AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
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FROM:	DATE OF DOC	DATE REC'D	LTR	TWX	RPT	OTHER
Duke Power Company Charlotte, N.C. 28201 Mr. A.C. Thies	8-19-74	8-29-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
A. Giambusso	3 signed			XXX	XXX

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	XXX		XXX	40	50-269/270/287

DESCRIPTION:
Ltr trans the following.....

ENCLOSURES:
Request for change to tech specs.....consist of Title changes within the station organization....and Changes to the Station organization chart, Fig. 6.1-1

ACKNOWLEDGED

(1 cy encl rec'd)

DO NOT REMOVE

PLANT NAME: Oconee

FOR ACTION/INFORMATION 8-29-74 JB

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DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. BOX 2178

August 19, 1974

Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Docket Nos. 50-269, 270, -287

Dear Mr. Giambusso:

Section 6.1.1 of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38, -47, and -55, specifies the organization of Oconee Nuclear Station. Pursuant to 10CFR50.59, it is requested that the Oconee Nuclear Station Technical Specifications be revised to show:

1. Title changes within the station organization such as Superintendent to Manager, Technical Support to Technical Services, etc.

2. Changes to the station organization chart, Figure 6.1-1.

The requested changes are shown in Attachment 1, Proposed Replacement Pages for the Oconee Nuclear Station Technical Specifications.

The purpose of this proposed revision is to incorporate in the Oconee Technical Specifications the organization and position titles which will be standard for all Duke Power Company nuclear stations. Personnel training and qualifications shall continue to be consistent with Section 4 and Section 5.5 of ANSI 18.1, "Selection and Training of Nuclear Power Plant Personnel."

This proposed revision does not involve substantive changes to the Technical Specifications or the administration of Oconee Nuclear Station.

Very truly yours,

A. C. Thies

A. C. Thies

ACT:vr

8917

A. C. THIES, being duly sworn, states that he is Senior Vice President of Duke Power Company; that he is authorized on the part of said Company to sign and file with the Atomic Energy Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38, DPR-47, and DPR-55; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

A. C. Thies, Senior Vice President

ATTEST:

John C. Goodman, Jr.
Assistant Secretary

Subscribed and sworn to before me this 19th day of August, 1974.

Notary Public

My Commission Expires:

October 24, 1977

6.0 ADMINISTRATIVE CONTROLS

6.1 ORGANIZATION, REVIEW, AND AUDIT

6.1.1 Organization

6.1.1.1 The station Manager is directly responsible for the safe operation of the facility.

6.1.1.2 In all matters pertaining to actual operation and maintenance and to these Technical Specifications, the station Manager shall report to and be directly responsible to the Assistant Vice President, Steam Production. The organization is shown in Figure 6.1-2.

6.1.1.3 The station organization for Operations, Technical Services, and Maintenance shall be functionally as shown in Figure 6.1-1. Minimum operating shift requirements are specified in Table 6.1-1.

6.1.1.4 Incorporated in the staff of the station shall be supervisory and professional personnel meeting the minimum requirements encompassing the training and experience described in Section 4 of the ANSI 18.1, "Selection and Training of Nuclear Power Plant Personnel."

6.1.1.5 Retraining and replacement of station personnel shall be in accordance with Section 5.5 of the ANSI 18.1, "Selection and Training of Nuclear Power Plant Personnel."

6.1.2 Review and Audit

In matters of nuclear safety and radiation exposure, review and audit of station operation, maintenance, and technical matters shall be provided by two committees as follows: (Reference Figure 6.1-2)

6.1.2.1 Station Review Committee

a. Membership

The station Manager shall appoint an on-site review committee consisting of at least five members of the station supervisory staff. Representation shall be provided from Operations and from Technical Services. Membership shall include expertise appropriate to the items being considered by the committee.

The chairman of the on-site review committee shall be appointed by the station Manager.

b. Meeting Frequency

This committee shall meet at least once each month and as required on call by the chairman.

c. Quorum

The chairman plus two members shall constitute a quorum.

d. Responsibilities

The committee shall have the following responsibilities:

1. Review all new procedures or changes to existing procedures determined by the station Manager or his designate to affect operational safety.

2. Review station operation and safety considerations.

3. Review abnormal occurrences, unusual events, and violations of Technical Specifications and make recommendations to prevent recurrence.

4. Review all proposed tests that affect nuclear safety or radiation safety.

5. Review proposed changes to Technical Specifications and safety-related changes or modifications to the station design.

e. Authority

The Station Review Committee shall make recommendations to the station Manager regarding Specification 6.1.2.1-d.

f. Records

Minutes of all meetings of the committee shall be kept at the station, and copies shall be sent to the station Manager, Assistant Vice President Steam Production, and the chairman of the Nuclear Safety Review Committee.

6.1.2.2 Nuclear Safety Review Committee

a. The Executive Vice President and General Manager shall appoint a Nuclear Safety Review Committee having responsibility to verify that operation of the station is consistent with company policy and rules, approved operating procedures, and license provisions; to review important proposed station changes, and tests; to verify that abnormal occurrences and unusual events are promptly investigated and corrected in a manner which reduces the probability of recurrence of such events; and to detect trends which may not be apparent to a day-to-day observer.

b. The activities of the Nuclear Safety Review Committee shall be guided by a written charter that contains the following:

Subjects within the purview of the committee
Responsibility and authority
Mechanisms for convening meetings
Provisions for use of specialists or subgroups

Authority for access to station records
Reporting requirements
Identification of management position to which the group reports
Provisions for assuring that the committee is kept informed of matters within its purview

c. The committee shall be composed of:

Chairman

At least two members from the Steam Production Department. (May include station Manager but not other Oconee Nuclear Station personnel.)

At least two members from the Engineering Department

Others deemed advisable. (May include consultant from outside the company.)

The committee shall elect a vice chairman.

Qualified alternates shall be appointed or other provisions shall be made for covering the absence of full-time members of the group. The use of alternates shall be restricted to legitimate and unavoidable absences of principals.

d. Qualifications:

At least one-half of the members of the committee (and/or alternates attending a specific meeting) shall have extensive nuclear experience and all members and alternates shall be engineering or science graduates. No more than a minority of the members or alternates shall have a direct line responsibility for station operation. All members shall have a minimum of three years professional level experience in nuclear services, nuclear station operation, or nuclear engineering and the necessary overall nuclear background to detect when to call consultants and contractors for dealing with complex problems beyond the scope of their own organization.

e. Members of the committee shall collectively have the capability required to review the areas of:

1. Nuclear Power Station Operations
2. Nuclear Engineering
3. Chemistry and Radiochemistry
4. Metallurgy
5. Instrumentation and Control
6. Radiological Safety
7. Mechanical and Electrical Engineering
8. Other appropriate fields associated with the unique characteristics of the Oconee Nuclear Station

When the nature of a particular situation dictates, special consultants shall be utilized to provide expert advice to the committee.

f. Meeting Frequency:

The committee shall meet at least three times per year at intervals not to exceed five months and as required on call by the chairman. During the period of initial operation, this committee shall meet at least once per calendar quarter.

g. Quorum:

The chairman or vice-chairman plus three members, or appointed alternates, shall constitute a quorum. No more than a minority of the quorum shall have direct line responsibility for station operation.

h. Meeting Minutes:

Minutes of all scheduled meetings of the committee shall be prepared and shall identify all documentary materials reviewed. These minutes shall be formally approved, retained, and also promptly distributed to the Executive Vice President and General Manager; Senior Vice President, Engineering and Construction; Senior Vice President, Production and Transmission; Vice President, Design Engineering; Assistant Vice President, Steam Production; and station Manager. A copy of these minutes shall be kept on file at the station.

i. As a safety review to the normal operating organization, the committee shall review the following:

1. Proposed tests and experiments, and results thereof, when these constitute an unreviewed safety question defined in 10CFR50.59.

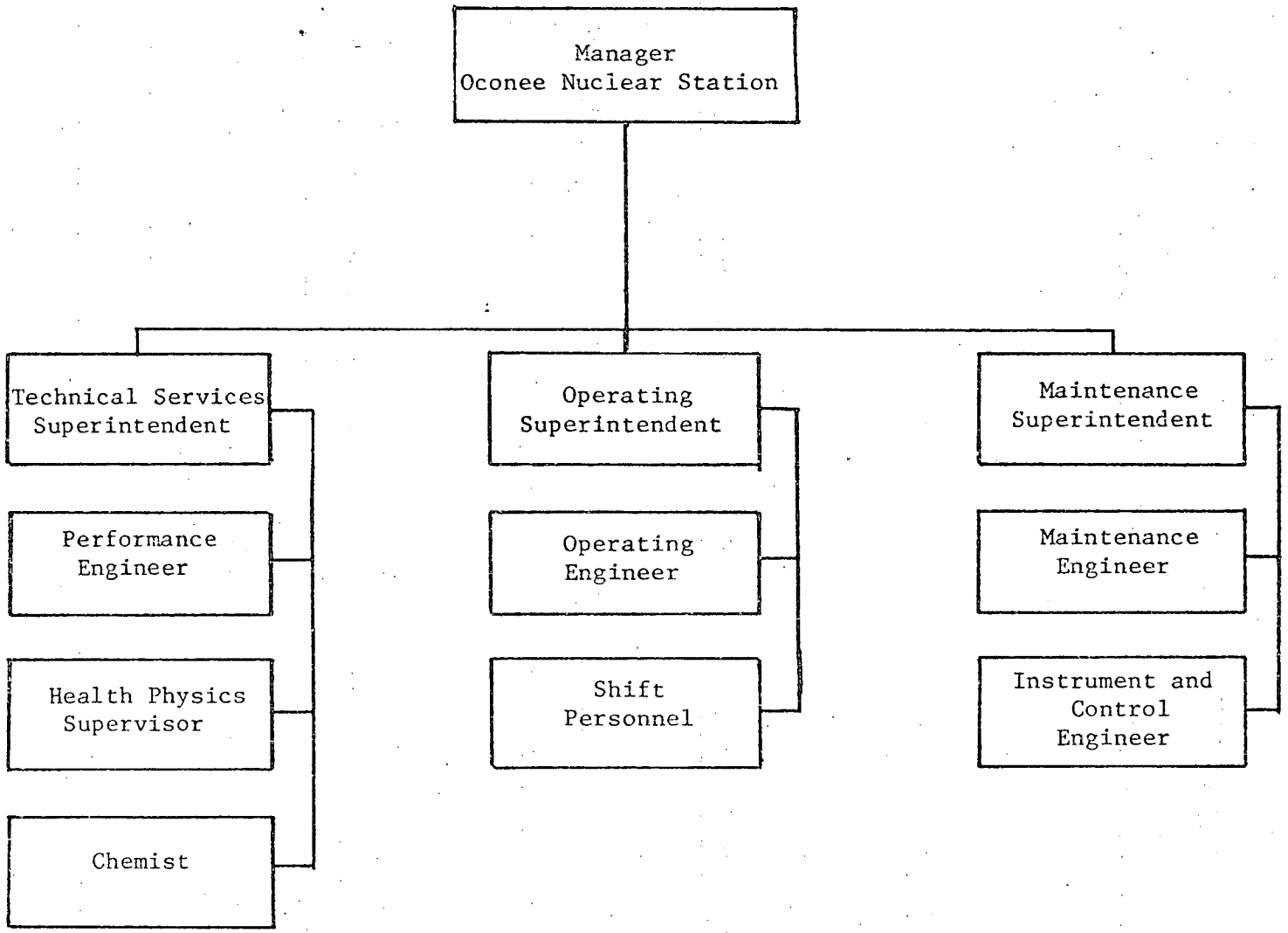
2. Proposed changes in equipment or systems which constitute an unreviewed safety question defined in 10CFR50.59, or which are referred by the operating organization.

3. All requests to the AEC/DOL for changes in Technical Specifications or license that involve unreviewed safety questions as defined in 10CFR50.59.

4. Violations of statutes, regulations, orders, Technical Specifications, license requirements, or internal procedures, or instructions having safety significance as determined by the NSRC.

5. Abnormal occurrences or unusual events as defined in 1.0 of these specifications.

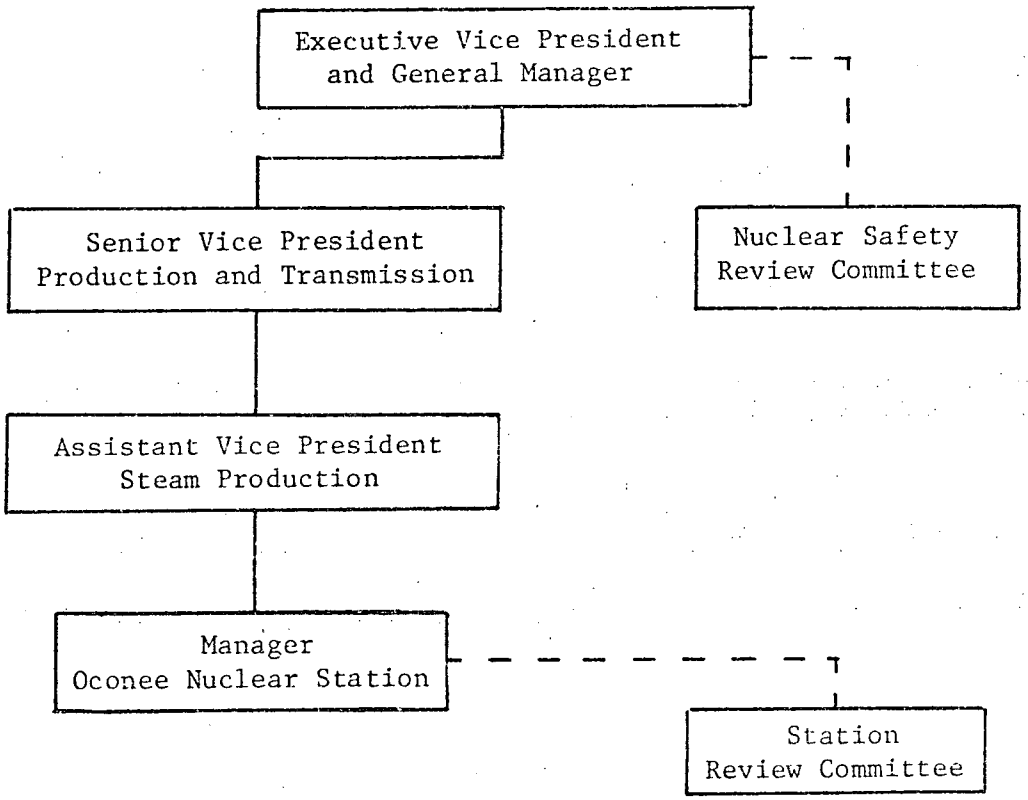
6. Special reviews or investigations as required by the Assistant Vice President, Steam Production, or the station Manager.



OCONEE NUCLEAR STATION

STATION ORGANIZATION CHART

FIGURE 6.1-1



OCONEE NUCLEAR STATION

MANAGEMENT ORGANIZATION CHART

FIGURE 6.1-2

A. C. THIES, being duly sworn, states that he is Senior Vice President of Duke Power Company; that he is authorized on the part of said company to sign and file with the Atomic Energy Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38 and DPR-47; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

A. C. Thies, Senior Vice President

ATTEST:

John C. Goodman, Jr.
Assistant Secretary

Subscribed and sworn to before me this 31st day of December, 1973.

Edna B. Farmer
Notary Public

My Commission Expires:

Oct. 24, 1977

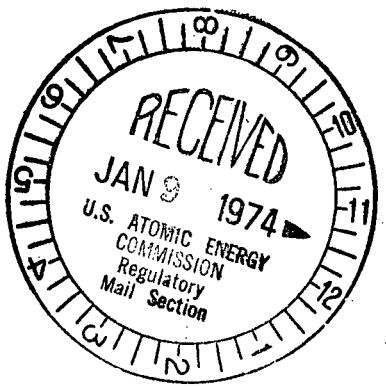
Regulatory Docket File

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. BOX 2178

December 31, 1973



Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Units 1 and 2
Docket Nos. 50-269 and -270

Dear Mr. Giambusso:

My letter of November 30, 1973 requested certain modifications to Sections 3.5.2.4 and 3.5.2.5 of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38 and DPR-47. The requested change in operating limits was for Oconee Unit 1 only, since at the time the operating limits for Oconee Unit 2 had not been developed. This submittal incorporates new operating limits for Oconee 2. These limits were developed using the same method described in Babcock & Wilcox Topical Report BAW-10078, "Operational Parameters for B&W-Rodded Plants."

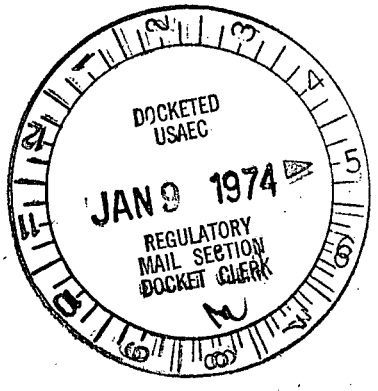
Please find attached replacement pages for Oconee Technical Specification 3.5.2. It is requested that these changes, as indicated by vertical lines in the margins of the replacement pages, and the attached figures be approved and incorporated in the Oconee Technical Specifications.

Very truly yours,

A. C. Thies

A. C. Thies

ACT:vr
Attachment



277

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
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A. Giambusso	3 signed			X	X

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DESCRIPTION:
Ltr notarized 12-31-73.....trans the following:

ENCLOSURES:
Request for change to TECH SPEC for Oconee Units 1 & 2

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ACKNOWLEDGED
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PLANT NAME: Oconee Units 1 & 2

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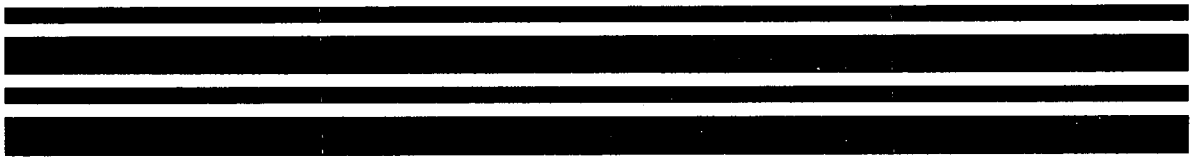

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Accession 277

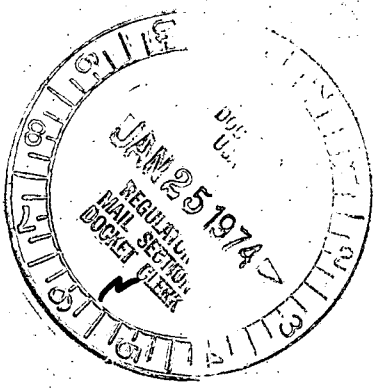
Regulatory Docket File

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

January 21, 1974



Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Units 1 and 2
Docket Nos. 50-269 and 50-270

Dear Mr. Giambusso:

The Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38 and DPR-47, require the submission of a Startup Report under certain conditions. It is requested that the technical specification which addresses the startup report, Technical Specification 6.6.1.1A, be modified to agree with the provisions of AEC Regulatory Guide 1.16, Reporting of Operating Information, Section C.1.a(1).

Attachment 1 provides replacement pages for the Oconee Technical Specifications showing the requested changes.

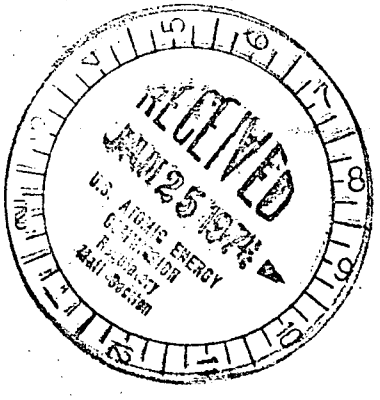
Very truly yours,

A. C. Thies

A. C. Thies

ACT:vr

Attachment



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A. Giambusso	3 signed			X	X

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DESCRIPTION:
Ltr notarized 1-21-74, requesting change to Tech Spec.....trans the following:

ENCLOSURES:
ATTACHMENT 1: Proposed replacement pages for the Oconee Nuclear Station Tech Specs

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ACKNOWLEDGED

(3 Orig & 37 cys rec'd)

PLANT NAME: Oconee Units 1 & 2

FOR ACTION/INFORMATION 1-25-74 GC

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✓MUNTZING/STAFF	MACCARY	KASTNER	✓GOULBOURNE (L)	B. HURT
CASE	KNIGHT	BALLARD	LEE (L)	PLANS
GIAMBUSSO	PAWLICKI	SPANGLER	MAIGRET (L)	MCDONALD
BOYD	SHAO		SERVICE (L)	✓DUBE w/Input
MOORE (L)(BWR)	STELLO	ENVIRO	SHEPPARD (E)	
✓DEYOUNG(L)(PWR)	HOUSTON	MULLER	SMITH (L)	INFO
SKOVHOLT (L)	NOVAK	DICKER	TEETS (L)	C. MILES
P. COLLINS	ROSS	KNIGHTON	WADE (E)	B. KING
DENISE	IPPOLITO	YOUNGBLOOD	WILLIAMS (E)	✓A. CABBEL
✓REG OPR	TEDESCO	REGAN	WILSON (L)	
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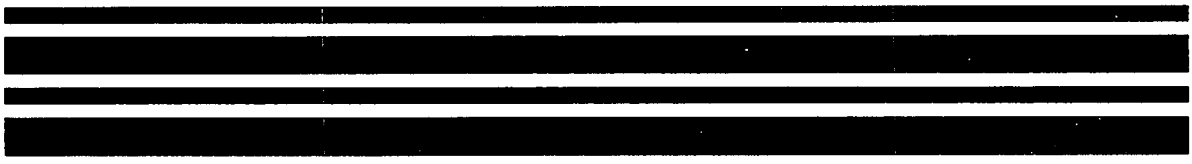

NRC-OCONEE

Box NRC_OCONEE_2042_0001

Accession 700

A. C. THIES, being duly sworn, states that he is Senior Vice President of Duke Power Company; that he is authorized on the part of said company to sign and file with the Atomic Energy Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38 and DPR-47; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

A. C. Thies, Senior Vice President

ATTEST:

John C. Goodman, Jr.
Assistant Secretary

Subscribed and sworn to before me this 8th day of March, 1974.

Notary Public

My Commission Expires:

Jan. 13, 1979

For your information, Oconee 3 technical specifications have been revised using the new LOCA limit curve and the procedures developed in BAW-10078. These technical specifications will be submitted for your review by a Final Safety Analysis Report amendment in late March, 1974.

We would appreciate receiving approval to revise the Units 1 and 2 technical specifications as soon as possible. In order to allow sufficient time to make appropriate procedure changes and inform all operators of the technical specification revision, please make the effective date of technical specification change one week from your date of notification to us.

Very truly yours,

A. C. Thies

ACT:vr
Attachments

temperatures fell off at a slower rate. The overall effect of this change is insignificant.

3. For the four-pump coastdown transient, the increased specific heat value had no significant effect.

4. For emergency core cooling analysis, the impact of the specific heat revision on safety limits was to lower some portions of the allowable linear heat rate by up to 0.65 kw/ft. The attached curve identified as "LOCA Limited Maximum Allowable Linear Heat Rate" determines the allowable linear heat rate as a function of elevation in the core. The revised linear heat rate is in compliance with the interim acceptance criteria. The revised LOCA limits were determined by repeating the Oconee 2 calculations. The allowable heat rate curve for Oconee 2 is lower by .65 kw/ft at the six foot elevation but is unchanged at the 10 foot elevation.

5. For the reactor building pressure analysis, the initial stored energy in the core is increased by less than one million BTU's and the calculation of maximum reactor building pressure shows no change.

A reanalysis of the Oconee 1 and 2 operating margins with respect to the revised LOCA limit curve was performed by B&W using the procedures developed in BAW-10078. This analysis shows that the revised LOCA limit could have been exceeded assuming licensed design conditions early in plant life. However, based on Oconee 1 and 2 operation, these design conditions are known to be conservative and to exceed their limits and would have required the simultaneous existence of several "worst case" uncertainties. A review of operating data shows that the actual experienced quadrant power tilt for Unit 1 and the achieved power level for Unit 2 preclude the Interim Acceptance Criteria being exceeded. In order for Oconee 2 to operate within the revised LOCA limit and to more accurately reflect the operating characteristics of Oconee 1 and 2 experience to date, revised technical specifications are attached. As identified in my letter of November 30, 1973, increased flexibility in power maneuvering over the existing approved technical specification is provided by a reduction in quadrant power tilt. The attached technical specifications for Unit 2 supersede those attached to my letter of December 31, 1973.

With regard to Oconee 1, the technical specifications submitted for your approval by my letter of November 30, 1973 were requalified with the revised LOCA limit. This requalification used the procedures of BAW-10078; the method identified as Attachment 1 in my November 30, 1973 letter; and also the effects of 92 effective full power day burnup on the Oconee 1, Cycle 1 core. The results of the requalification verify the acceptability of the proposed technical specification; therefore, approval and implementation is requested for the continued operation of Unit 1 through the completion of the first fuel cycle. For your convenience, additional copies of the Unit 1 technical specification are attached.

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

40 cys

March 8, 1974

Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Units 1 and 2
Docket Nos. 50-269 and -270

Dear Mr. Giambusso:

Please refer to my letters of November 30, 1973, December 31, 1973, and January 25, 1974 to you and Mr. J. F. Mallay's letter of February 21, 1974 to Mr. Al Schwencer. In my letters of November 30 and December 31, we requested certain changes to the Oconee Units 1 and 2 Technical Specifications. These changes involved Technical Specification 3.5.2 and principally revised rod withdrawal limits for both Units 1 and 2.

Subsequently, upon discovery by B&W of a change in the calculation of the specific heat curve for uranium dioxide fuel, we requested in my letter of January 25, 1974 that you hold in abeyance your review of the requested technical specification changes. B&W has since advised us that they have issued a new specific heat curve and incorporated this curve into the affected transient codes for plant safety analyses. A new specific heat curve is attached.

The safety implications of higher values of specific heat were investigated by re-analysis of the various transients using the new specific heat curve. The slower transients were unaffected. The rapid transients investigated yielded the following results:

1. For the rod ejection transient, DNBR was not noticeably affected. The maximum cladding temperature decreased by 70°F to 100°F and the maximum fuel temperature decreased by 200°F to 300°F.

2. For locked rotor transient, the DNBR was not noticeably affected. The maximum cladding temperature increased by 5°F to 15°F and the fuel

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 2002

FILE:

FROM:	DATE OF DOC	DATE REC'D	LTR	MEMO	RPT	OTHER
Duke Power Company Charlotte, N. C. 28201 A. C. Thies	3-8-74	3-11-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
A. Giambusso	3 signed			X	X

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX			40	50-269/270

DESCRIPTION:
Ltr notarized 3-8-74, re their 11-30-73, 12-31-73, & 1-25-74 ltr.....furnishing addl info to Tech Spec 3.5.2, regarding rev rod withdrawal limits.....w/atchmts.....

ENCLOSURES:

DO NOT REMOVE

ACKNOWLEDGED

PLANT NAME: Oconee Units 1 & 2

FOR ACTION/INFORMATION 3-12-74

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GIAMBUSSO	PAWLICKI	SPANGLER	LEE (L)	PLANS
BOYD	SHAO		MAIGRET (L)	MCDONALD
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NRC-OCONEE

Box NRC_OCONEE_2042_0001

Accession 2002

Please advise if we can be of further assistance in your evaluation of the requested change to Section 1.2 of the Oconee Non-Radiological Environmental Technical Specifications.

Very truly yours,

A. C. Thies

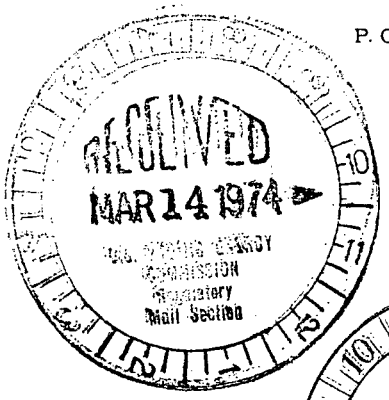
ACT:vr

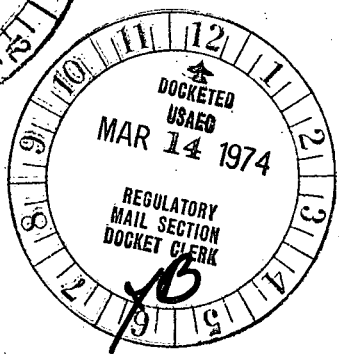
Regulatory File Cy.

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. BOX 2178





March 11, 1974

Mr. Gordon K. Dicker, Chief
Environmental Projects Branch 2
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270

Dear Mr. Dicker:

Your letter of February 11, 1974 requested additional information concerning collection and treatment of waste water from the Oconee Nuclear Station. At the present time, an additional waste water collection basin is being designed. This new basin will be located between the existing basin and the entrance to Oconee Nuclear Station and will approximately double the present holding capacity. Although the design is not complete, the following provisions are planned to be incorporated into the waste water treatment system:

1. Separate inlets and discharges for each basin to permit greater flexibility in storage, treatment, and discharge of waste.

2. Separate recirculation pump for each basin.

3. Each recirculation pump will be sized to turn over the basin volume in eight hours.

4. The recirculation pumps are self priming and capable of continuous operation.

5. The operating level of the basins will be two feet below maximum overflow level.

6. Level probes will be installed to indicate normal operating levels and also maximum or overflow levels. Level indication and alarms will be provided in the Chemistry Laboratory.

7. Basin pH will be monitored at the discharge from each basin and the discharge of each recirculation pump.

2122

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 2122

FILE:

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Duke Power Company Charlotte, N.C. 28201 Mr. A.C. Thies	3-11-74	3-14-74	X			

TO:	ORIG	CC	OTHER	
G.Dicker	1 signed			SENT AEC PDR XXX SENT LOCAL PDR XXX

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX			1	50-269/270

DESCRIPTION:
Ltr re our 2-11-74 ltr....furn addl info concerning the proposed changes to the Non-Radiological tech specs.....

ENCLOSURES:

ACKNOWLEDGED

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PLANT NAME: Oconee

FOR ACTION/INFORMATION 3-14-74 JB

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✓MUNTZING/STAFF	MACCARY	✓KASTNER	GEARIN (L)	B. HURT
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MOORE (L)(BWR)	STELLO	ENVIRO	SERVICE (L)	DUBE w/Input
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P. COLLINS	ROSS	KNIGHTON	TEETS (L)	C. MILES
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NRC-OCONEE

Box NRC_OCONEE_2042_0001

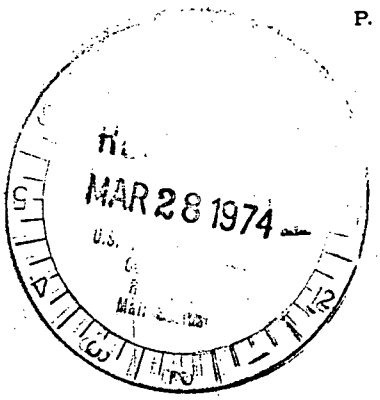
Accession 2122

Regulatory Docket File

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. BOX 2178



March 26, 1974

Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Units 1 and 2
Docket Nos. 50-269 and -270

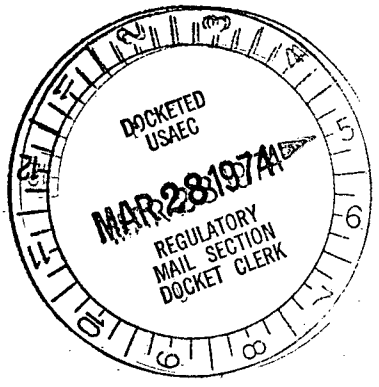
Dear Mr. Giambusso:

My letter of March 8, 1974 requested certain changes to Oconee Technical Specification 3.5.2. In that letter, it was stated that for the locked rotor transient the DNBR was not noticeably affected by the higher values of the revised specific heat curve for uranium dioxide fuel. During review of this requested change, members of your staff have asked if the 1.4 second flow measurement time constant (reported in Supplement 17 to the Oconee FSAR) was included in the locked rotor transient analysis. Please be advised that the 1.4 second time constant was included in the analysis, and therefore, the conclusions reported in my March 8, 1974 submittal are valid for both the revised specific heat curve and the flow measurement time constant of 1.4 seconds reported in Supplement 17.

Very truly yours,

A. C. Thies

ACT:vr



2633

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 2633

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A. Giambusso	1 signed			SENT AEC PDR X SENT LOCAL PDR X

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	XXX			1	50-269/270

DESCRIPTION:
Ltr re their 3-8-74 ltr, furnishing info to Oconee Tech Spec 3.5.2,.....

ENCLOSURES:

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ACKNOWLEDGED

PLANT NAME: Oconee Units 1 & 2

FOR ACTION/INFORMATION 3-28-74 GC

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SLATER (E)
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TEETS (L)
WADE (E)
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BRAITMAN
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✓16 - CYS ACRS ~~XXXXXXXX~~ SENT TO LIC. ASST. 3-28-74 GOULBOURNE

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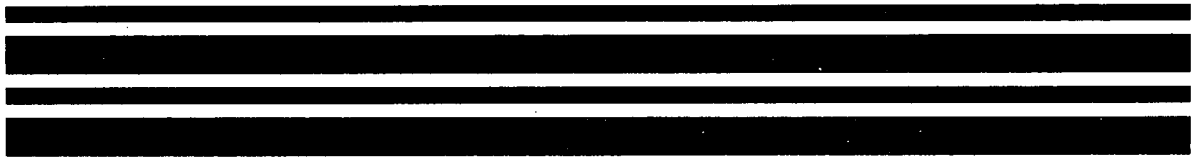
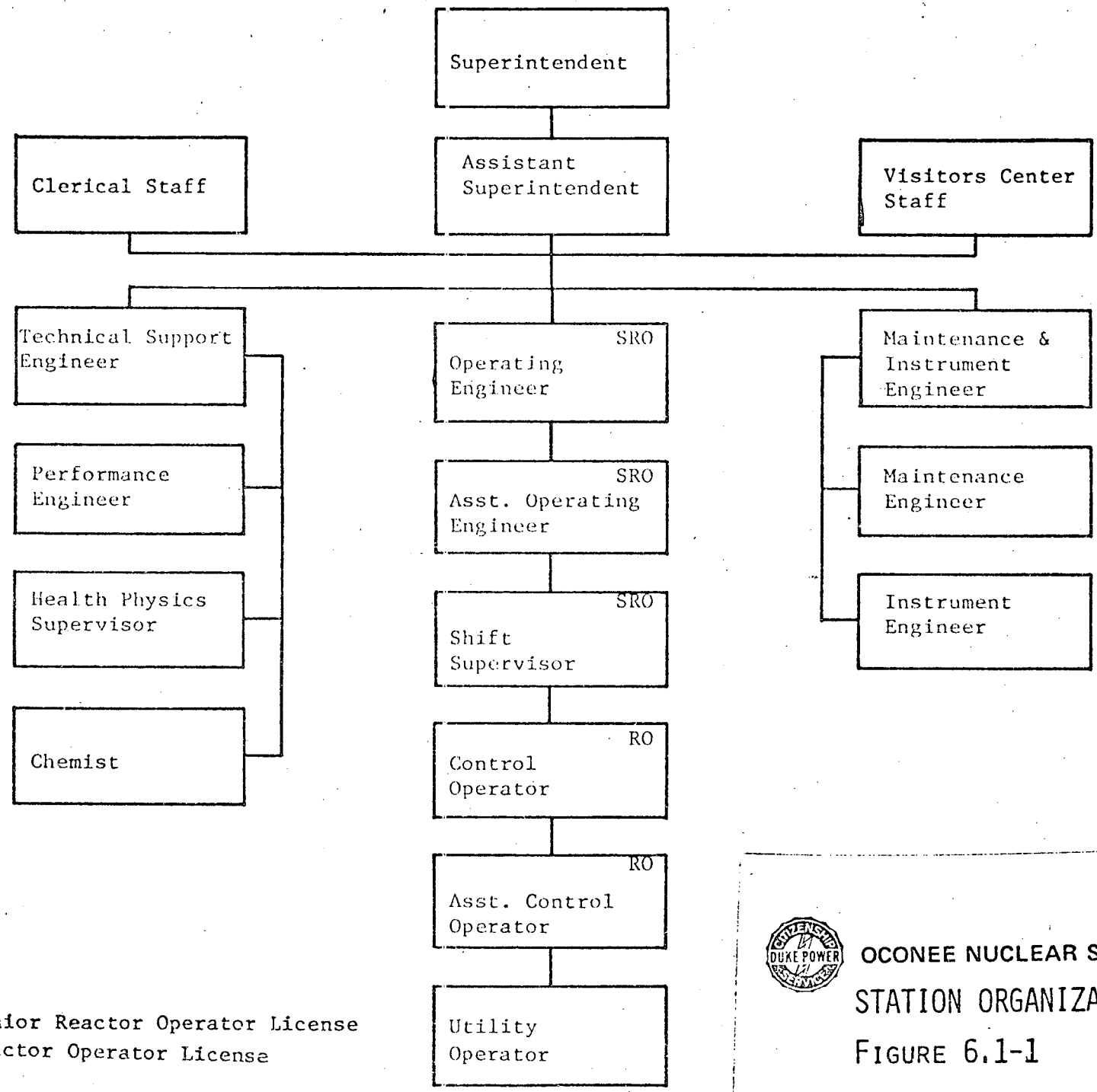


NRC-OCONEE

Box NRC_OCONEE_2042_0001

Accession 2633



SRO - Senior Reactor Operator License
RO - Reactor Operator License

OCONEE NUCLEAR STATION

STATION ORGANIZATION CHART

FIGURE 6.1-1

ATTACHMENT 1

The proposed organizational change will strengthen the supervision and administration of Oconee Nuclear Station, particularly with regard to maintenance activities. Your prompt consideration of this matter is appreciated.

Very truly yours,

E. D. Powell

EDP:gje
Attachments

E. D. Powell, being duly sworn, states that he is Assistant Vice President of Duke Power Company; that he is authorized on the part of said company to sign and file with the Atomic Energy Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38 and DPR-47; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

E. D. Powell, Assistant Vice President

ATTEST:

John C. Goodman, Jr.
Assistant Secretary

Subscribed and sworn to before me this 29th day of May, 1974.

Notary Public

My Commission Expires:

October 24, 1977

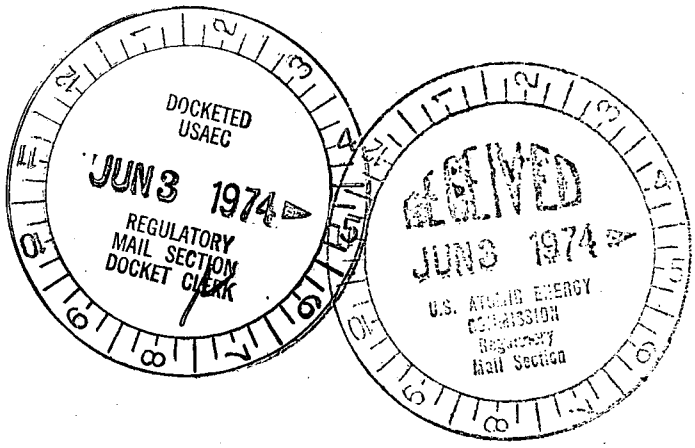
Regulatory Docket File

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

E. D. POWELL
ASSISTANT VICE PRESIDENT
PRODUCTION AND TRANSMISSION

TELEPHONE: AREA 704
374-4682

May 29, 1974



Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Units 1 and 2
Docket Nos. 50-269 and -270

Dear Mr. Giambusso:

Section 6.1.1.3 of the Oconee Nuclear Station Technical Specifications, Appendix A to Operating Licenses DPR-38 and DPR-47, states that the station organization for operation, technical support, and maintenance shall be functionally as shown in Figure 6.1-1, "Station Organization Chart". It is requested that Figure 6.1-1 be revised as shown in Attachment 1.

Significant changes in the station organization, proposed in Attachment 1, are as follows:

1. Instrumentation and control personnel will be moved from the Technical Support Group and will report to an Instrument Engineer who reports to the Maintenance and Instrument Engineer.

2. Health physics personnel will report to a Health Physics Supervisor and chemistry personnel will report to the station Chemist. Both supervisors report to the Technical Support Engineer.

The supervisory and professional personnel who will fill the positions shown in Attachment 1 will meet the training and experience requirements described in Sections 4 and 5 of ANSI 18.1, "Selection and Training of Nuclear Power Plant Personnel". Sections 12.1 and 12.2 of the Oconee FSAR will be revised to reflect the changes in the station organization. Section 12A.5 will also be revised to show the technical qualifications of supervisory personnel in the proposed organization. These revisions to the FSAR are shown in Attachment 2, and will be incorporated on June 14, 1974.

4932

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 4932

FILE: Appl.

FROM:	DATE OF DOC	DATE REC'D	LTR	MEMO	RPT	OTHER
Duke Power Company Charlotte, N. C. 28242 E. D. Powell	5-29-74	6-3-74	X			

TO:	ORIG	CC	OTHER	
A. Giambusso	3 signed			SENT AEC PDR X SENT LOCAL PDR X

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX		XXX	40	50-269/270

DESCRIPTION:
Ltr notarized 5-29-74, trans the following:

ENCLOSURES:
Oconee 1 & 2 requesting change to Opr Lic, (Chge to Tech Spec) regarding the revision of the station's organization chart.

DO NOT REMOVE

ACKNOWLEDGED

PLANT NAME: Oconee Units 1 & 2

(3 Orig & 37 cys rec'd)

FOR ACTION/INFORMATION 6-4-74 GC

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✓MUNTZING/STAFF	MACCARY	KASTNER	GEARIN (L)	B. HURT
CASE	KNIGHT	BALLARD	GOULBOURNE (L)	
GIAMBUSSO	PAWLICKI	SPANGLER	LEE (L)	PLANS
BOYD	SHAO		MAIGRET (L)	MCDONALD
MOORE (L)(BWR)	STELLO	ENVIRO	REED (E)	✓DUBE w/Input(ltr)
DEYOUNG(L)(PWR)	HOUSTON	MULLER	SERVICE (L)	✓COUPE (ltr)
SKOVHOLT (L)	NOVAK	DICKER	✓SHEPPARD (L)	INFO
✓SOLLER(L)(Ltr)	ROSS	KNIGHTON	SLATER (E)	C. MILES
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DENISE	TEDESCO	REGAN	TEETS (L)	EISENHUT
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- 1-CONSULTANT'S NEWMARK/BLUME/AGBABIAN
- 1-GERALD ULRIKSON...ORNL
- 1-B & M SWINEBROAD, Rm E-201 GT

- 1-PDR-SAN/LA/NY
- 1-GERALD LELLOUCHE BROOKHAVEN NAT. LAB
- 1-AGMED(Ruth Gussman) RM-B-127, GT.
- 1-RD..MULLER..F-309 GT

NRC-OCONEE

Box NRC_OCONEE_2042_0001

Accession 4932

to permit completion of any maintenance action, and the performance of a local leak rate test following the maintenance.

Very truly yours,

A. C. Thies

A. C. THIES, being duly sworn, states that he is Senior Vice President of Duke Power Company; that he is authorized on the part of said Company to sign and file with the Atomic Energy Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38, DPR-47, and DPR-55; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

A. C. Thies, Senior Vice President

ATTEST:

John C. Goodman, Jr.
Assistant Secretary

Subscribed and sworn to before me this 26th day of July, 1974.

Notary Public

My Commission Expires:

June 28, 1978

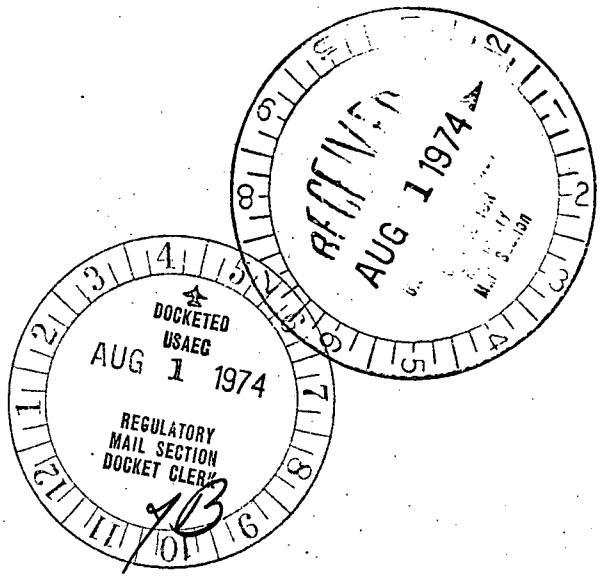
Regulatory Docket File

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

July 26, 1974



Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. Giambusso:

Oconee Nuclear Station Technical Specification 3.6 requires containment integrity be maintained when all three of the following conditions exist:

1. Reactor coolant pressure is 300 psig or greater
2. Reactor coolant temperature is 200°F or greater
3. Nuclear fuel is in the core

Containment integrity is defined by Section 1.7 of the Technical Specifications. It is required that both doors of the personnel hatch and emergency hatch be closed and sealed except that at least one door of the personnel hatch and the emergency hatch must be closed and sealed during refueling or during personnel passage through these hatches. There are no provisions under the current definition which permit preventative or corrective maintenance to be performed on one of these doors when containment integrity must exist.

Pursuant to 10CFR 50.59, it is requested that Section 1.7 of the Oconee Nuclear Station Technical Specifications be revised such that maintenance on one door of either the personnel or emergency hatch is permitted for 48 hours provided the remaining door is closed and sealed. This proposed change is shown on the attached replacement page for the Oconee Technical Specifications.

A maintenance period of up to 48 hours is considered acceptable since the other door will be kept closed and sealed. Containment integrity is not impaired since either door meets the design specifications for structural integrity and leak rate. The period of 48 hours is requested

8042

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 8042

FILE:

FROM:	DATE OF DOC	DATE REC'D	LTR	TWX	RPT	OTHER
Duke Power Company Charlotte, N.C. 28201 Mr. A.C. Thies	7-26-74	8-1-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
A. Giambusso	3 signed			XXX	XXX

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX		XXX	40	50-269/270/287

DESCRIPTION:
Ltr notarized 7-28-74.....requesting a change to tech specs....trans the following.....

ENCLOSURES:
PROPOSED CHANGE TO TECH SPEC.....concerning maintenance on the Personnel and emergency hatches.....

ACKNOWLEDGED

(40 cys ea encl rec'd)

DO NOT REMOVE

PLANT NAME: Oconee 1,2 & 3

FOR ACTION/INFORMATION 8-1-74 JB

BUTLER (L) W/ CYS	SCHWENCER (L) W/ CYS	ZIEMANN (L) W/ CYS	REGAN (E) W/ CYS
CLARK (L) W/ CYS	STOLZ (L) W/ CYS	DICKER (E) W/ CYS	W/ CYS
~~DARR (L)~~ W/ CYS	~~VASSALLO (L)~~ W/ CYS	~~KNIGHTON (E)~~ W/ CYS	W/ CYS
KNIEL (L) W/ CYS	✓PURPLE (L) W/9 CYS	YOUNGBLOOD (E) W/ CYS	W/ CYS

INTERNAL DISTRIBUTION

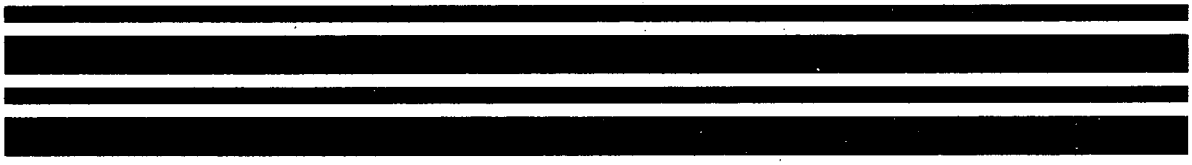
✓REG FILE	TECH REVIEW	DENTON	LIC ASST	A/T IND
✓~~AEC PDR~~	HENDRIE	GRIMES	DIGGS (L)	BRAITMAN
✓OGC	SCHROEDER	GAMMILL	GEARIN (L)	SALTZMAN
✓MUNTZING/STAFF	MACCARY	KASTNER	GOULBOURNE (L)	B. HURT
CASE	KNIGHT	BALLARD	KREUTZER (E)	
GIAMBUSSO	PAWLICKI	SPANGLER	LEE (L)	PLANS
BOYD	SHAO		MAIGRET (L)	MCDONALD
MOORE (L)(LWR-2)	STELLO	ENVIRO	REED (E)	CHAPMAN
DEYOUNG (L)(LWR-1)	HOUSTON	MULLER	SERVICE (L)	✓DUBE w/input
SKOVHOLT (L)	NOVAK	DICKER	✓SHEPPARD (L)	✓E. COUPE
✓GOLLER (L)	ROSS	KNIGHTON	SLATER (E)	✓Schemel
P. COLLINS	IPPOLITO	YOUNGBLOOD	SMITH (L)	D. THOMPSON (2)
DENISE	TEDESCO	REGAN	TEETS (L)	KLECKER
✓REG OPR	LONG	✓PROJECT MGR	WILLIAMS (E)	EISENHUT
FILE & REGION (3)	LAINAS	Scaletti	WILSON (L)	
MORRIS	BENAROYA	HARLESS		
STEELE	VOLLMER			

EXTERNAL DISTRIBUTION

✓1 - LOCAL PDR Walhalla, S.C.
✓1 - TIC (ABERNATHY)
✓1 - NSIC (BUCHANAN)
1 - ASLB
1 - P. R. DAVIS
✓16 - ACRS ~~HOLDING~~ Sent to Sheppard 8-2-74

(1)(2)(10)-NATIONAL LABS
1-ASLBP(E/W Bldg, Rm 529)
1-W. PENNINGTON, Rm E-201 GT
1-B&M SWINEBROAD, Rm E-201 GT
1-CONSULTANTS
NEWMARK/BLUME/AGBABIAN

1-PDR-SAN/LA/NY
1-BROOKHAVEN NAT LAB
1-G. ULRIKSON, ORNL
1-AGMED (RUTH GUSSMAN) Rm B-127 GT
1-RD..MUELLER, Rm F-[illegible] GT



NRC-OCONEE

Box NRC_OCONEE_2042_0001

Accession 8042

A. C. THIES, being duly sworn, states that he is Senior Vice President of Duke Power Company; that he is authorized on the part of said Company to sign and file with the Atomic Energy Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38, DPR-47, and DPR-55; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

A. C. Thies, Senior Vice President

ATTEST:

John C. Goodman, Jr.
Assistant Secretary

Subscribed and sworn to before me this 30th day of July, 1974.

Notary Public

My Commission Expires:

Oct. 24, 1977

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

July 30, 1974

Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. Giambusso:

Oconee Nuclear Station Technical Specification 3.11, "Maximum Power Restriction," limits first fuel cycle operation until supporting analyses and data pertinent to fuel clad collapse under fuel densification conditions have been approved by the Directorate of Licensing. On May 31, 1974, Babcock & Wilcox submitted their proprietary report BAW-10084, "Program to Determine In-Reactor Performance of B&W Fuels-Cladding Creep Collapse." The techniques defined in this report were utilized to perform cladding collapse analyses for Oconee Unit 1. Attachment 1, "Oconee 1 Clad Collapse Analysis," presents the results of this analysis and supports three-cycle operation of Oconee Unit 1.

Pursuant to 10CFR50.59, it is requested that the restriction limiting Oconee Unit 1 to 7500 effective full power hours be deleted from Technical Specification 3.11. Attachment 2 is the proposed replacement page 3.11-1 for the Oconee Nuclear Station Technical Specifications.

Very truly yours,

A. C. Thies

ACT:vr

8140

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

(TEMPORARY FORM)

CONTROL NO: 8140

FILE:

FROM:	DATE OF DOC	DATE REC'D	LTR	TWX	RPT	OTHER
Duke Power Company Charlotte, N.C. 28201 Mr. A.C. Thies	7-30-74	8-5-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
A. Giambusso	1 signed			XXX	XXX

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX		XXX	40	50-269/270/287

DESCRIPTION:

Ltr requesting an amdt to the tech specs to delete the restriction limiting Oconee Unit #1 to 7500 effective full Power hours.....

NOTE: Input on 269 only

PLANT NAME: Oconee

ENCLOSURES:

Proposed changes to tech specs....

ACKNOWLEDGED

(40 cys encl rec'd)

DO NOT REMOVE

8-6-74 JB

FOR ACTION/INFORMATION

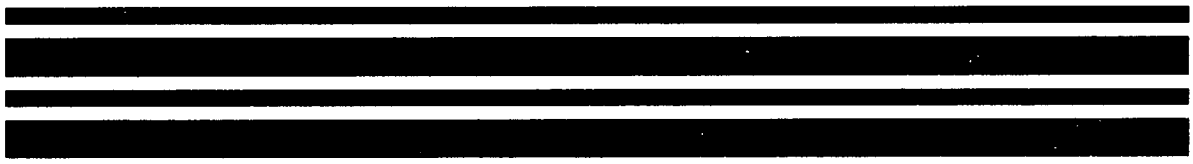
BUTLER (L) W/ CYS	SCHWENCER (L) W/ CYS	ZIEMANN (L) W/ CYS	REGAN (E) W/ CYS
CLARK (L) W/ CYS	STOLZ (L) W/ CYS	DICKER (E) W/ CYS	W/ CYS
~~PARR (L)~~ W/ CYS	~~VASSALLO (L)~~ W/ CYS	~~KNIGHTON (E)~~ W/ CYS	W/ CYS
KNIEL (L) W/ CYS	✓ PURPLE (L) W/9 CYS	YOUNGBLOOD (E) W/ CYS	W/ CYS

INTERNAL DISTRIBUTION

REG FILE	TECH REVIEW	DENTON	LIC ASST	A/T IND
✓ AEC PDR	HENDRIE	GRIMES	DIGGS (L)	BRAITMAN
✓ OGC	SCHROEDER	GAMMILL	GEARIN (L)	SALTZMAN
✓ MUNTZING/STAFF	MACCARY	KASTNER	GOULBOURNE (L)	B. HURT
CASE	KNIGHT	BALLARD	KREUTZER (E)	
GIAMBUSSO	PAWLICKI	SPANGLER	LEE (L)	PLANS
BOYD	SHAO		MAIGRET (L)	MCDONALD
MOORE (L)(LWR-2)	STELLO	ENVIRO	REED (E)	CHAPMAN
DEYOUNG (L)(LWR-1)	HOUSTON	MULLER	SERVICE (L)	✓ DUBE w/input
SKOVHOLT (L)	NOVAK	DICKER	✓ SHEPPARD (L)	✓ E. COUPE
✓ GOLLER (L)	ROSS	KNIGHTON	SLATER (E)	✓ Schemel
P. COLLINS	IPPOLITO	YOUNGBLOOD	SMITH (L)	D. THOMPSON (2)
DENISE	TEDESCO	REGAN	TEETS (L)	KLECKER
✓ REG OPR	LONG	✓ PROJECT MGR	WILLIAMS (E)	EISENHUT
FILE & REGION (2)	LAINAS	Scaletti	WILSON (L)	
MORRIS	BENAROYA	HARLESS		
STEELE	VOLLMER			

EXTERNAL DISTRIBUTION

✓ 1 - LOCAL PDR Walhalla, S.C.	(1)(2)(10)-NATIONAL LABS	1-PDR-SAN/LA/NY
✓ 1 - TIC (ABERNATHY)	1-ASLBP(E/W Bldg, Rm 529)	1-BROOKHAVEN NAT LAB
✓ 1 - NSIC (BUCHANAN)	1-W. PENNINGTON, Rm E-201 GT	1-G. ULRIKSON, ORNL
1 - ASLB	1-B&M SWINEBROAD, Rm E-201 GT	1-AGMED (RUTH GUSSMAN) Rm B-127 GT
1 - P. R. DAVIS	1-CONSULTANTS NEWMARK/BLUME/AGBABIAN	1-RD. MUELLER, Rm F-[illegible] GT
✓ 16 - ACRS ~~HOLDING~~ Sent to Sheppard 8-6-74		



NRC-OCONEE

Box NRC_OCONEE_2042_0001

Accession 8140

6.3 ACTION TO BE TAKEN IN THE EVENT A SAFETY LIMIT IS EXCEEDED

Specification

If a safety limit is exceeded:

6.3.1 The reactor shall be shut down immediately and maintained in a safe shutdown condition until otherwise authorized by the AEC.

6.3.2 The station Manager shall make an immediate report to the Assistant Vice President, Steam Production; the Senior Vice President, Production and Transmission; and the Chairman of the Nuclear Safety Review Committee.

6.3.3 The circumstances shall be promptly reported to the AEC by the Senior Vice President, Production and Transmission as indicated in Section 6.6.2.1, Station Reporting Requirements.

6.3.4 The station Manager shall direct the Station Review Committee to perform an analysis of the circumstances leading up to and resulting from the situation together with recommendations to prevent a recurrence. The report covering this analysis shall be sent to the Nuclear Safety Review Committee for review and approval. Copies of this report shall also be submitted to the station Manager; Assistant Vice President, Steam Production; the Senior Vice President, Production and Transmission; the Chairman of the Nuclear Safety Review Committee; the Senior Vice President, Engineering and Construction; Vice President, Design Engineering; and the Executive Vice President and General Manager. Appropriate analyses or reports shall be submitted to the AEC by the Senior Vice President, Production and Transmission as indicated in Section 6.6.2.1, Station Reporting Requirements.

6.2 ACTION TO BE TAKEN IN THE EVENT OF AN ABNORMAL OCCURRENCE OR UNUSUAL EVENT

6.2.1 Any abnormal occurrence or unusual event shall be investigated promptly by the station Manager.

6.2.2 The station Manager shall promptly notify the Assistant Vice President, Steam Production, of any abnormal occurrence or unusual event. The Station Review Committee shall review a written report which shall describe the circumstances leading up to and resulting from the occurrence and shall recommend appropriate action to prevent or minimize the probability of a recurrence.

6.2.3 The Station Review Committee report shall be submitted to the Nuclear Safety Review Committee for review of any recommendations. Copies shall also be sent to the station Manager and the Assistant Vice President, Steam Production.

3.5.2 Control Rod Group and Power Distribution Limits

Applicability

This specification applies to power distribution and operation of control rods during power operation.

Objective

To assure an acceptable core power distribution during power operation, to set a limit on potential reactivity insertion from a hypothetical control rod ejection, and to assure core subcriticality after a reactor trip.

Specification

3.5.2.1 The available shutdown margin shall be not less than 1% $\Delta k/k$ with the highest worth control rod fully withdrawn.

3.5.2.2 Operation with inoperable rods:

a. Operation with more than one inoperable rod, as defined in Specification 4.7.1 and 4.7.2.3, in the safety or regulating rod groups shall not be permitted.

b. If a control rod in the regulating or safety rod groups is declared inoperable in the withdrawn position as defined in Specification 4.7.1.1 and 4.7.1.3, an evaluation shall be initiated immediately to verify the existance of 1% $\Delta k/k$ hot shutdown margin. Boration may be initiated either to the worth of the inoperable rod or until the regulating and transient rod groups are fully withdrawn, whichever occurs first. Simultaneously a program of exercising the remaining regulating and safety rods shall be initiated to verify operability.

c. If within one (1) hour of determination of an inoperable rod as defined in Specification 4.7.1, it is not determined that a 1% $\Delta k/k$ hot shutdown margin exists combining the worth of the inoperable rod with each of the other rods, the reactor shall be brought to the hot standby condition until this margin is established.

d. Following the determination of an inoperable rod as defined in Specification 4.7.1, all rods shall be exercised within 24 hours and exercised weekly until the rod problem is solved.

e. If a control rod in the regulating or safety rod groups is declared inoperable per 4.7.1.2, power shall be reduced to 60% of the thermal power allowable for the reactor coolant pump combination.

f. If a control rod in the regulating or axial power shaping groups is declared inoperable per Specification 4.7.1.2, operation above 60% of rated power may continue provided the rods in the group are positioned such that the rod that was declared inoperable is maintained within allowable group average position limits of Specification 4.7.1.2 and the withdrawal limits of Specification 3.5.2.5.c.

3.5.2.3 The worth of a single inserted control rod shall not exceed 0.5% $\Delta k/k$ at rated power or 1.0% $\Delta k/k$ at hot zero power except for physics testing when the requirements of Specification 3.1.9 shall apply.

3.5.2.4 Quadrant tilt:

a. Below the power level cutoff (See Figures 3.5.2-1), except for physics tests, thermal power shall be reduced 2% for each 1% tilt in excess of 4% tilt. For less than 4 pump operation, thermal power shall be reduced 2% of the thermal power allowable for the reactor coolant pump combination for each 1% tilt in excess of 4%.

b. Within a period of 4 hours, the quadrant power tilt shall be reduced to less than 4%, except for physics tests, or the following adjustments in setpoints and limits shall be made:

1. The protection system maximum allowable setpoints (Figure 2.3-2A-Unit 1; 2.3-2B-Unit 2) shall be reduced 2% in power for each 1% tilt.

2. The control rod group withdrawal limits (Figures 3.5.2-1A1, 3.5.2-1A2, 3.5.2-2A Unit 1; 3.5.2-1B1, 3.5.2-1B2, 3.5.2-2B Unit 2) shall be reduced 2% in power for each 1% tilt in excess of 4%.

3. The operational imbalance limits (Figure 3.5.2-3A-Unit 1; 3.5.2-3B-Unit 2) shall be reduced 2% in power for each 1% tilt in excess of 4%.

c. If quadrant tilt is in excess of 25%, except for physics tests or diagnostic testing, the reactor will be placed in the hot shutdown condition. Diagnostic testing during power operation with a quadrant power tilt is permitted provided the thermal power allowable for the reactor coolant pump combination is restricted as stated in 3.5.2.4.a above.

d. Quadrant tilt shall be monitored on a minimum frequency of once every two hours during power operation above 15% of rated power.

3.5.2.5 Control rod positions:

a. Technical Specification 3.1.3.5 (safety rod withdrawal) does not prohibit the exercising of individual safety rods as required by Table 4.1-2 or apply to inoperable safety rod limits in Technical Specification 3.5.2.2.

b. Operating rod group overlap shall be 25% $\pm$ 5% between two sequential groups, except for physics tests.

c. Except for physics tests or exercising control rods, the control rod withdrawal limits are specified on Figures 3.5.2-1A1, 3.5.2-1B1, 3.5.2-1A2, and 3.5.2-1B2 for four pump operation and on Figure 3.5.2-2A and 3.5.2-2B for three or two pump operation. If the control rod position limits are exceeded, corrective measures shall be taken immediately to achieve an acceptable control rod position. Acceptable control rod positions shall be attained within four hours.

d. Except for physics tests, power shall not be increased above the power level cutoff (see Figures 3.5.2-1) unless the xenon reactivity is within 10% of the equilibrium value for operation at rated power and asymptotically approaching stability.

3.5.2.6 Reactor Power Imbalance shall be monitored on a frequency not to exceed two hours during power operation above 40 percent rated power. Except for physics tests, imbalance shall be maintained within the envelope defined by Figure 3.5.2-3A and 3.5.2-3B. If the imbalance is not within the envelope defined by Figure 3.5.2-3A and 3.5.2-3B, corrective measures shall be taken to achieve an acceptable imbalance. If an acceptable imbalance is not achieved within four hours, reactor power shall be reduced until imbalance limits are met.

3.5.2.7 The control rod drive patch panels shall be locked at all times with limited access to be authorized by the superintendent.

Bases

The power-imbalance envelope defined in Figure 3.5.2-3A and 3.5.2-3B is based on LOCA analyses which have defined the maximum linear heat rate (see Figure 3.5.2-4) such that the maximum clad temperature will not exceed the Interim Acceptance Criteria. Corrective measures will be taken immediately should the indicated quadrant tilt, rod position, or imbalance be outside their specified boundary. Operation in a situation that would cause the interim acceptance criteria to be approached should a LOCA occur is highly improbable because all of the power distribution parameters (quadrant tilt, rod position, and imbalance) must be at their limits while simultaneously all other engineering and uncertainty factors are also at their limits.* Conservatism is introduced by application of:

a. Nuclear uncertainty factors
b. Thermal calibration
c. Fuel densification effects
d. Hot rod manufacturing tolerance factors

The 30 percent overlap between successive control rod groups is allowed since the worth of a rod is lower at the upper and lower part of the stroke. Control rods are arranged in groups or banks defined as follows:

---

*Actual operating limits depend on whether or not incore or excore detectors are used and their respective instrument and calibration errors. The method used to define the operating limits is defined in plant operating procedures.

Group	Function
1	Safety
2	Safety
3	Safety
4	Safety
5	Regulating
6	Regulating
7	Xenon transient override
8	APSR (axial power shaping bank)

The minimum available rod worth provides for achieving hot shutdown by reactor trip at any time assuming the highest worth control rod remains in the full out position.(1)

Inserted rod groups during power operation will not contain single rod worths greater than 0.5% Δk/k. This value has been shown to be safe by the safety analysis of the hypothetical rod ejection accident.(2) A single inserted control rod worth of 1.0% Δk/k at beginning of life, hot, zero power would result in the same transient peak thermal power and therefore the same environmental consequences as a 0.5% Δk/k ejected rod worth at rated power.

Control rod groups are withdrawn in sequence beginning with Group 1. Groups 5, 6, and 7 are overlapped 25 percent. The normal position at power is for Groups 6 and 7 to be partially inserted.

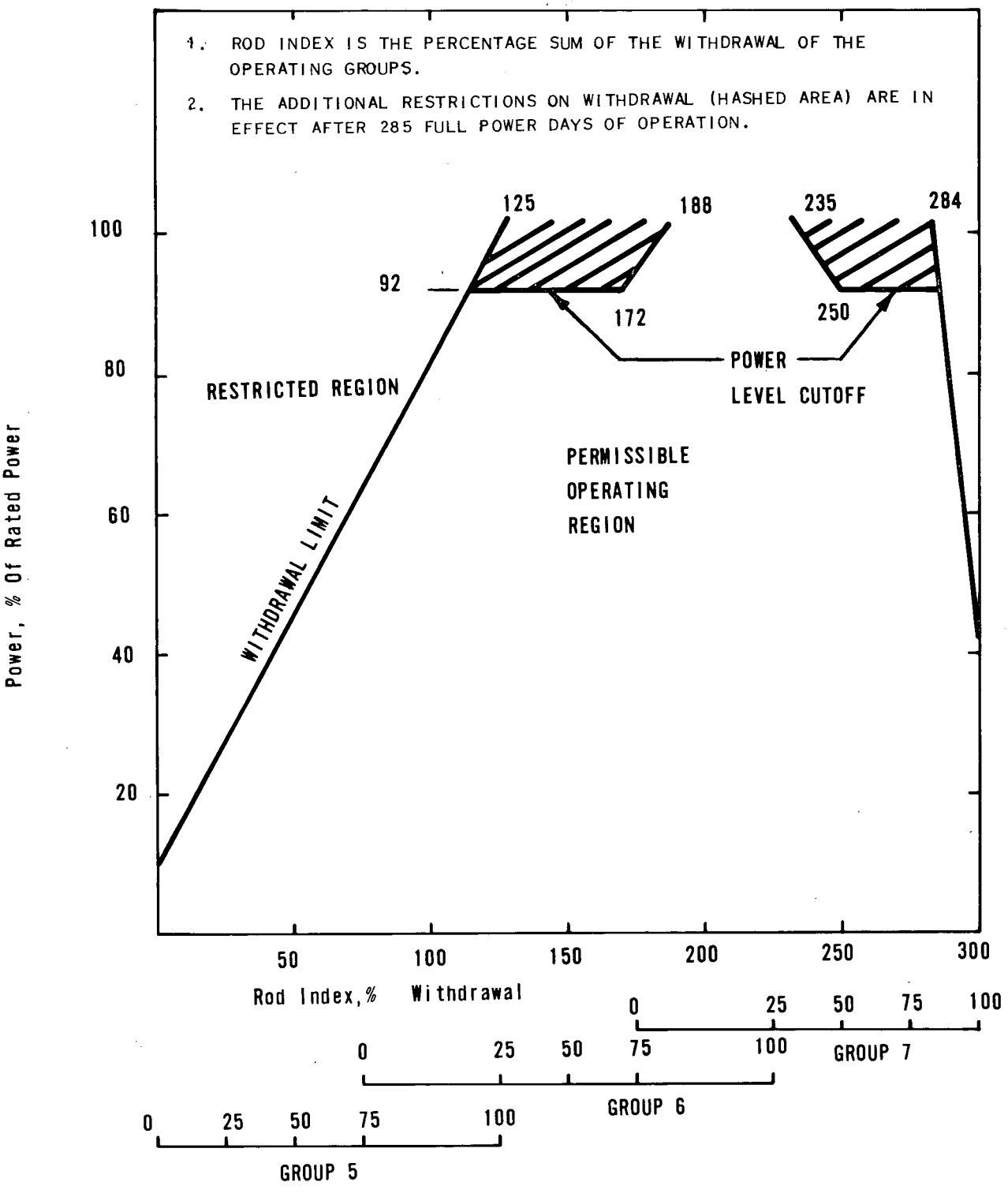
The quadrant power tilt limits set forth in Specification 3.5.2.4 have been established within the thermal analysis design base using the definition of quadrant power tilt given in Technical Specifications, Section 1.6. These limits in conjunction with the control rod position limits in Specification 3.5.2.5c ensure that design peak heat rate criteria are not exceeded during normal operation when including the effects of potential fuel densification.

The quadrant tilt and axial imbalance monitoring in Specifications 3.5.2.4d and 3.5.2.5e respectively normally will be performed in the process computer. The two-hour frequency for monitoring these quantities will provide adequate surveillance when the computer is out of service.

REFERENCES

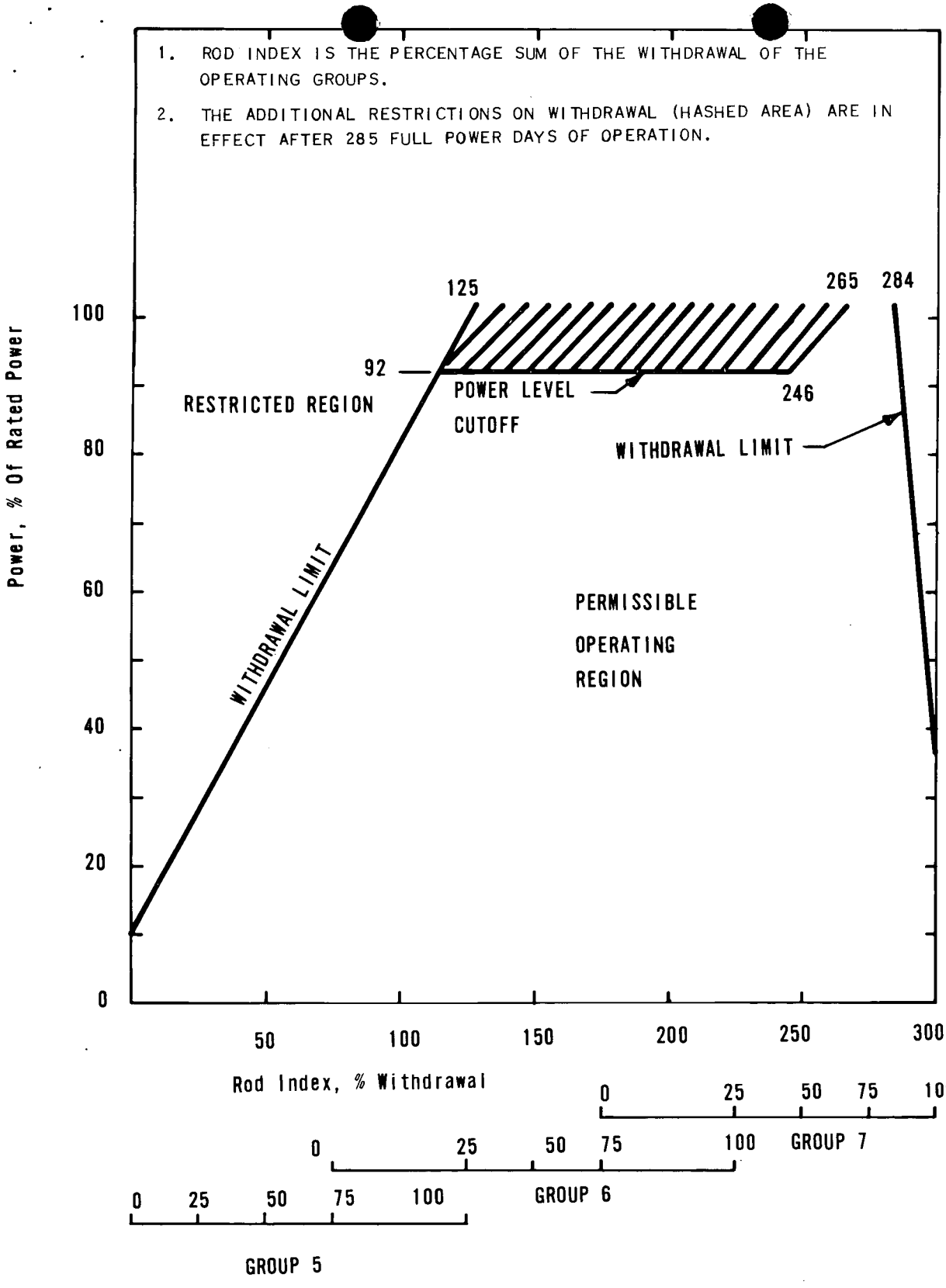
[1] Section 3.2.2.1.2

[2] Section 14.2.2.2



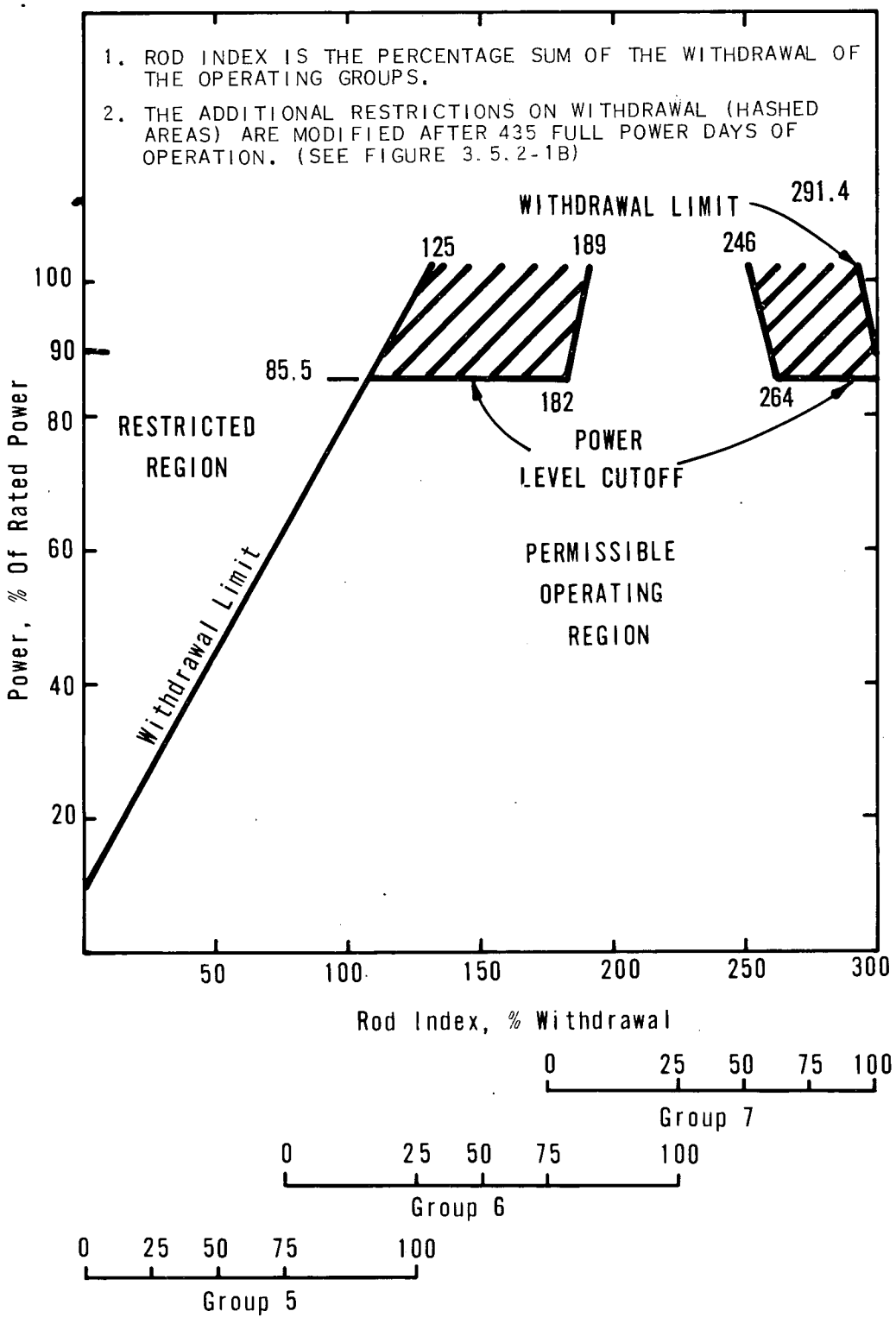
CONTROL ROD GROUP WITHDRAWAL LIMITS FOR 4 PUMP OPERATION

UNIT 1
OCONEE NUCLEAR STATION
Figure 3.5.2-1A1



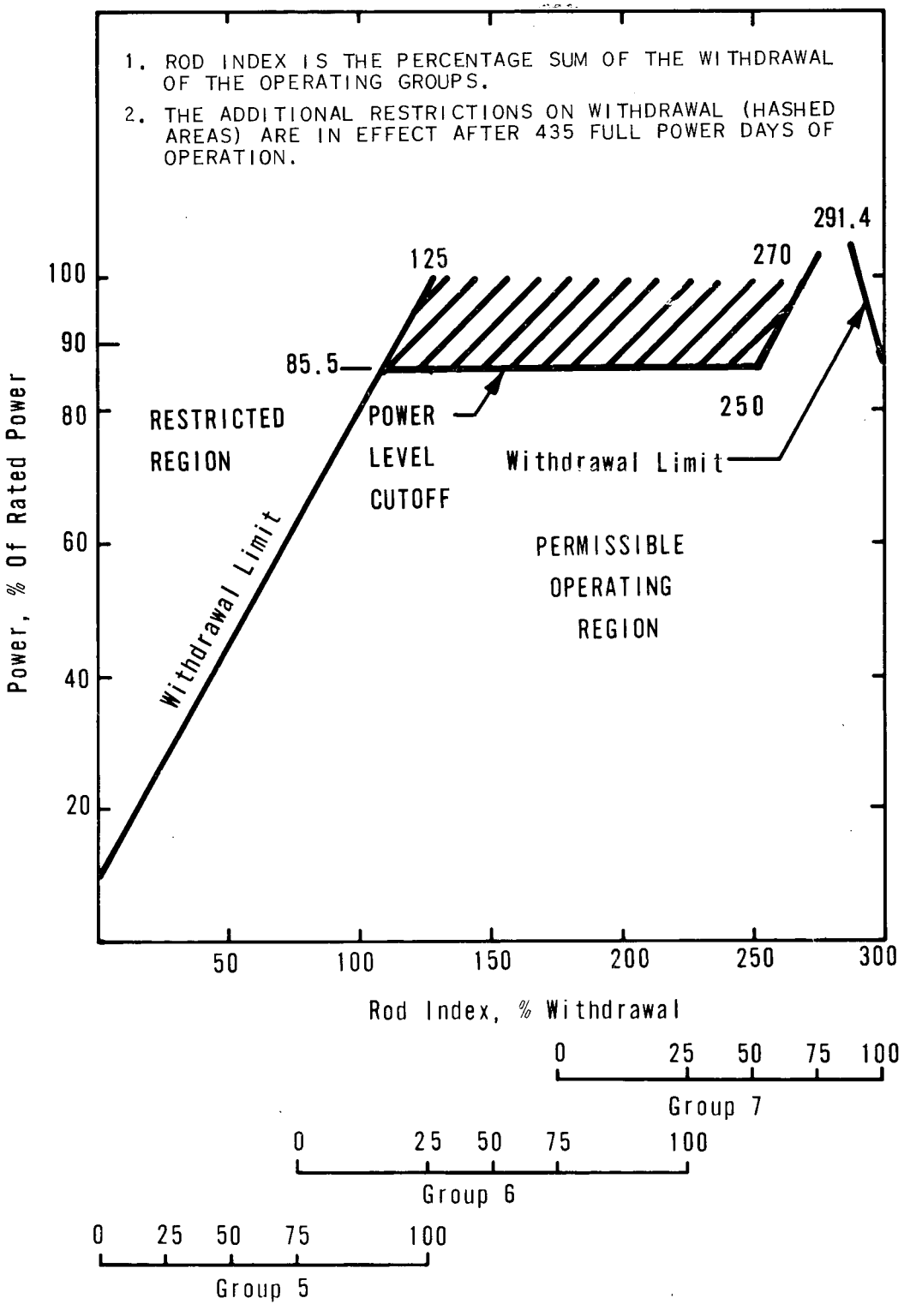
CONTROL ROD GROUP WITHDRAWAL LIMITS FOR 4 PUMP OPERATION

UNIT 1
OCONEE NUCLEAR STATION
Figure 3.5.2-1A2



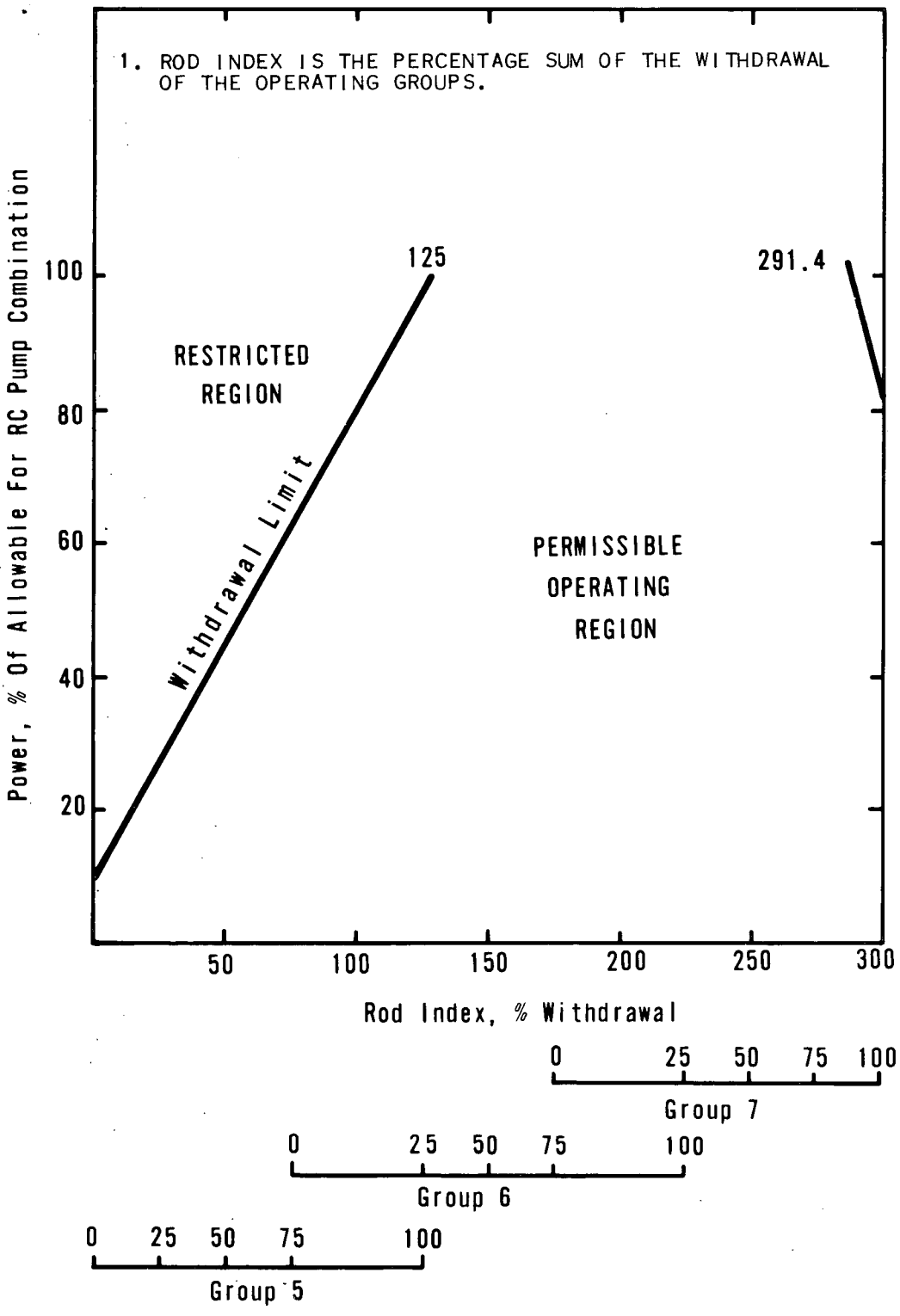
CONTROL ROD GROUP WITHDRAWAL LIMITS
FOR 4 PUMP OPERATION

UNIT 2
OCONEE NUCLEAR STATION
Figure 3.5.2-1B1



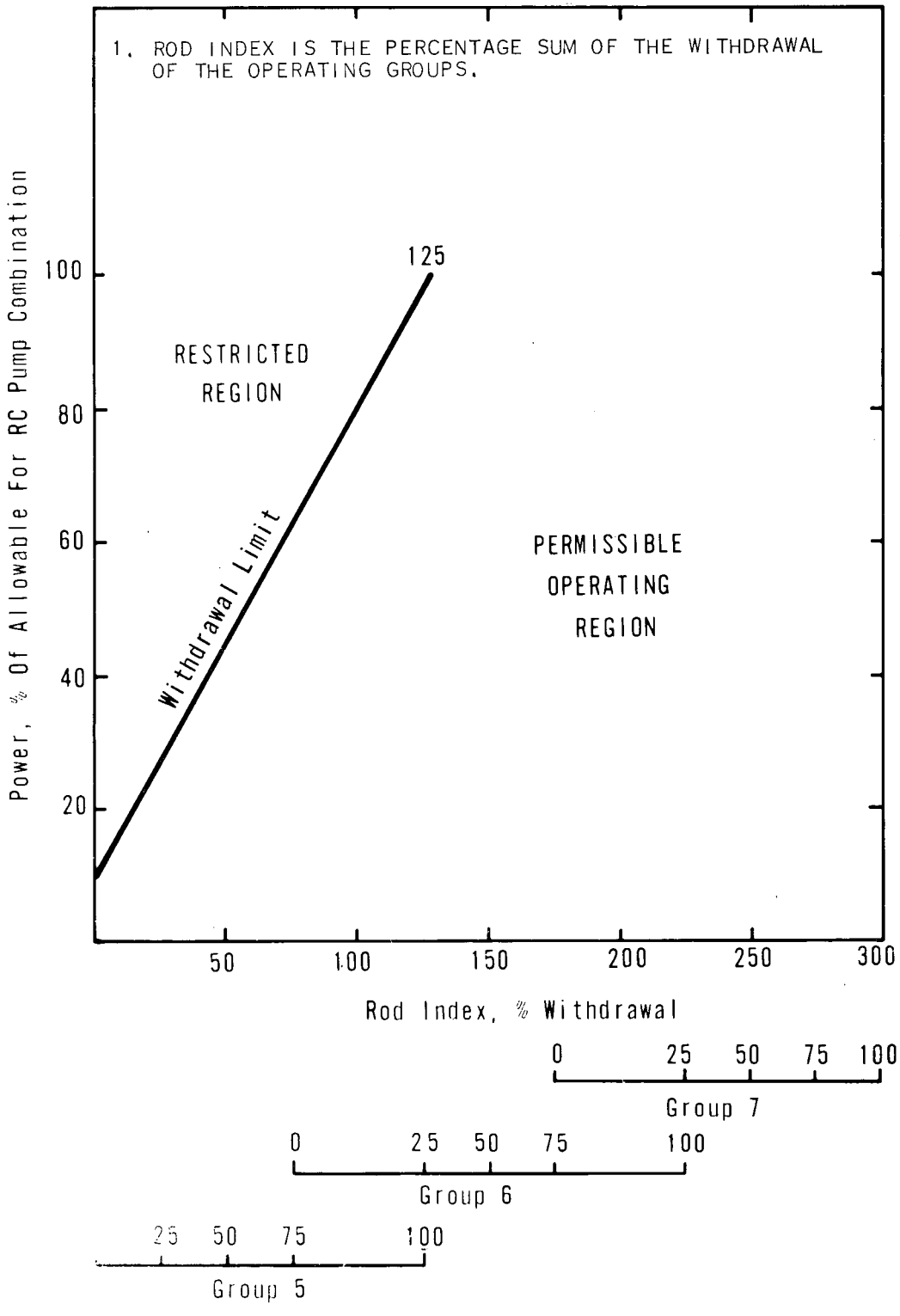
CONTROL ROD GROUP WITHDRAWAL LIMITS FOR 4 PUMP OPERATION

UNIT 2
OCONEE NUCLEAR STATION
Figure 3.5.2-1B2



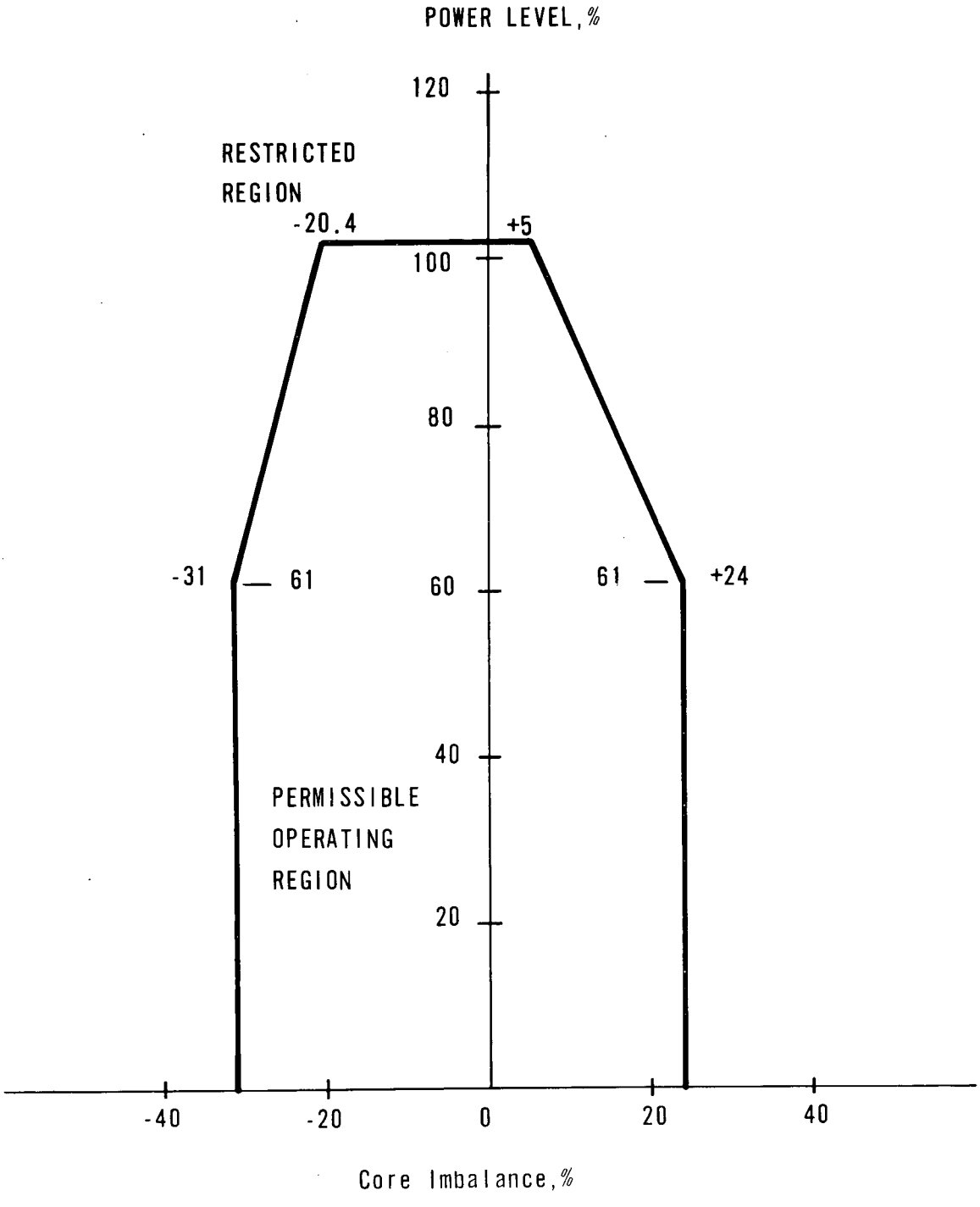
CONTROL ROD GROUP WITHDRAWAL LIMITS FOR 3 AND 2 PUMP OPERATION

UNIT 1
OCONEE NUCLEAR STATION
Figure 3.5.2-2A



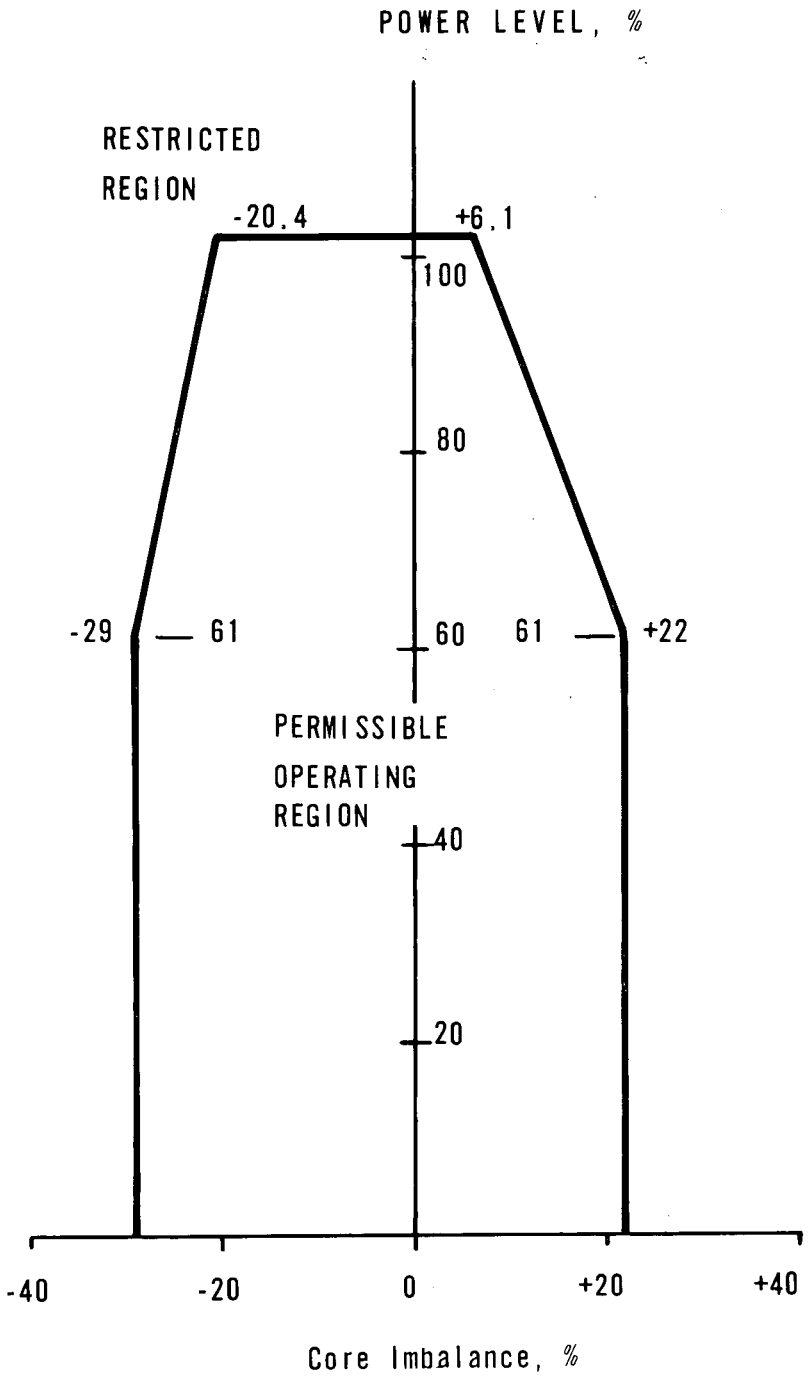
CONTROL ROD GROUP WITHDRAWAL LIMITS
FOR 3 AND 2 PUMP OPERATION

UNIT 2
OCONEE NUCLEAR STATION
Figure 3.5.2-2B



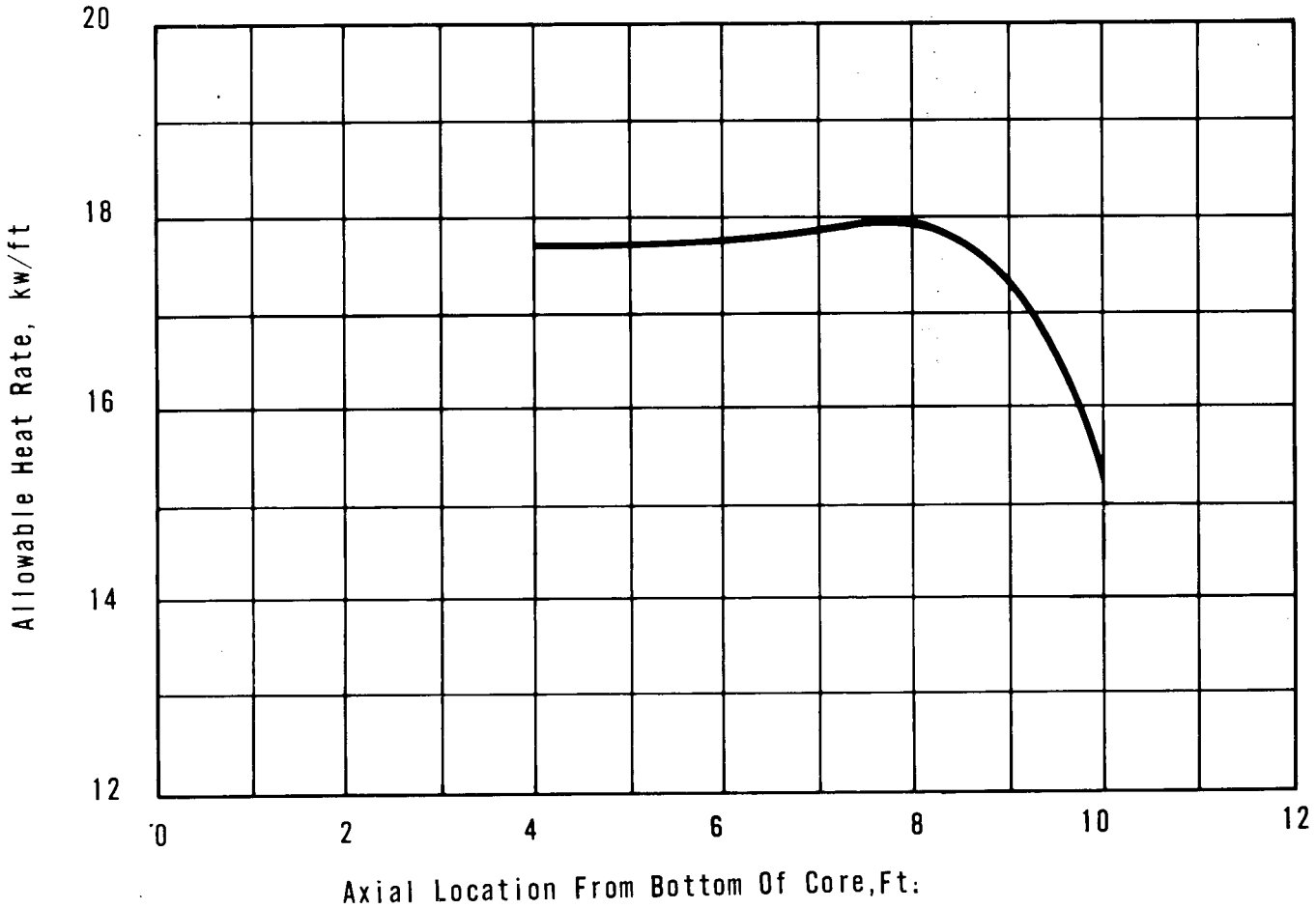
OPERATIONAL POWER-IMBALANCE ENVELOPE

UNIT 1
OCONEE NUCLEAR STATION
Figure 3.5.2-3A



OPERATIONAL POWER IMBALANCE ENVELOPE

UNIT 2
OCONEE NUCLEAR STATION
Figure 3.5.2-3B



LOCA LIMITED MAXIMUM ALLOWABLE
LINEAR HEAT RATE

OCONEE NUCLEAR STATION

Figure 3.5.2-4