

306/13/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)  
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50-269/270/287

REC: CASE E G  
NRC

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DUKE PWR

DOC DATE: 06/09/78  
DATE RCVD: 06/12/78

DOCTYPE: LETTER NOTARIZED: YES  
SUBJECT:

COPIES RECEIVED  
LTR 3 ENCL 40

FORWARDING LIC NOS DPR-39, 47 & 55 APPL FOR AMEND: TECH SPEC PROPOSED CHANGE  
CONCERNING REVISION TO TECH SPEC 3.9 "RELEASE OF LIQUID RADIOACTIVE WASTE",  
TO DELETE SEVERAL REQUIREMENTS NO LONGER APPLICABLE TO THE LIQUID EFFLUENT  
MONITORING SYSTEM ... NOTAR

PLANT NAME: OCONEE - UNIT 1  
OCONEE - UNIT 2  
OCONEE - UNIT 3

REVIEWER INITIAL: XJM  
DISTRIBUTER INITIAL: DL

\*\*\*\*\* DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS \*\*\*\*\*

NOTES:

1. M. CUNNINGHAM - ALL AMENDMENTS TO FSAR AND CHANGES TO TECH SPECS

CHANGE REQUESTS FOR ENVIRON TECH SPECS (APPEND B)  
(DISTRIBUTION CODE C004)

FOR ACTION: BR CHIEF ORB#4 BC\*\*W/5 ENCL

INTERNAL:

REG FILE\*\*W/ENCL  
I & E\*\*W/2 ENCL  
GOSSICK & STAFF\*\*W/ENCL  
AD FOR OPER TECH\*\*LTR ONLY  
J MCGOUGH\*\*W/ENCL  
ENVIRO SPEC BR\*\*W/ENCL  
EFFLUENT TREAT SYS\*\*W/ENCL

NRC PDR\*\*W/ENCL  
OELD\*\*W/ENCL  
QAB\*\*W/ENCL  
EEB\*\*W/ENCL  
DIRECTOR DSE\*\*LTR ONLY  
AD FOR SITE ANLYS\*\*LTR ONLY  
RAD ASSESSMENT BR\*\*W/ENCL

EXTERNAL:

LPDR'S  
WALHALLA, SC\*\*W/ENCL  
NATL LAB ORNL\*\*W/3 ENCL  
NSIC\*\*W/ENCL  
TIC\*\*W/1 ENCL  
ACRS CAT B\*\*W/16 ENCL

\*\*\*\*\*  
\$ CHECK NBR: 196,100 \$  
\$ AMOUNT: \$4,800.00 \$  
\$ CHECK AND COPY OF TRANSMITTAL LTR ADVANCED \$  
\$ TO W. MILLER (LFMB) (06/13/78) UPON RECIEPT \$  
\*\*\*\*\*

DISTRIBUTION: LTR 43 ENCL 40  
SIZE: 3P+3P

CONTROL NBR: 781630102

\*\*\*\*\* THE END \*\*\*\*\*

AAZ

NUCLEAR REGULATORY COMMISSION  
DAILY ACCESSION LIST

02/09/78

PAGE 207

FILE LOCATION  
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339-0097  
MO  
TASK NBR:  
FICHE NBR :  
NOTARIZED: NO  
LPDR: NO CLASS:

B  
RECP AFFILIATION: NRC  
ORG AFFILIATION: NRC

FOR ADDL INFO - CLASSIFICATION OF STRUCTURES, COMPONENTS, & SYS.

TIC #1  
7315-0222  
EMO  
TASK NBR:  
FICHE NBR :  
NOTARIZED: NO  
LPDR: NO CLASS:

RECP AFFILIATION: NRC  
ORG AFFILIATION: NRC

OF GAO DRAFT PROPOSED REPT: "LICENSING THE FLOATING NUCLEAR POWER PLANT -  
ANSWERS ARE NEEDED".

TIC #2  
7315-0222  
EMO  
TASK NBR:  
FICHE NBR :  
NOTARIZED: NO  
LPDR: NO CLASS:

RECP AFFILIATION: NRC  
ORG AFFILIATION: NRC

OF GAO DRAFT PROPOSED REPT: "LICENSING THE FLOATING NUCLEAR POWER PLANT -  
ANSWERS ARE NEEDED".

REGISTRY DOCKET FILE COPY

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

June 9, 1978

TELEPHONE: AREA 704  
373-4083

Mr. E. G. Case, Acting Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. R. Reid, Chief  
Operating Reactors Branch #4

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

RECEIVED DISTRIBUTION  
SECTION OFFICE  
JUN 12 10 11 AM '78

Dear Sir:

Pursuant to 10CFR50, §50.90 please find attached a proposed revision to Oconee Nuclear Station Technical Specification 3.9, "Release of Liquid Radioactive Waste." Specification 3.9 has been revised to delete several requirements that are no longer applicable to the liquid effluent monitoring system currently installed at Oconee, since an off-line monitor has been permanently installed. This monitor, manufactured by General Atomics Corporation, is capable of the following:

1. Assuring an adequate flow through the monitor with an installed adjustable orifice and rotameter. This decreases the possibility of inadequate flow affecting the monitor reading.
2. Maintaining the photomultiplier tube and scintillation crystal at a constant temperature. This decreases the possibility of rapid temperature changes causing cracking of the scintillation crystal and/or affecting the voltage output of the photomultiplier tube.
3. Flushing the monitor sample chamber and piping from the liquid waste tanks to the monitor between effluent releases. This capability was provided to decrease "spiking" at the beginning of liquid effluent releases. Flushing also decreases the buildup rate of contamination in the sample chamber and piping.

Operation with this system as currently installed and in accordance with this proposed specification, assures compliance with the limits of 10CFR20.

781630102

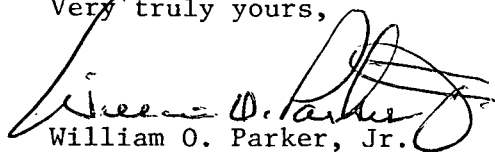
Cook  
5  
3/40

Mr. E. G. Case, Acting Director  
Page Two  
June 9, 1978

In addition to requesting that this revision be approved, it is requested that a previous proposed revision, concerning this same specification, and submitted in my letter of November 18, 1976 be withdrawn from further review.

This proposed license amendment package is considered to constitute one Class III amendment and two Class I amendments since they involve a single issue pertaining to three identical units. Accordingly, the enclosed check in the amount of \$4,800 is remitted for the license amendment fee.

Very truly yours,



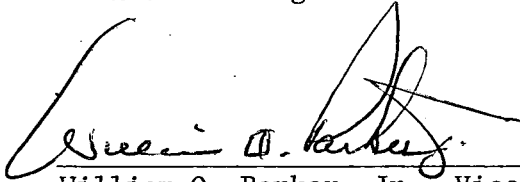
William O. Parker, Jr.

RLG:scs

Attachment

Mr. E. G. Case, Acting Director  
Page Three  
June 9, 1978

WILLIAM O. PARKER, JR., 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 Nuclear Regulatory 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.



William O. Parker, Jr., Vice President

Subscribed and sworn to before me this 9th day of June, 1978.

  
Vivian B. Robbins  
Notary Public

My Commission Expires

February 15, 1982

- 3.9.3 The rate of release of radioactive materials in liquid waste from the station shall be controlled such that the instantaneous concentrations of radioactivity in liquid waste upon release from the Restricted Area, does not exceed the values listed in 10CFR20, Appendix B, Table II, Column 2.
- 3.9.4 The equipment installed in the liquid radioactive waste system shall be maintained and operated to process liquids as necessary prior to their discharge in order to limit the activity, excluding tritium and dissolved noble gases, released during any calendar quarter to 1.25 curies or less per unit.
- 3.9.5 As far as practicable, the releases of liquid waste shall be coordinated with the operation of the Keowee hydro unit.
- 3.9.6 Liquid waste discharged from the liquid waste disposal system shall be continuously monitored during release. The liquid effluent control monitor reading shall be compared with the expected reading of each discharge batch. The monitor shall be tested daily or prior to releases and calibrated at refueling intervals.

The calibration procedure shall consist of exposing the detector to a referenced calibration source in a controlled, reproducible geometry. The sources and geometry shall be referenced to the original monitor calibration which provides the applicable calibration curves.

- 3.9.7 The effluent control monitor shall be set to alarm and automatically close the waste discharge valve such that the limits specified in 10CFR20 are met.

In the event that the effluent control monitor is inoperable or cannot be calibrated to perform this function, redundant valve line-up check of the effluent pathway and redundant sample analyses will be performed prior to each liquid effluent release to assure that prescribed release limits are not exceeded.

- 3.9.8 In addition to the continuous monitoring requirements, liquid radioactive waste sampling and activity analysis shall be performed in accordance with Table 4.1.3. Records shall be maintained and reports of the sampling and analysis shall be submitted in accordance with Section 6.6 of these Technical Specifications.

#### Bases

It is expected that the releases of radioactive materials and liquid wastes will be kept within the design objective levels and will not exceed the concentration limits specified in 10CFR20. These levels provide the reasonable assurance that the resulting annual exposure to the whole body or any individual body organ will not exceed 5 millirem per year. At the same time, the licensee is permitted the flexibility of operation compatible with considerations of health and safety to assure that the public is provided a dependable source of power under unusual operating conditions which may

temporarily result in releases higher than design objective levels but still within the concentration limits specified in 10CFR20. It is expected that when using this operational flexibility under unusual operating conditions, the licensee shall exert every effort to keep the levels of radioactive materials and liquid wastes as low as reasonably achievable and that annual releases will not exceed a small fraction of the annual average concentration limits specified in 10CFR20.

The anticipated annual releases from the three Oconee units have been developed taking into account a combination of variables including fuel failures, primary system leakage, primary-to-secondary leakage, and the performance of the various waste treatment systems. The actual magnitude of these parameters is as follows:

- a. Maximum expected reactor coolant corrosion product concentrations.
- b. Reactor coolant fission product concentration corresponding to 0.25 percent fuel cladding defects.
- c. Steam generator primary-to-secondary leakage rate of 20 gpd.
- d. 255,160 gallons per year processed by the waste disposal system in a 30-day hold-up.
- e. 1,060,800 gallons per year processed by the reactor coolant bleed treatment system.
- f. A decontamination factor of  $10^4$  for all radionuclides except tritium for the coolant bleed and waste evaporators and a decontamination factor of 10 for the demineralizers except for tritium which had an assumed decontamination factor of 1 for evaporation-demineralization.
- g. No removal by demineralization for Cs, Mo, and Y. A decontamination factor of  $10^3$  was used for the evaporation of iodine.
- h. The decay time of the reactor coolant bleed system was 30 days.

The application of the above estimates results in the radionuclide discharge concentrations and rates shown in Table III-12 of the "Final Environmental Statement Related to Operation of Oconee Nuclear Station Units 1, 2, and 3." These concentrations are based on an annual average flow in the Keowee River of 1,100 cfs.

Operating procedures will identify all equipment installed in the liquid waste handling and treatment systems and will specify detailed procedures for operating and maintaining this equipment.

The as low as reasonably achievable liquid release objectives expressed in this specification are based on the guidelines contained in the proposed Appendix I of 10CFR50. Since these guidelines have not been adopted as yet, the release objectives of this specification will be reviewed at the time Appendix I becomes a regulation to assure that this specification is based upon the guidelines contained therein.

### 3.9 RELEASE OF LIQUID RADIOACTIVE WASTE

#### Applicability

Applies to the controlled release of all liquid waste discharged from the station which may contain radioactive materials.

#### Objective

To establish conditions for the release of liquid waste containing radioactive materials and to assure that all such releases are within the concentration limits specified in 10 CFR Part 20. In addition, to assure that the releases of radioactive material in liquid wastes (above background) to unrestricted areas meet the low as practicable concept, the following liquid release objectives shall apply:

- a. The annual total quantity of radioactive materials in liquid waste, excluding tritium and dissolved gases, shall be less than 5 curies per unit;
- b. The annual average concentration of radioactive materials in liquid waste, upon release from the Restricted Area, excluding tritium and dissolved noble gases, shall not exceed  $2 \times 10^{-8}$   $\mu\text{Ci/ml}$ ;
- c. The annual average concentration of tritium in liquid waste, upon release from the Restricted Area, shall not exceed  $5 \times 10^{-6}$   $\mu\text{Ci/ml}$ ;
- d. The annual average concentration of dissolved gases in liquid waste, upon release from the Restricted Area, shall not exceed  $2 \times 10^{-6}$   $\mu\text{Ci/ml}$ ;

#### Specifications

- 3.9.1 If the experienced release of radioactive materials in liquid wastes, when averaged over a calendar quarter, is such that these quantities if continued at the same release rate for a year would exceed twice the annual objectives the licensee will:
  - a. Make an investigation to identify the causes for such release rates;
  - b. Define and initiate a program of action to reduce such release rates to the design levels, and;
  - c. Describe these actions in a report to NRC/DOR within 30 days after incurring the reporting obligation.
- 3.9.2 The release rate of radioactive liquid effluents, excluding tritium and dissolved noble gases, shall not exceed 10 curies during any calendar quarter without specific approval of the Commission. Similarly, the quarterly average concentration of tritium released from the Restricted Area shall not exceed  $1 \times 10^{-5}$   $\mu\text{Ci/ml}$ .