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FILE CODE:

DOCKETS: 50-269, -270 and -287 (new)

DESCRIPTION: (Must Be Unclassified)

Ltr. trans: (3 signed & 97 conf'd)

AMENDMENT NO. 3 to Appl. for Lic.
 notarized 4-29-67, to include Unit
 No. 3 of the Oconee Nuclear Station.

ENCLOSURES:

and submitting the following:

Errata Sheets and Replacement Pages
 for the PSAR.....(100 copies)

SUPPLEMENT NO. 3, to PSAR, dealing
 solely with the inclusion of Oconee
 Nuclear Station, Unit 3.....(100 cys. rec'd)

REMARKS:

Distribution: 3-suppl. file (ltr. only to 50-270)

8-Hearing File 3-ABC FOR (" " " ")

18-ABRS 2-compliance

1-OGC 3-formal file (ltr. only to 50-270)

REFERRED TO

DATE

RECEIVED BY

DATE

Lang: 5-2

w/8 extras -- FOR ACTION

(16 cys. advanced to Karas 5-1)

(4 cys. advanced to J. Karlson for

Info Copies to: (ORNL)

Dr. Morris

Dr. Mann

H. Price & Staff

Dube/Skovholt

Boyd

Larvine

Page

Newall

DeYoung

V. Moore

M. Rosen

1388

ACKNOWLEDGED

DO NOT REMOVE

DUKE POWER COMPANY

POWER BUILDING, BOX 2178, CHARLOTTE, N. C. 28201

WILLIAM S. LEE
VICE PRESIDENT ENGINEERING

April 29, 1967

Director
Division of Reactor Licensing
U S Atomic Energy Commission
Washington, D C 20545

Re: Docket Nos 50-269, 50-270 and 50-287

Dear Sir:

Regulatory Suppl File Cy.

(Vig/s)
See 50-269 for Appl. PSAR
and thru Amendment 2.

Duke Power Company is filing herewith Amendment No 3 to its Application for Licenses for its proposed Oconee Nuclear Station. This filing includes three signed original copies and 100 copies of material applicable to the Preliminary Safety Analysis Report.

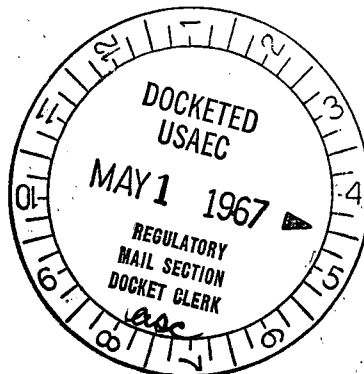
By this amendment, a third nuclear generating unit, to be a duplicate of each of the first two, is embraced in the application. Also, financial information is submitted as requested by the Director's letter of March 17, 1967. Further, this amendment includes replacement pages and errata sheets applicable to the Preliminary Safety Analysis Report to make minor changes and to submit additional information on control rod drives.

This amendment is in a format designed to keep current the Preliminary Safety Analysis Report.

Yours very truly,

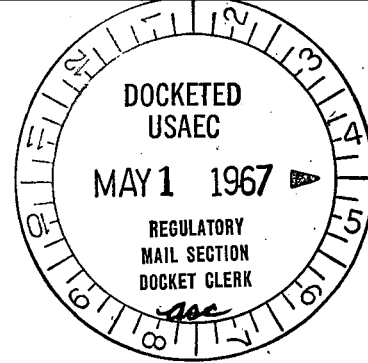
W S Lee

WSL/s



ACKNOWLEDGED

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BEFORE THE
UNITED STATES ATOMIC ENERGY COMMISSION

IN THE MATTER OF)
DUKE POWER COMPANY)

DOCKET NOS. 50-269
50-270
50-287

Regulatory Suppl File Cy.

AMENDMENT NO. 3
TO
APPLICATION FOR LICENSES

Duke Power Company, Applicant in the above-captioned proceeding, here-
by amends its Application for Licenses, as heretofore amended and supplemented,
as follows:

A. Oconee Nuclear Station, Unit 3.

Supplement 3 to the Preliminary Safety Analysis Report, attached hereto
and made a part hereof, is herewith filed for the purpose of including in the
facilities for which licenses are requested a third pressurized water reactor
to be known as "Oconee Nuclear Station, Unit 3". Except as expressly pro-
vided herein below to the contrary and subject to the supplementary and amend-
atory material contained in said Supplement 3, all of the provisions of the Ap-
plication as heretofore filed and amended, including the general information
required by 10 CFR §50.33 and the technical information and safety analysis
report required by 10 CFR §50.34, shall apply to the Oconee Nuclear Station,
Unit 3, as though fully herein written.

The Application (10 CFR §50.33) is amended as follows:

1. On the cover sheet the words "for OCONEE NUCLEAR
STATION Units 1 and 2" are deleted and the words "for OCONEE
NUCLEAR STATION Units 1, 2 and 3", are inserted in lieu thereof.

*see
^
50-269 Volumes - PSAR for
pages included herewith
(which were inserted therein)*

2. On page 1 the word "two" appearing in the first sentence of the second paragraph is deleted, and the word "three" is inserted in lieu thereof.

3. On page 7 the first line, which begins with the word "supply" and ends with the word "units", is deleted, and there is inserted in lieu thereof the following:

"supply the first two cores for each of the first two nuclear generating units, and the first core for the third nuclear generating unit".

4. On page 7 the second sentence of the first complete paragraph beginning with the words "They will include" and ending with the words "'Units 1 and 2'" is deleted and there is inserted in lieu thereof the following:

"They will include three pressurized water reactors to be known as 'Oconee Nuclear Station Units 1, 2 and 3'".

5. On page 7 the first sentence under section f beginning with the words "Applicant estimates" and ending with the words "approximately \$197,828,000" is deleted and there is inserted in lieu thereof the following:

"Applicant estimates that the total cost of the Oconee Nuclear Station, Units 1, 2 and 3, including the initial core for each unit, will be approximately \$340,858,000".

6. The only paragraph under section h entitled "Completion dates" on page 9 is deleted in its entirety and there is inserted in lieu thereof the following:

"Applicant's projected load requirements will necessitate full power operation of Oconee Nuclear Station, Unit 1, by May 1971; Unit 2, by May 1972; and Unit 3 by June 1973. The earliest date for completion of construction of Unit 1 is estimated to be October 1, 1970, and the latest completion date is estimated to be February 28, 1971. Corresponding dates for Unit 2 are one year later. The earliest date for completion of construction of Unit 3 is estimated to be November 1, 1972, and the latest completion date is estimated to be August 1, 1973".

7. In the Agreement Limiting Access to Restricted Data, filed as Exhibit IV to the Application, the words "Units 1 and 2" appearing on line 2 are deleted and the words "Units 1, 2 and 3" are inserted in lieu thereof.

B. Information requested in letter of Dr. Peter A. Morris, Director, Division of Reactor Licensing, to Applicant dated March 17, 1967.

By letter of March 17, 1967, the Director, Division of Reactor Licensing, requested information with respect to the financial qualifications of Applicant to construct Oconee Nuclear Station Units 1 and 2. Subsequent to the filing of the Application, the estimated cost of Units 1 and 2 has been revised. In addition, this Amendment No. 3 incorporates Unit 3 into the Application for Units 1 and 2. Reflecting the revised estimate for Units 1 and 2 and the addition of Unit 3, the requested information is given as follows:

1. Copies of Duke Power Company Annual Report for 1966 were filed with Amendment No. 1 dated April 1, 1967.

2. Estimated costs of Oconee Nuclear Station are as follows:

<u>Units 1 and 2</u>	<u>Unit 3</u>	<u>Total</u>	
\$ 1,068,000	\$ 0	\$ 1,068,000	Site Acquisition
146,732,000	79,194,000	225,926,000	Direct cost of plant
<u>\$147,800,000</u>	<u>\$ 79,194,000</u>	<u>\$226,994,000</u>	Subtotal
8,800,000	4,313,000	13,113,000	Engineering, general overheads, and contingencies
400,000	100,000	500,000	Operator training - Capital portion
400,000	100,000	500,000	Licensing and special administration burdens
14,166,000	8,371,000	22,537,000	Interest during construction
<u>\$171,566,000</u>	<u>\$ 92,078,000</u>	<u>\$ 263,644,000</u>	Total, without substation
5,448,000	8,766,000	14,214,000	Step-up substation, including \$1,174,000 interest during construction
<u>\$177,014,000</u>	<u>\$100,844,000</u>	<u>\$ 277,858,000</u>	Total plant with substation
36,290,000	26,710,000	\$ 63,000,000	Initial cores
<u>\$213,304,000</u>	<u>\$127,554,000</u>	<u>\$ 340,858,000</u>	Grand total

No separate breakdown is available of taxes and insurance included in Applicants' plant construction estimates. Applicant makes no specific provision for escalation in its plant estimates which are based upon cost levels obtaining as of the date of the estimate. Historically, contingencies included have been adequate to cover escalation. Applicant will own spent fuel from the initial core of Unit 3, but not of Units 1 and 2.

3. The first core fuel for each unit will contain the following quantity, enrichment and dollar value (based on current AEC charge rates) of uranium:

<u>Quantity</u>	<u>Enrichment</u>		<u>AEC Base Charges</u>
<u>Kg-U</u>	<u>Kg- U235</u>	<u>%</u>	<u>Dollar Value</u>
20,536	460	2.24	\$ 3,529,727
25,546	631	2.47	5,021,322
34,657	960	2.77	7,940,958
<u>80,739</u>	<u>2,051</u>		<u>\$16,492,007</u>

4. Excluding interest during construction, total funding requirements for Oconee Nuclear Station, Units 1, 2 and 3 are estimated as follows:

	<u>Station</u>	<u>Initial Fuel</u>
1966	\$ 349,000	\$ -
1967	2,404,000	-
1968	30,326,000	-
1969	88,465,000	-
1970	70,582,000	18,000,000
1971	43,399,000	32,190,000
1972	16,787,000	12,810,000
1973	1,835,000	-

5. As to source of funds for the construction of Units 1, 2 and 3, it is estimated that approximately 40% of the construction funds will be generated internally from retained earnings and depreciation. The balance will be obtained initially through short term borrowings from commercial banks, and will thereafter be permanently funded by sale of securities. Due to changing market conditions, no definite statement can be made at this time as to the type of securities which will be sold or the date of their sale. It is presently anticipated that the Company will issue first mortgage bonds, cumulative preferred stock and common stock during this period.

C. Replacement and Supplementary pages for Preliminary Safety Analysis Report.

Filed herewith and made a part hereof are replacement and supplementary pages for the Preliminary Safety Analysis Report containing information on a revised design of control rod drives. This information is in addition to the material presented in Supplement 2 to the Preliminary Safety Analysis Report in answer to question 4.7 in letter of Dr. Peter A. Morris, Director, Division of Reactor Licensing, to Applicant dated March 23, 1967.

Other replacement pages are also filed herewith and made a part hereof indicating various minor changes to portions of the Preliminary Safety Analysis Report.

D. Errata Sheet.

Filed herewith and made a part hereof is an errata sheet indicating various minor changes and corrections to portions of the Preliminary Safety Analysis Report.

WHEREFORE, Applicant renews its request for the licenses specified in its original Application.

IN WITNESS WHEREOF, Duke Power Company has caused its name to be hereunto signed by W. S. Lee, its Vice President, and its corporate seal to be hereto affixed by James S. Sease, its Assistant Secretary, this 29th day of April, 1967.

DUKE POWER COMPANY

By /s/ W. S. Lee
Vice President

Attest:

/s/ Jas. S. Sease
Assistant Secretary

[SEAL]

State of North Carolina)
 :
County of Mecklenburg)

W. S. LEE, being duly sworn, states that he is 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 Amendment No. 3 to its Application and documents appended thereto; that he has read all of the statements contained in such Amendment No. 3 and the documents appended thereto and made a part thereof; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

 /s/ W. S. Lee
 W. S. Lee

SUBSCRIBED and sworn to before me, a Notary Public in and for the State and County above named, this 29th day of April, 1967.

 /s/ Martha M. Westmoreland
 Notary Public

My commission expires:

 12-8-67

[SEAL]

DUKE POWER COMPANY
AMENDMENT NO. 3 TO
APPLICATION FOR LICENSES
DOCKET NOS. 50-269
50-270
50-

Errata sheets and substitution and supplementary pages to portions of the Preliminary Safety Analysis Report.

Errata sheets, pages 1-3, for PSAR.

Substitution and supplementary pages as listed below:

Front	Back
Fig 1-6	-
Fig 1-9	-
2-3	2-4
3-ii	-
3-vi	-
3-5	3-6
3-66	3-67
3-68	3-69
3-70	3-71
3-72	-
3-73	3-74
3-75	3-76
3-77	3-78
3-79	3-80
3-81	3-82
Fig 3-51	Fig 3-52
Fig 3-57	Fig 3-58
Fig 3-59	Fig 3-60
Fig 7-2	-
5F-1	5F-2
5F-3	-

DOCKETS 50-269, 50-270 AND 50-____
DUKE POWER COMPANY
OCONEE NUCLEAR STATION
UNITS 1, 2 AND 3

Errata
Filed With Amendment 3

Please make the following notations in the Preliminary Safety Analysis Report to effect correction of errors and minor changes:

Note: These corrections should not be made until replacement pages have been substituted.

<u>Page</u>	<u>Section</u>	
Table of Contents in front of Volumes I and II		Change page numbers for Sections 3.3 through 3.4 from "3-78, 3-78, 3-79, 3-80, 3-86 and 3-87" to "3-75, 3-75, 3-76, 3-77, 3-83 and 3-84," respectively.
1-iii	List of Tables	Change title of Table 1-1 to "Engineered Safeguards Equipment."
2-10	2.6	Third paragraph, add the following sentence to end of paragraph: "The structural design criteria for the maximum hypothetical earthquake are 0.10g and 0.15g for Class I structures founded on bedrock and overburden, respectively."
Figure 2-2	2	Change elevation of 500 kv Switchyard from "730" to "735."
3-i	Table of Contents	Change the page number for each of Sections 3.3, 3.3.1, 3.3.1.1 and 3.3.1.2 from "3-78" to "3-75."
3-iii	List of Tables	Change the page number for Tables 3-19 and 3-20 from "3-68" and "3-76" to "3-67" and "3-73," respectively.
	3	Delete page 3-82 (front), 3-83 (back) and page 3-84 (front), 3-85 (back); change page numbers 3-86, 3-87, 3-88, 3-89 and 3-90 to 3-83, 3-84, 3-85, 3-86 and 3-87 respectively.
5-1	5.1	Second paragraph, second line, change vertical wall thickness from "3-1/2 feet" to "3 ft-9 in."; third line, change dome thickness from "3 feet" to "3 ft-3 in."
5-12	5.1.2.7.2	First paragraph following Table 5-2, second line, change "3-1/2 foot Reactor Building wall" to "3 ft-9 in. Reactor Building wall."

Errata
Filed With Amendment 3

<u>Page</u>	<u>Section</u>	
5-12	5.1.2.7.3	Fourth paragraph, second line, change "3-1/2 foot Reactor Building wall" to "3 ft-9 in. Reactor Building wall."
5-22	5.4	Fifth full paragraph on page, change the first sentence to read, "Provisions will . . . these penetrations, except for the main steam lines, may be pressure . . . operation."
7-5	7.1.2.1	Third full paragraph on page, first line, delete "three phase"; second line, change "drive assemblies" to read "drive clutch assemblies"; second line, change "drive power supply" to read "drive clutch power supply"; fifth line, change "drive power supplies" to read "drive clutch power supplies"; last line, delete "three phase."
7-11	7	Delete all material on page 7-11, but retain sheet for page 7-12 on reverse side.
Figure 8-2	8	Change elevation of 500 kv Switchyard from "730" to "735."
14-7	14.1.2.4.1	First paragraph following c., change the second sentence to read, "There are two additional pumps per unit."
14-26	14.2.2.2.3	Eighth line on page, change "valves" to "values."
5C-4	Appendix 5C, 3.5	Fifth paragraph, third, fifth and sixth lines, change " $\sqrt{3 f'_c}$ " and " $\sqrt{6 f'_c}$ " to " $3\sqrt{f'_c}$ " and " $6\sqrt{f'_c}$," respectively.
5D-14	Appendix 5D, 4.2	After first sentence, first paragraph, add the following sentence: "The tensile strength of the splices will equal or exceed 125 per cent of the minimum yield strength for each grade of reinforcing steel as specified in the appropriate ASTM standard."
5D-15	Appendix 5D, 4.2	First full paragraph, last line, delete "of the appropriate ASTM standard" and substitute "as stated above."
8.1-1	Supplement No. 1 Question 8.1	Change third paragraph to read, "The response spectra curves for the maximum hypothetical earthquake are shown as attached Plates 1 through 4 of answer to question 8.5 in Supplement No. 1."

Errata
Filed With Amendment 3

<u>Page</u>	<u>Section</u>	
9.7-2	Supplement No. 1 Question 9.7	In Table 1, Concrete Cover Over Reinforcing, change the cover provided by Duke for the ducts for pre-stressed steel in the Cylinder Haunch and Cylinder from (10" min.) and (12-1/2") respectively to (6") in both cases.