NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

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DOCKET NUMBER: 50-269/270/287

FILE NUMBER:

TO: Mr. Benard C. Rusche

FROM: Duke Power Company, Charlotte, North Carolina, Mr. William O. Parker, Jr.

DATE OF DOCUMENT: 3/10/77

DATE RECEIVED: 3/14/77

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DESCRIPTION

Ltr. re our 1/14/77 ltr.....trans the following:

(1-P)

ENCLOSURE

Consists of evaluation of refueling accident inside containment.....

(1-P)

ACKNOWLEDGED

DO NOT REMOVE

PLANT NAME: Oconee Units 1-2-3

RJL

FOR ACTION/INFORMATION

SAFETY		ENVIRO
ASSIGNED AD:		ASSIGNED AD:
BRANCH CHIEF:	Schwencer (5)	BRANCH CHIEF:
PROJECT MANAGER:	Zech	PROJECT MANAGER:
LIC. ASST. :	Sheppard	LIC. ASST. :

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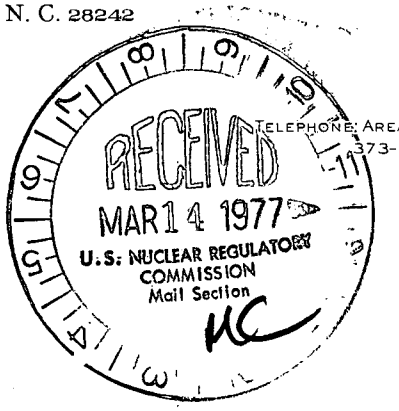
NRC FORM 195 (2-76)

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

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

March 10, 1977

TELEPHONE: AREA 704
373-4083



Mr. Benard C. Rusche, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. A. Schwencer, Chief
Operating Reactor Branch #1

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

Dear Sir:

Your letter of January 14, 1977 enclosed a letter from Mr. R. D. Pollard which stated that a refueling accident inside the containment building may not have been adequately considered during the licensing review of the Oconee Nuclear Station. It was requested that we provide the results and factors involved in the evaluation for two cases: (1) a conservative analysis using parameters as limited by the Technical Specifications, and (2) an analysis using parameters associated with known facility operating conditions.

In response to this request, an extremely conservative analysis was performed for this postulated accident utilizing assumptions comparable to those given in Regulatory Guide 1.25. The results of this evaluation, discussed in Attachment 1, were shown to provide a site boundary exposure of 0.5 rem to the whole body and 32 rem to the thyroid. These doses are well within the 25 rem whole body and 300 rem thyroid dose criteria established in 10CFR100. Considering the demonstrated results of the conservative evaluation, the extremely remote probability of the postulated accident, and the effort required to perform analysis using parameters associated with known facility operating conditions, it is felt that sufficient information is provided for your review of this matter.

Very truly yours,

William O. Parker, Jr.

MST:ge

2682

ATTACHMENT I

EVALUATION OF REFUELING ACCIDENT INSIDE CONTAINMENT

A conservative analysis of the effect of a fuel handling accident inside the containment building has been performed. This analyses has considered parameters as limited in the Technical Specifications and was performed using methods and assumptions specified in Regulatory Guide 1.25. A summary of the pertinent assumptions is as follows:

1. The accident occurs 72 hours after reactor shutdown. Earlier fuel movement is prohibited by Technical Specification 3.8.11.

2. The minimum water depth between the top of the damaged fuel rods and the water surface is 23 feet.

3. The maximum fuel rod pressurization is less than 1200 psi.

4. All gap activity in all rods of the affected assembly is released and consists of 10% of the total noble gases other than Kr-85, 30% of the Kr-85, and 10% of the total radioactive iodine.

5. The values assumed for individual fission product activity are calculated assuming full power operation at the end of core life immediately preceding shutdown. A radial peaking factor of 1.65 is assumed.

6. The iodine gap activity is composed of inorganic species (99.75%) and organic species (0.25%).

7. The decontamination factors for the inorganic and organic species are 133 and 1 respectively.

8. The retention of noble gases is negligible.

9. The radioactive material that escapes is released instantaneously and no hold up time is considered.

10. No credit is assumed for installed filter systems.

11. The activity is released at ground level and the atmospheric dispersion factors used are in accordance with those in the bases of Technical Specificaion 3.10.

The results of this conservative analysis indicate that a 0.5 rem whole body and 32 rem thyroid dose at the site boundary could occur in the event of this highly unlikely accident. This is well within the guidelines established in 10CFR100.

Docket Nos. 50-269
50-270
and 50-287

MAR 9 1977

Duke Power Company
ATTN: Mr. William O. Parker, Jr.
Vice President
Steam Production
Post Office Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Gentlemen:

RE: OCONNEE NUCLEAR STATION, UNITS 1, 2 & 3

As you may be aware, the provision for "an individual qualified in radiation protection procedures to be on site when fuel is in the reactor" has been a technical specification requirement for the majority of operating facilities for the past several years. The intent of this requirement was to provide at least a minimum level of expertise in radiological protection at the operating shift crew level. It was intended that these radiation protection personnel would perform routine radiation monitoring activities and thereby supplement licensee efforts to maintain radiation exposure and release of radioactive effluents "as low as is reasonably achievable".

As a result of recent NRC staff discussions, we have formalized our position regarding the necessary activities "individuals qualified in radiation protection procedures" should be able to perform. These activities and related clarifying information are presented for your information in the attached enclosure.

The OI&E Inspector assigned to your facility will be using this same criteria in determining whether your designated individuals meet these requirements. We recommend you review the enclosed criteria promptly so that you may take any action necessary to meet the requirements.

OFFICE ➤						
SURNAME ➤						
DATE ➤						

We note that your facility technical specifications do not require that the individual performing the function of Radiation Protection Manager (RPM) meet the minimum qualification requirements of Regulatory Guide 1.8, September 1975. As stated in this guide, it is the NRC position that if the RPM is reassigned or the incumbent replaced, the new RPM should have qualifications equivalent to those stated in this guide.

To implement this provision, we request that you determine if the individual performing the function of Radiation Protection Manager meets the minimum qualifications of Regulatory Guide 1.8, September 1975. In the event the RPM is so qualified, you should propose a technical specification to be included in the Administrative Controls Section which states that "the RPM (or equivalent position title) shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975".

In the event you determine that the present incumbent does not meet the minimum requirements of the guide, you should advise us of this fact and provide a written commitment that the successor to the incumbent will be so qualified and that you will propose a technical specification to that effect at that time.

The above action should be completed within 60 days of receipt of this letter. In the event you should desire further discussion of this matter, please contact us.

Sincerely,

Original Signed By

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosure:
Criteria for "Individuals Qualified in Radiation Protection Procedures"

cc: See next page

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cc: Mr. William L. Porter
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

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CRITERIA FOR "INDIVIDUALS QUALIFIED IN RADIATION PROTECTION PROCEDURES"

An individual is considered to be qualified in radiation protection procedures when a licensee certifies that each designated individual is capable of successfully accomplishing the following activities as required by federal regulations, license conditions, and facility procedures pertaining to radiation protection.

1. Conduct special and routine radiation, contamination and airborne radioactivity surveys and evaluate the results.

2. Establish protective barriers and post appropriate radiological signs.

3. Establish means of limiting exposure rates and accumulated radiation doses, including the use of protective clothing and respiratory protection equipment.

4. Perform operability checks of radiation monitors and survey meters.

5. Recommend appropriate immediate actions in the event of a radiological problem and perform necessary activities until the arrival of health physics personnel.

6. Conduct other routine radiological duties (e.g., TS surveillance items) as may be required on backshifts or weekends.