

5/4/78

Docket No. 50-321

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Georgia Power Company
 Oglethorpe Electric Membership Corporation
 Municipal Electric Association of Georgia
 City of Dalton, Georgia
 ATTN: Mr. Charles F. Whitmer
 Vice President - Engineering
 Georgia Power Company
 Atlanta, Georgia 30302

Gentlemen:

The Commission has issued the enclosed Amendment No. ⁵⁴ to Facility Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your application dated January 23, 1978.

The amendment to the Technical Specifications revises the definition and specification of detection capability for principal gamma emitters in radioactive liquid effluents. With your approval we have changed the proposed wording to better meet the regulatory requirements of measuring releases of radioactivity to the environment.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

|s|

George Lear, Chief
 Operating Reactors Branch #3
 Division of Operating Reactors

Enclosures:

1. Amendment No. ⁵⁴
2. Safety Evaluation
3. Notice

cc w/enclosures:
 see next page

*subject to change on page 2
 of SER. Corrected
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Georgia Power Company
Oglethorpe Electric Membership Corporation
Municipal Electric Association of Georgia
City of Dalton, Georgia

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cc:

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

GEORGIA POWER COMPANY
OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION
MUNICIPAL ELECTRIC ASSOCIATION 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. 54
License No. DPR-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Georgia Power Company, et al (the licensee) dated January 23, 1978, 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;
 - 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. 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. 54, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 4, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 54

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace the following pages of the Appendix "B" Technical Specifications with the enclosed pages. The revised page is identified by Amendment number and contains vertical lines indicating the area of change.

Remove

2-20
2-21

Replace

2-20
2-21

TABLE 2.4-1

RADIOACTIVE LIQUID SAMPLING AND ANALYSIS

Liquid Source	Sampling Frequency	Type of Activity Analysis	Lower Limit of Detection (μ Ci/ml) (3)	
A. Monitor Tank Releases	Each Batch	Principal Gamma Emitters	5×10^{-7} (2)	
	One Batch/Month	Dissolved Gases	10^{-5}	
	Weekly Composite ⁽¹⁾	Ba-La-140, I-131	10^{-6}	
	Monthly Composite ⁽¹⁾	Sr-89		5×10^{-8}
		H-3		10^{-5}
		Gross α		10^{-7}
Quarterly Composite ⁽¹⁾	Sr-90		5×10^{-8}	
B. Primary Coolant	Weekly ⁽⁴⁾	I-131, I-133	10^{-6}	

Table 2.4-1 (Continued)

NOTES:

- (1) A composite sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged from the plant.
- (2) For certain radionuclides with the low gamma yield or low energies, or for certain radionuclide mixtures, it may not be possible to measure radionuclides in concentrations near the detection limit of 5×10^{-7} $\mu\text{Ci/ml}$. Under these circumstances, the concentration of these radionuclides may be calculated to a lower limit of detection of 5×10^{-7} $\mu\text{Ci/ml}$ using observed ratios with those radionuclides which are measurable; or, the lower limit of detection of 5×10^{-7} $\mu\text{Ci/ml}$ may be increased proportionally to the magnitude of the gamma yield (i.e., $5 \times 10^{-7}/I$, where I is the gamma yield expressed as a decimal fraction). But in no case shall the LLD be increased to greater than 10% of the MPC value specified in 10 CFR 20, Appendix B, Table II, Column 2.
- (3) The Lower Limit of Detection for activity analysis is based on technical feasibility and on the potential significance in the environment of the quantities released. For some nuclides, lower detection limits may be readily achievable and when nuclides are measured below the stated limits, they should also be reported.
- (4) The power level and cleanup or purification flow rate at the sample time shall also be reported.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 54 TO LICENSE NO. DPR-57

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

EDWIN I. HATCH NUCLEAR PLANT UNIT NO. 1

DOCKET NO. 50-321

Introduction

By letter dated January 23, 1978, Georgia Power Company (the licensee) proposed changes to the Environmental Technical Specifications for the Hatch Nuclear Plant, Unit No. 1. The proposed amendment involves the definition and specification of detection capability for principal gamma emitters in radioactive liquid effluents. The present specifications indiscriminately require a detection limit of 5×10^{-7} $\mu\text{Ci/ml}$ for all principal gamma emitters. The proposal would reduce the required limit for each radionuclide proportionally to the gamma yield (branching ratio) per disintegration of the radionuclide. The proposal also rewords the detection criteria from a detection limit to a lower limit of detection (LLD). A footnote is added to define LLD as described in HASL procedures manual, HASL-300, August 1976 revision.

Discussion

The licensee has experienced difficulty in meeting the detection limit of 5×10^{-7} $\mu\text{Ci/ml}$ for all gamma emitting radionuclides in liquid effluents. For certain radionuclides with low gamma yield or low energies, and for certain radionuclide mixtures, measurement of these radionuclides in concentrations near the detection limit has not been possible. The present Technical Specifications require under these circumstances that a ratio be established with those radionuclides which are measurable in order to quantify the activity to a limit of 5×10^{-7} $\mu\text{Ci/ml}$ for all principal gamma emitters. The licensee has not been able to establish a useable ratio. A variation of over one-thousand in the ratio of the gamma emitters has been observed in the liquid effluents depending on the origin of the radwaste and method of processing.

Evaluation

We have evaluated the licensee proposal. The proposal to specify the detection limit for principal gamma emitters proportional to the gamma yield is acceptable as amended by the NRC staff. There is no change in the authorized level of radioactive effluents. This amendment pertains only to measurement techniques for detection limits. The licensee has agreed to the changes made by the staff. The proposal to define the detection capability as a Lower Limit of Detection (LLD) as defined in HASL-300 is also acceptable; however, the last portion of the footnote providing additional interpretation of the LLD value as an a priori (before the fact) limit representing the capability of a measurement system and not as a posteriori (after the fact) limit for a particular measurement is unacceptable.

While recognizing the problem of detecting low gamma yield and/or low energy radionuclide at concentrations near the detection limit of 5×10^{-7} μ Ci/ml, releases of radioactivity to the environment must still be quantified to a level representing an insignificant environmental impact. The proposal as amended by the staff requires the licensee to measure the significant dose contributing radionuclides to the present limit of 5×10^{-7} μ Ci/ml. But for the hard to measure radionuclides, the limit may be increased proportionally to the gamma yield (i.e., 5×10^{-7} μ Ci/ml divided by I, where I is the gamma yield expressed as a decimal fraction). However, to assure conformance with the radioactive release limits of 10 CFR 20, the LLD shall not be increased above 10% of the MPC values as specified in 10 CFR 20, Appendix B, Table II, Column 2. This proposal, while reducing the requirements for hard to measure radionuclides, provides adequate measurement of the principal gamma emitting radionuclides to assure a negligible environmental impact and conformance with the regulatory requirements of 10 CFR Parts 20 and 50.

Defining the LLD as an a priori limit and not an a posteriori limit is not acceptable; because, the purpose of the detection criteria is to establish the necessary requirements for quantifying the releases of radioactivity in each release to the environment. It is not the purpose, as described in the proposed footnote, to define the capability of the detection system under optimum conditions. The licensee must measure level of radioactivity to the limit specified for each particular liquid release. Stating the LLD value as the capability of the detection system and not as a requirement for quantifying each release of radioactive effluents is not acceptable.

Environmental Consideration

We have determined that the amendment as altered by the NRC staff does 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 amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental statement, negative declaration, or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: May 4, 1978

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-321GEORGIA POWER COMPANY, ET ALNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 54 to Facility Operating License No. DPR-57 issued to Georgia Power Company, Oglethorpe Electric Membership Corporation, Municipal Electric Association of Georgia and City of Dalton, Georgia, which revised Technical Specifications for operation of the Edwin I. Hatch Nuclear Plant, Unit No. 1, located in Appling County, Georgia. The amendment is effective as of its date of issuance.

The amendment consists of changes to the Technical Specifications which revises the definition and specification of detection capability for principal gamma emitters in radioactive liquid effluents.

The application for the amendment 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 amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §1.5(d)(4) an environmental impact statement or

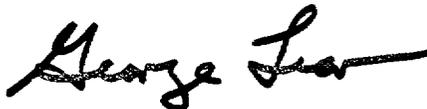
- 2 -

negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated January 23, 1978, (2) Amendment No. 54 to License No. DPR-57, and (3) the Commission's related Safety Evaluation. All of these items 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, Parker Street, Baxley, Georgia 31513. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 4th day of May 1978.

FOR THE NUCLEAR REGULATORY COMMISSION



George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors