

FEB 04 1985

DMB-066

Dockets Nos. 50-321
and 50-366

DISTRIBUTION

Docket File

NRC PDR	EJordan
L PDR	JMcKee
ORB#4 Rdg	WJones
DEisenhut	DBrinkman
OELD	RDiggs
CMiles	JPartlow
LHarmon	RIngram
ACRS-10	RHermann
TBarnhart-8	Gray File-4
	SECY

Mr. J. T. Beckham, Jr.
Vice President - Nuclear Generation
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. Beckham:

The Commission has issued the enclosed Amendment Nos. 106 and 44 to Facility Operating License Nos. DPR-57 and NPF-5, respectively for the Edwin I. Hatch Nuclear Plant, Units Nos. 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your applications dated May 31, 1983, as supplemented September 1, and November 22, 1983.

The amendments revise the TSs for Hatch Unit 1 to: 1) reduce the equilibrium activity concentration limit for reactor coolant, 2) increase time per year that reactor coolant activity is allowed to exceed the equilibrium value, 3) increase the time allowed for isolating steam valves when a activity limit is exceeded, 4) increase the dose equivalent iodine concentration above which additional samples are required, 5) increase the rate of increase in offgas activity at which reactor coolant samples are required, 6) reduce the dose equivalent I-131 concentration at which reactor coolant samples are required to be taken, 7) require additional coolant samples, 8) relax the requirement for equivalent I-131 analysis, 9) make editorial changes, and 10) add a reporting requirement.

The amendments revise the TSs for Hatch Unit 2 to reduce the offgas activity release rate at which sampling is required.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next Monthly Notice.

Sincerely,

*ORIGINAL SIGNED BY
JOHN F. STOLZ*

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

8502270451 850204
PDR ADOCK 05000321
P PDR

Enclosures:

1. Amendment Nos. 106 and 44
2. Safety Evaluation

cc w/enclosures:
See next page

ORB#4:DL
RIngram
1/22/85

ORB#4:DL
GRivenbar\$cr
1/22/85

C-ORB#4:DL
JStolz
1/28/85

OELD
[Signature]
1/28/85

AD:OR:DL
GLainas
2/5/85

Hatch 1/2
Georgia Power Company

50-321/366

cc w/enclosure(s):

G. F. Trowbridge, Esq.
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, D. C. 20036

Mr. James P. O'Reilly, Regional
Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Ruble A. Thomas
Vice President
P. O. Box 2625
Southern Company Services, Inc.
Birmingham, Alabama 35202

Louis B. Long
Southern Company Services, Inc.
Post Office Box 2625
Birmingham, Alabama 35202

Charles H. Badger
Office of Planning and Budget
Room 610
270 Washington Street, S.W.
Atlanta, Georgia 30334

Chairman
Appling County Commissioners
County Courthouse
Baxley, Georgia 31513

J. Leonard Ledbetter, Commissioner
Department of Natural Resources
270 Washington Street, N.W.
Atlanta, Georgia 30334

Mr. L. T. Gucwa
Georgia Power Company
Engineering Department
P. O. Box 4545
Atlanta, Georgia 30302

Mr. H. C. Nix, Jr. General Manager
Edwin I. Hatch Nuclear Plant
Georgia Power Company
P. O. Box 442
Baxley, Georgia 31513

Regional Radiation Representative
EPA Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Resident Inspector
U. S. Nuclear Regulatory Commission
Route 1, P. O. Box 279
Baxley, Georgia 31513



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. 106
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 May 31, 1983, as supplemented September 1 and November 22, 1983, 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:


8502270455 850204
PDR ADOCK 05000321
P PDR

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 106, 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.

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 4, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 106

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 a vertical line indicating the area of change.

Remove

3.6-3

3.6-4

3.6-5

3.6-18

Insert

3.6-3*

3.6-4

3.6-5

3.6-18

* Overleaf page included for document completeness.

3.6.E. Recirculation Pump Start

The reactor recirculation pumps shall not be started unless the coolant temperatures between the dome and the bottom head drain are within 145°F.

4.6.E. Recirculation Pump Start

Prior to starting a recirculation pump, the reactor coolant temperatures in the dome and in the bottom head drain shall be compared and permanently recorded.

3.6.F Reactor Coolant Chemistry1. Radioactivity

Whenever the reactor is critical the limits on activity concentrations in the reactor coolant shall not exceed the equilibrium value of 0.2 $\mu\text{Ci/gm}$ of dose equivalent* I-131.

If activity concentration > 0.2 $\mu\text{Ci/gm}$ dose equivalent I-131 but ≤ 4.0 $\mu\text{Ci/gm}$, operation may continue for up to 48 hours provided that operation under these conditions shall not exceed 800 hours in any consecutive 12 month period. Should the total operating time of a specific activity > 0.2 $\mu\text{Ci/gm}$ dose equivalent I-131 exceed 500 hours in any consecutive 6 month period, the licensee shall report the number of hours of operation above this limit to the NRC within 30 days.

If activity concentration > 0.2 $\mu\text{Ci/gm}$ dose equivalent I-131 for more than 48 hours during one continuous time interval, or > 4.0 $\mu\text{Ci/gm}$, be in at least HOT SHUT-DOWN with the main steam line isolation valves closed within 12 hours.

*That I-131 concentration which alone would produce the same thyroid dose as the quantity and iodine mixture actually present.

4.6.F Reactor Coolant Chemistry1. Radioactivity

- a. During equilibrium power operation an isotopic analysis, including quantitative measurements for at least I-131, I-132, I-133, and I-135 shall be performed monthly on a coolant liquid sample.
- b. During equilibrium power operation an isotopic analysis, including quantitative measurements for at least Xe-133 and Xe-135 shall be performed monthly on a steam jet air ejector off-gas sample.
- c. Additional coolant samples shall be taken whenever the reactor coolant dose equivalent I-131 concentration exceeds 0.2 $\mu\text{Ci/gm}$ and any of the following conditions are met:
 - 1) During startup
 - 2) Following a power change exceeding 15% of rated thermal power in less than 1 hour (net change averaged for 1 hour).
 - 3) The off-gas level, at the SJAE, increases by more than 10,000 $\mu\text{Ci/sec}$ in 1 hour at release rate $\leq 75,000$ $\mu\text{Ci/sec}$, or
 - 4) The off-gas level at the SJAE, increases by more than 15% in 1 hour at release rate $> 75,000$ $\mu\text{Ci/sec}$.
 - 5) Whenever the reactor coolant dose equivalent I-131 concentration exceeds 4.0 $\mu\text{Ci/gm}$.

The first additional coolant sample shall be taken between 2 and 6 hours following the change in thermal power or off-gas level. Additional coolant liquid samples shall be taken at 4-hour intervals for 48 hours, or until a stable iodine concentration below the limiting value of $4.0 \mu\text{Ci/gm}$ is established. An isotopic analysis shall be performed for each sample, and quantitative measurements made to determine the dose equivalent I-131 concentration. If the total iodine activity of the sample is below $0.2 \mu\text{Ci/gm}$, an isotopic analysis to determine equivalent I-131 is not required.

All data obtained from normal and any additional samples shall be included in the annual report. If the limits of the specification are exceeded, a report shall be made to the Directorate of Licensing within 30 days.

E. Recirculation Pump Start

The coolant in the bottom of the vessel is at a lower temperature than that in the upper regions of the vessel when there is not recirculation flow. The colder water is forced up when recirculation pumps are started. This will not result in stresses which exceed ASME Boiler and Pressure Vessel Code, Section III limits when the temperature differential is not greater than 145 F.

F. Reactor Coolant Chemistry

The limitations on the specific activity of the primary coolant ensure that the 2 hour thyroid and whole body doses resulting from a main steam line failure outside the containment during steady state operation will not exceed small fractions of the dose guidelines of 10 CFR 100. The values for the limits on specific activity represent interim limits based upon a parametric evaluation by the NRC of typical site locations. These values are conservative in that specific site parameters, such as site boundary location and meteorological conditions, were not considered in this evaluation.

The maximum activity limit during a short term transient is established from consideration of a maximum iodine inhalation dose less than 300 rem. The probability of a steam line break accident coincident with an iodine concentration transient is significantly lower than that of the accident alone, since operation of the reactor with iodine levels above the equilibrium value is limited to 10 percent of total operation.

Based upon a review of daily reactor water iodine concentrations at several sites that show the iodine transients during power generation are less than a factor of ten, sampling frequencies have been established that vary with the iodine concentration in order to assure that the maximum coolant iodine concentrations are not exceeded.

Materials in the primary system in contact with the coolant are primarily stainless steel and Zircaloy. The reactor water chemistry limits are established to prevent damage to these materials. Limits are placed on conductivity and chloride concentrations. Conductivity is limited because it is continuously measured and gives an indication of abnormal conditions and the presence of unusual materials in the coolant. Chloride limits are specified to prevent stress corrosion cracking of the stainless steel. According to test data, allowable chloride concentrations could be set several orders of magnitude above the established limit at the oxygen concentration (.2-.3ppm) experienced during power operation without causing significant failures. Zircaloy does not exhibit similar stress corrosion failures. However, there are some conditions under which the dissolved oxygen content of the reactor coolant water could be higher than .2-.3ppm, such as reactor startup and hot standby. During these periods, a more restrictive limit of 0.1ppm has been established to assure that permissible chloride-oxygen combination are not exceeded. During refueling when the reactor is depressurized Specification 3.6.F.2.c would apply. Boiling occurs at higher steaming rates causing deaeration of the reactor water, thus maintaining oxygen concentration at low levels and assuring that the chloride-oxygen content is not such as would tend to induce stress corrosion cracking.



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. 44
License No. NPF-5

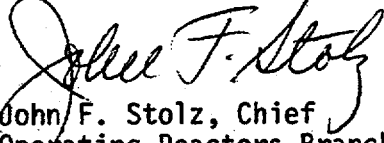
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Georgia Power Company, et al., (the licensee) dated May 31, 1983, as supplemented September 1 and November 22, 1983, complies with the standards and requirements of the Atomic Energy Act of 1954, 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. NPF-5 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 44, 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.

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 4, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 44

FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Remove

3/4 4-11

Insert

3/4 4-11

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION(Continued)

ACTION: (Continued)

2. With:

- a) THERMAL POWER changed by more than 15% of RATED THERMAL POWER in one hour, or
- b) The off-gas level, at the SJAE, increased by more than 10,000 μ Ci/sec. in one hour at release rates less than 75,000 μ Ci/sec. or
- c) The off-gas level, at the SJAE, increased by more than 15% in one hour at release rates greater than 75,000 μ Ci/sec.,

perform the sampling and analysis requirement of Item 4C of Table 4.4.5-1. Prepare and submit to the Commission a Special Report pursuant to Specification 6.9.2 at least once per 92 days containing the results of the specific activity analysis together with the below additional information for each occurrence.

Additional Information

1. Reactor power history starting 48 hours prior to:
 - a) The first sample in which the limit was exceeded, and/or
 - b) The THERMAL POWER or off-gas level change.
2. Fuel burnup by core region,
3. Cleanup flow history starting 48 hours prior to:
 - a) The first sample in which the limit was exceeded, and/or
 - b) The THERMAL POWER or off-gas level change.
4. Off-gas level starting 48 hours prior to:
 - a) The first sample in which the limit was exceeded, and/or
 - b) The THERMAL POWER or off-gas level change.

SURVEILLANCE REQUIREMENTS

4.4.5 The specific activity of the reactor coolant shall be demonstrated to be within the limits by performance of the sampling and analysis program of Table 4.4.5-1.

TABLE 4.4.5-1

PRIMARY COOLANT SPECIFIC ACTIVITY SAMPLE
AND ANALYSIS PROGRAM

<u>TYPE OF MEASUREMENT AND ANALYSIS</u>	<u>SAMPLE AND ANALYSIS FREQUENCY</u>	<u>OPERATIONAL CONDITIONS IN WHICH SAMPLE AND ANALYSIS REQUIRED</u>
1. Gross Activity Determination	At least once per 72 hours	1, 2, 3
2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	At least once per 31 days	1
3. Radiochemical for E Determination	At least once per 6 months*	1
4. Isotopic Analysis for Iodine Including I-131, I-133 and I-135	a) At least once per 31 days	1
	b) At least once per 4 hours, whenever the specific activity exceeds a limit.	1 [#] , 2 [#] , 3 [#] , 4 [#]
	c) At least one sample between 2 and 6 hours following the change in THERMAL POWER or off-gas level.	1, 2
5. Isotopic Analysis of an Off- gas Sample Including Quantitative Measurements for at least Xe-133, Xe-135 and Kr-88	At least once per 31 days	1

*Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since reactor was last subcritical for 48 hours or longer.

[#]Until the specific activity of the primary coolant system is restored to within its limits.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 106 TO FACILITY OPERATING LICENSE NO. DPR-57
AND AMENDMENT NO. 44 TO FACILITY OPERATING LICENSE NO. NPF-5

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

EDWIN I. HATCH NUCLEAR PLANT, UNITS NOS. 1 AND 2

DOCKETS NOS. 50-321 AND 50-366

1.0 INTRODUCTION

By letter dated May 31, 1983, as supplemented September 1 and November 22, 1983, Georgia Power Company (licensee) requested changes in the Hatch Units 1 and 2 Technical Specifications to bring them more in line with current BWR Standard Technical Specifications. The amendments would result in a number of modifications to the current Technical Specifications. Each modification is identified below followed by an evaluation of the acceptability of the change.

2.0 EVALUATION

HATCH UNIT 1

Change 1:

Reduction of the equilibrium activity concentration limit for reactor coolant from $10 \mu\text{Ci/gm}$ to $0.2 \mu\text{Ci/gm}$ of dose equivalent I-131.

Evaluation of Change 1

This change results in a more restrictive operational limitation to Unit 1 ($0.2 \mu\text{Ci/gm}$ versus $10 \mu\text{Ci/gm}$). The resultant doses from postulated accidents which involve release of primary coolant are less because the coolant activity level allowed at the initiation of the transient is less.

Change 2:

Reduction of the maximum allowable activity concentration for the reactor coolant from "a factor of ten times the equilibrium value" to $4.0 \mu\text{Ci/gm}$.

Evaluation of Change 2

Same as change #1 above.

Change 3:

Increase of the maximum operational time per year that the reactor coolant activity is allowed to exceed the equilibrium value.

Evaluation of Change 3

Even though the primary coolant activity is allowed to be above the equilibrium value for a longer period of time, the allowable concentration at the onset of postulated accidents is lower and as a result the postulated doses would be lower.

Change 4:

Addition of a reporting requirement for cases where the equilibrium activity limit is exceeded for more than 500 hours in a six-month period.

Evaluation of Change 4

The proposed change would allow operation above the equilibrium limit for a longer period. However, it should be noted that the changes utilize equilibrium limits much lower than those allowed by the current Technical Specifications and the change would not result in higher consequences of postulated accidents.

Change 5:

Increase in the time allowed for isolating steam valves in the event that the maximum allowable activity limit is exceeded.

Evaluation of Change 5

The change is more complex than just a change in time for closing the main steam isolation valves. The current Unit 1 Technical Specifications state, "...the reactor shall be shutdown, and the steam line isolation valves shall be closed immediately." The proposed change states, "...be in at least HOT SHUTDOWN with the main steam line isolation valves closed with 12 hours." The latter approach is consistent with the Standard Technical Specifications and is preferable because it does not result in unnecessary cycling of safety valves by allowing for an orderly shutdown of the reactor by the use of the main condenser and its associated off-gas system.

Change 6:

Increase in the dose equivalent I-131 concentration above which additional samples may be required to be taken from 0.1 μ Ci/gm to 0.2 μ Ci/gm.

Evaluation of Change 6

The proposed change is consistent with the use of the equilibrium limit of 0.2 μ Ci/gm in the Standard Technical Specifications. Use of a more restrictive value does not contribute to plant safety because limits less than the equilibrium value do not cause any change in plant operations and additional samples would result in undue exposure to plant personnel taking and analyzing the samples.

Change 7:

Increase in the rate of increase in offgas activity level at which reactor coolant samples are required to be taken for cases where the offgas activity levels are greater than 75,000 $\mu\text{Ci}/\text{sec}$.

Evaluation of Change 7

This change is justified (and is consistent with the BWR STS) because increases of 10,000 $\mu\text{Ci}/\text{gm}$ at release rates far greater than 75,000 $\mu\text{Ci}/\text{gm}$ become smaller and smaller fractions. Therefore, the limit was established so that sampling would occur only when "significant" changes occurred in the steam jet air ejector release rate.

Change 8:

Reduction in the reactor coolant dose equivalent I-131 concentration at which reactor coolant samples are required to be taken from 10 $\mu\text{Ci}/\text{gm}$ to 4.0 $\mu\text{Ci}/\text{gm}$.

Evaluation of Change 8

This change results in a more restrictive operational limitation.

Change 9:

Deletion of the current wording that states "at least three consecutive samples shall be taken in all cases."

Evaluation of Change 9

Deletion of this wording is consistent with the BWR Standard Technical Specifications and removes the unnecessary requirement to take additional samples when the activity level is below the threshold of 0.2 $\mu\text{Ci}/\text{gm}$.

Change 10:

Add a requirement that the first additional coolant sample shall be taken between two and six hours following a change in power or offgas activity level.

Evaluation of Change 10

This change is more restrictive than the current Technical Specification and provides clarification as to when the first sample should be taken.

Change 11:

Increase in the reactor coolant sample total iodine activity below which an isotopic analysis to determine equivalent I-131 is not required.

Evaluation of Change 11

This change is consistent with the proposed Technical Specification equilibrium limit. Because activity concentrations below the equilibrium limit do not cause any change in plant operations, there is no need to do isotopic analysis when the total iodine activity is below the equilibrium limit.

Change 12:

Replacement of the words "isotopic mixture actually present" with "iodine mixture actually present" and add the words "Following a power change exceeding 15% of rated thermal power in less than one hour."

Evaluation of Change 12

These changes are editorial in nature and have negligible impact on the specification.

HATCH UNIT 2

Change 1:

Require sampling when the offgas activity level increased more than 15% in one hour at a release rate greater than 75,000 Ci/sec rather than at the currently specified release rate of 80,000 Ci/sec.

Evaluation of Change 1

This change makes this Technical Specification consistent with Unit 1 and represents more restrictive operating procedures.

SUMMARY

Based on the above evaluations of the proposed changes, we find the proposed changes to the Hatch Unit 1 and 2 Technical Specifications on primary coolant activity acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: February 4, 1985

Principal Contributor: L. Bell