSL), or
 2. 60.7 feet MSL, with the discharge from each plant service water pump throttled such that each pump does not exceed 7000 gpm.
- b. The river level* equivalent to greater than or equal to 60.7 feet MSL in the pump well, and
- c. Each plant service water system loop containing two OPERABLE plant service water pumps, and
- d. The standby service water system containing one OPERABLE standby service water pump.

APPLICABILITY: CONDITIONS 1, 2, 3, 4, and 5.

ACTION:

- a. In CONDITION 1, 2, or 3:
 1. With one plant service water pump inoperable, operation may continue and the provisions of Specification 3.0.4 are not applicable; restore the inoperable pump to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 2. With one plant service water pump in each loop inoperable, operation may continue and the provisions of Specification 3.0.4 are not applicable; restore at least one inoperable pump to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 3. With one plant service water system loop inoperable, restore the inoperable loop to OPERABLE status with at least one OPERABLE pump within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

*Only pump well monitoring is required if a temporary weir is not in place.

PLANT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

4. With the standby service water subsystem inoperable for up to 60 days, provide Hatch - Unit 1 service water cooling to the 1B Diesel generator by verifying OPERABILITY of the Hatch - Unit 1 service water cooling source per Hatch - Unit 1 technical specifications within 8 hours. Otherwise, declare the 1B diesel generator inoperable and take the ACTION required by Specification 3.8.1.1.
 5. With water level less than specified in 3.7.1.2.a or 3.7.1.2.b, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In CONDITION 4 or 5:
1. With up to three plant service water pumps or one plant service water loop inoperable, or
 2. With two plant service water pumps and the standby service water subsystem inoperable,
- restore both plant service water loops with at least one pump in each loop and the standby service water subsystem to OPERABLE status within 7 days or declare the core spray system, the LPCI system and the associated diesel generators inoperable and take the ACTION required by Specifications 3.5.3.1, 3.5.3.2 and 3.8.1.2.

SURVEILLANCE REQUIREMENTS

4.7.1.2 The plant service water system and the standby service water subsystem shall be demonstrated OPERABLE:

- a. By verifying that the water level in the pump well of the intake structure is greater than or equal to 60.7 feet MSL** and the river level* would correspond to a level in the pump well of the intake structure of greater than or equal to 60.7 feet.
1. At least once per 14 days when the level in the pump well of the intake structure is above 61.7 feet MSL, and
2. At least once per 12 hours when the level in the pump well of the intake structure is less than or equal to 61.7 feet MSL.

*Only pump well monitoring is required if a temporary weir is not in place.
**Note the throttling requirements of Specification 3.7.1.2.a.2

PLANT SYSTEMS

SURVEILLANCE CONDITIONS (Continued)

- b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed or otherwise secured in position, is in its correct position.
- c. At least once per 12 months by verifying the river bottom conditions in the vicinity of the intake structure.
- d. At least twice per 12 months by verifying the river stage discharge rating curve in the unit vicinity from recent USGS gaging data and computation of a very low flow rating curve to Elevation 60.0 msl.
- e. At least once per 18 months during shutdown, by verifying that:
 - 1. Each automatic valve servicing non-safety related equipment actuates to its isolation position on an isolation test signal.
 - 2. Each plant service water pump starts automatically, when on Standby, to maintain service water pressure ≥ 60 psig.
 - 3. The standby service water subsystem pump starts automatically when the 1B diesel generator starts

3/4.7 PLANT SYSTEMS

Bases

3/4.7.1 SERVICE WATER SYSTEMS

The OPERABILITY of the service water systems ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during safe shutdown (long term) conditions. The redundant cooling capacity of these systems, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits. The minimum water level is based on shutdown cooling requirements and includes NPSH and vortexing considerations for the PSW pumps. Requirements for the PSW pumps are more limiting than RHRSW. At the rated flow of 8500 gpm each for the PSW pumps, 4 feet of submergence will satisfy the NPSH and vortexing requirement. This corresponds to a stage in the pump well of 61.2 feet. Normal operation requires about 7840 gpm for each of three pumps. Shutdown or emergency conditions require only one pump with a discharge flow of 4428 gpm. This corresponds to a level of 59.9 feet for safe shutdown. The river level allows for continued operation of the PSW and RHRSW systems for a minimum of 30 days following plant shutdown to bring the plant to long term shutdown condition, and includes allowance for the drop in base river flow due to worst drought conditions. Operationally, it may be desirable to have a higher level in the intake structure during power operation because of the larger PSW flow requirements during plant operation. Supplementation of the river level or flow is permissible to support power operations. River flow is capable of being supplemented by additional discharge of upstream reservoirs. The capability of the upstream reservoirs to supplement river flow is approximately 70 days from normal full pool in Lake Oconee. An additional means of supplementing river stage at the intake structure, to support power operation, is construction of a temporary weir downstream of the intake structure. In order to assure the 30 day margin for safe shutdown, a river level measurement is taken at a location not affected by the weir and correlated back to the intake structure. When no weir is in place, it is only necessary to read river level in the pump well and compare with the minimum river level LCO.

3/4.7.2 MAIN CONTROL ROOM ENVIRONMENTAL CONTROL SYSTEM

The OPERABILITY of the main control room environmental control system ensures that (1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for equipment and instrumentation cooled by this system, and (2) the control room will remain habitable for operations personnel during the following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 10 of Appendix "A", 10 CFR Part 50.

3/4.7 PLANT SYSTEMS

Bases

3/4.7.3 REACTOR CORE ISOLATION COOLING SYSTEM

The reactor core isolation cooling (RCIC) system is provided to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without requiring actuation of any of the emergency core cooling equipment. The RCIC system is conservatively required to be OPERABLE whenever reactor pressure exceeds 150 psig even though the residual heat removal (RHR) system provides adequate core cooling up to 350 psig.

The RCIC system specifications are applicable during CONDITIONS 1,2 and 3 when reactor vessel pressure exceeds 150 psig because RCIC is the primary non-ECCS source of emergency core cooling when the reactor is pressurized.

Two sources of water are available to the RCIC system. Suction is initially taken from the condensate storage tank and is automatically transferred to the suppression pool upon low CST level or high suppression pool level.

With RCIC inoperable, adequate core cooling is assured by the demonstrated OPERABILITY OF THE HPCI system and justifies the specified 14 day out-of-service period.

UNITED STATES NUCLEAR REGULATORY COMMISSIONGEORGIA POWER COMPANYOGLETHORPE POWER CORPORATIONMUNICIPAL ELECTRIC AUTHORITY OF GEORGIACITY OF DALTON, GEORGIADOCKET NOS. 50-321 AND 50-366NOTICE OF ISSUANCE OF AMENDMENTS TOFACILITY OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 154 to Facility Operating License No. DPR-57, and Amendment No. 92 to Facility Operating License No. NPF-5 issued to Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensee), which revised the Technical Specifications for operation of the Edwin I. Hatch Nuclear Plant, Units 1 and 2 (the facility) located in Appling County, Georgia. The amendments were effective as of the date of issuance.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments.

Notice of Consideration of Issuance of Amendment and Opportunity for Prior Hearing in connection with this action was published in the FEDERAL REGISTER ON November 12, 1986, (51 FR 41036). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment and Finding of No Significant Impact related to the action and has concluded that an environmental impact statement is not warranted because there will be no environmental impact attributable to the action beyond that which has been predicted and described in the Commission's Final Environmental Statement for the facility dated October 1972. (53 FR 16603)

For further details with respect to the action see (1) the application for amendment dated September 9, 1986, as supplemented May 8 and December 15, 1987, (2) Amendment No. 154 to license No. DPR-57, (3) Amendment No. 92 to license No. NPF-5, (4) the Commission's related Safety Evaluation, and (5) the Environmental Assessment dated May 4, 1988. All of these items are available for public inspection at the Commission's Public Document Room 1717 H Street, N.W., and at the Appling County Public Library, 301 City Hall Drive, Baxley, Georgia 31513.

A copy of items (2), (3), (4), and (5) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects I/II.

Dated at Rockville, Maryland this 12th day of May 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Lawrence P. Crocker, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II

DISTRIBUTION:

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UNITED STATES NUCLEAR REGULATORY COMMISSIONGEORGIA POWER COMPANYOGLETHORPE POWER CORPORATIONMUNICIPAL ELECTRIC AUTHORITY OF GEORGIACITY OF DALTON, GEORGIADOCKET NOS. 50-321 AND 50-366ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. DPR-57 and NPF-5, issued to Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia, (the licensee), for operation of the Edwin I. Hatch Nuclear Plant, Units 1 and 2, located in Appling County, Georgia.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The proposed amendments would revise the provisions in the Technical Specifications (TS) to: (1) Lower the minimum water level required for continued plant operation and change the point of measurement of water level from the river gauge to the pump intake structure; (2) Provide an alternate requirement for determination of equivalent river level when a temporary weir is in place; (3) Change the water level at which an increased frequency of level surveillance is required; (4) Change the plant service water pump throttling requirement for Unit 1 and add a corresponding pump throttling requirement for Unit 2; and (5) Amend the Technical Specification Bases to reflect the above changes.

The proposed action is in accordance with the licensee's application for amendment dated September 9, 1986, as supplemented by letter dated May 8, 1987, and partially revised on December 15, 1987.

The Need for the Proposed Action:

The proposed change to the TS is required to enable the licensee to operate the plant at power during periods of low river water level while maintaining the capability for safe plant shutdown if required.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed revisions to the Technical Specifications. The proposed changes would allow the licensee to adjust downward the water levels at which plant service water pump throttling and plant shutdown are required. However, the proposed adjusted water levels are still sufficient to assure protection of the pumps and to provide for adequate cooling to meet plant shutdown requirements. Therefore, the proposed changes do not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released offsite, and there is no change in the allowable or cumulative occupational radiation exposure. Accordingly, the Commission concludes that this proposed action would result in no significant environmental impact.

With regard to potential non-radiological impacts, the proposed changes to the TS involve systems located within the restricted area as defined in 10 CFR Part 20. They do not affect non-radiological plant effluents and have no other environmental impact. Therefore, the Commission concludes that there are no significant non-radiological environmental impacts associated with the proposed amendment.

The Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for Prior Hearing in connection with this action was published in the Federal Register on November 12, 1986 (51 FR 41036). No request for hearing or petition for leave to intervene was filed following this notice.

Alternative to the Proposed Action:

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce environmental impacts as a result of plant operations and would result in reduced operational flexibility.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for the Edwin I. Hatch Nuclear Plant, Units 1 and 2, dated October 1972.

Agencies and Persons Consulted:

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed amendment.

Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the application for amendment dated September 9, 1986, as supplemented by letter dated May 8, 1987, and partially revised by letter dated December 15, 1987, which are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., and at the Appling County Public Library, 301 City Hall Drive, Baxley, Georgia 31513.

Dated at Rockville, Maryland, this 4th day of May 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

MR
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MRood
4/11/88

me
PDII-3/DRP-I/II
LCrocker:pw
4/9/88

no H
OGC/NA
4/25/88

DM
PDII-3/DRP-I/II
DMatthews
5/3/88



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 154 TO
FACILITY OPERATING LICENSE DPR-57
AND AMENDMENT NO. 92 TO
FACILITY OPERATING LICENSE NPF-5

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-321 AND 50-366

1.0 INTRODUCTION

By letter dated September 9, 1986, Georgia Power Company (the licensee) requested modifications to the Technical Specifications (TS) for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The requested changes would:

1. Lower the minimum water level required for continued plant operation and change the point of measurement of water level from the river gauge to the pump intake structure;
2. Provide for an alternate determination of equivalent river water level when a temporary weir is in place;
3. Change the water level at which an increased frequency of level surveillance is required;
4. Delete the pump throttling requirement for Unit 1; and
5. Amend the Technical Specification Bases to reflect the above changes.

Based upon a preliminary review of the licensee's request, the NRC staff forwarded a request for additional information to the licensee on March 6, 1987. The licensee responded to this request by letter dated May 8, 1987. After further staff review and several conference calls between the staff reviewers and licensee representatives, the licensee submitted additional information regarding the requested change by letter dated December 15, 1987. In the December 15 letter, in response to concerns raised by the staff, the licensee proposed additional TS changes which would require throttling of the plant service water pumps in the event the water level, as measured in the pump well of the intake structure, drops below 61.2 feet MSL (Mean Sea Level).

2.0 EVALUATION

Each of the proposed changes is discussed separately below.

(1) Lower the minimum water level required for continued plant operation and change the point of measurement of water level from the river gauge to the pump intake structure.

The existing TS are based upon water level as measured at the river gauge, and include an allowance for a possible decrease in water level between the river and the pump well of the intake structure to allow for partial blockage of the trash rack by debris. Measurement of the water level in the pump well would be a more direct and technically correct measurement, since pump operation is dependent upon the water level in the pump well. The request to move the point of measurement from the river gauge to the pump well is, therefore, acceptable.

The existing TS minimum water level of 61.7 feet MSL, below which the plant must be shutdown, is based upon the requirements for full-power operation, assuring adequate submergence of the Plant Service Water (PSW) pumps to preclude problems with vortexing and to provide adequate Net Positive Suction Head (NPSH). The licensee argues that the minimum water level should be established based upon the requirement for safe-shutdown cooling of the plant rather than full-power operation. The staff agrees.

The actual PSW pump suction elevation is at 57.2 feet MSL. Data from the pump manufacturer (Johnson Pump) indicate that 48 inches of submergence over the pump suction bell is required to provide adequate NPSH and preclude vortexing when the pumps are delivering their rated capacity of 8,500 gallons per minute (gpm). The minimum water level in the pump well for maximum capacity PSW pump operation is thus 57.2 feet plus the 4 feet of required submergence, or 61.2 feet. The existing TS require a minimum water level of 61.7 feet, as measured at the river gauge, to allow for a 0.5 foot drop in level across the trash rack.

When the plant is operating at full power, only three of the four PSW pumps are required, each delivering approximately 7,840 gpm. Shutdown cooling of the plant requires only one PSW pump, delivering approximately 4,500 gpm.

The licensee proposes to change the minimum water level to 60.7 feet MSL, as measured in the pump well. This is an actual reduction of 0.5 feet from the minimum pump well level contemplated by the existing TS, and 0.5 feet lower than the minimum level required for full-capacity PSW pump operation.

Data from the pump manufacturer indicate that while 48 inches of submergence is required for full capacity PSW pump operation (8,500 gpm), only 32 inches of submergence is required when the pumps are delivering 7,000 gpm. The minimum allowed water level sought by the licensee (60.7 feet MSL) provides 42 inches (3.5 feet) of submergence for the PSW pumps which is more than enough for the pumps to operate at a reduced flow of 7,000 gpm, and considerably more than would be required for one pump to operate at the approximate 4,500 gpm for shutdown cooling.

To preclude the possibility of sustaining pump damage under low head conditions, the December 15, 1987 letter from the licensee proposed an additional specification that would require throttling of the PSW pump output to 7,000 gpm at any time the water level is less than 61.2 feet MSL. This throttling of the pump output would reduce the required submergence to 32 inches (per the pump manufacturer) and would preclude damage due to pump cavitation. The licensee's proposal to throttle the pump output to 7,000 gpm when the water level is less than 61.2 feet MSL is, therefore, acceptable.

In summary, the result of these proposed changes would be to: (1) change the point of measurement of the water level from the river gauge to the pump well; (2) require that the PSW pumps be throttled to 7,000 gpm at any time the water level is less than 61.2 feet MSL; and (3) require plant shutdown when the water level decreases to less than 60.7 feet MSL. The minimum required water level for 7,000 gpm PSW pump operation is 59.9 feet MSL (57.2 feet MSL pump suction elevation plus 32 inches, or 2.7 feet, required submergence) which is less than the 61.2 feet MSL elevation at which the pumps must be throttled to 7,000 gpm. Further, the minimum water level for 4,500 gpm PSW operation required for shutdown cooling is even less than the 59.9 feet required for 7,000 gpm pump output. However, the proposed TS will require plant shutdown if the water level decreases below 60.7 feet MSL, which provides a margin of at least 0.8 feet. Therefore, the minimum water levels proposed by the licensee (61.2 feet MSL for pump throttling and 60.7 feet MSL for plant shutdown) are conservative and acceptable.

The licensee also examined historical river water levels and the possible effect of high winds on the water level. The lowest flow of record in the Altamaha River is 1430 cubic feet per second (cfs) which corresponds to a river water level of 61.8 feet MSL. The hypothetical minimum flow at the Plant Hatch site is 950 cfs which corresponds to a river level of 60.8 feet MSL. Using a water level of 59.9 feet MSL, the licensee calculated the maximum reduction in water level caused by a 100-year extreme wind (106 miles per hour) to be 0.9 feet, but such extreme winds would be of short duration (about one minute) and would be expected to have a negligible effect on pumping. Further, such winds would result from meteorological systems that normally are accompanied by rain, which would result in an increase in the water level in the river. The staff calculates that the hypothetical low river water level (60.8 feet MSL) in combination with the level reduction based upon the 100-year recurrent extreme wind would result in a river water level of 60.1 feet MSL, which still is above the 59.9 feet required for PSW pump operation at 7,000 gpm. We thus conclude that the minimum river water level that could result from a combination of a hypothetical low flow and an extreme wind is still sufficient to assure adequate shutdown cooling for the plant. To assure that the actual river water level is closely monitored, the licensee proposes to verify the level every 12 hours during periods when the level has dropped below 61.7 feet MSL. This surveillance frequency will assure that the licensee is aware of a falling water level such that the pump throttling at 61.2 feet MSL and orderly plant shutdown at 60.7 feet MSL could take place if needed.

Overall, the staff concludes that the licensee's proposal to lower the TS minimum water level required for continued plant operation from 61.7 feet MSL as measured at the river gauge to 60.7 feet MSL as measured in the pump well is acceptable.

- (2) Provide for an alternate determination of equivalent river water level when a temporary weir is in place.

Shortly after the licensee submitted its original request in September of 1986, a temporary weir was erected across the river downstream of the pump intake structure. Installation of the weir increased the effective water level at the intake structure. The weir was removed during later, high river flow conditions. However, it is possible that future low flow conditions could again require the installation of a weir. If so, since the requested TS minimum level would now be based upon safe shutdown considerations, the licensee proposes to add a requirement that during periods of operation with a weir installed, an additional reading of river water level will be taken at a point not affected by the weir and correlated to the level in the pump well. This would assure that, should the weir suddenly be destroyed, the actual water level will be sufficient for safe-shutdown of the plant. The requested change is, therefore, acceptable.

- (3) Change the water level at which increased frequency of level surveillance is required.

The TS now require that when the river water level is less than 62.5 feet MSL, the frequency of water level surveillance will be increased to every 12 hours. Above this level, the surveillance frequency is biweekly. In line with reduction to 61.2 feet MSL for pump throttling and to 60.7 feet MSL for plant shutdown, the licensee proposes to reduce the level at which increased surveillance is required to 61.7 feet MSL. This action level leaves a 0.5 foot margin to the pump throttling level and a 1.0 foot margin to the shutdown level, which is sufficient to preclude these levels being attained unnoticed. The change is, therefore, acceptable.

- (4) Delete the PSW pump throttling requirement for Unit 1.

The licensee originally proposed to delete the PSW pump throttling requirement from the Unit 1 TS. However, after discussions between the staff reviewers and licensee representatives, the licensee's December 15, 1987 letter changed this request to require PSW pump throttling when the water level drops to less than 61.2 feet MSL. This is discussed more fully in (1) above. Such throttling of PSW pumps during low flow conditions would protect the pumps from damage due to cavitation and would help assure pump availability for safe-shutdown requirements. The modified change request is, therefore, acceptable.

- (5) Amend the Technical Specification Bases to reflect the changes made to the TS.

The Bases explain the reasoning behind the TS. This change is, therefore, acceptable.

The staff letter of March 6, 1987 requested clarification of the different water levels required for the PSW pumps and for the Reactor Heat Removal (RHR) service water pumps, which also take suction from the pump well of the river water intake structure. The licensee's letter of May 8, 1987 explained that the RHR service water pumps can operate at a lower water level than the PSW

pumps and that the minimum level specified for PSW pump operation is therefore controlling. The data from the pump manufacturer confirm that the RHR service water pumps require only 35 inches of submergence for full flow operation as compared to the 48-inch submergence required by the PSW pumps. This question, therefore, is satisfactorily resolved.

We conclude that the changes requested by the licensee in its September 9, 1986 letter, as supplemented by its May 8, 1987 letter, and as modified by its December 15, 1987 letter are acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

The staff prepared an Environmental Assessment concerning the proposed amendments. It was published in the Federal Register on May 10, 1988 (53 FR 16603).

Pursuant to its Environmental Assessment and the requirements of 10 CFR 51.32, the Commission determined that the issuance of the amendments will have no significant impact on the environment.

4.0 CONCLUSION

Notice of opportunity for a prior hearing was published in the Federal Register on November 12, 1986 (51 FR 41036). No requests for a hearing were received.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: May 12, 1988