NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NUMBER 50-269/270/287

FILE NUMBER

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TO: Mr Rusche	FROM: Duke Power Company Charlotte, NC W O Parker Jr	DATE OF DOCUMENT 5-27-76 DATE RECEIVED 6-8-76
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DESCRIPTION

Ltr notarized 5-27-76....trans the following:

ACKNOWLEDGED

DO NOT REMOVE!

PLANT NAME: Oconee 1-3

ENCLOSURE

Amdt to OL/Change to Tech Specs: Consisting of revisions to tech specs with regard to measurement & control of radioactive liquid & gaseous effluents.....(40 cys encl rec'd)

FOR ACTION/INFORMATION 6-9-76 ehf

	ASSIGNED AD:			ASSIGNED AD:
✓	BRANCH CHIEF:	Purple (5)		BRANCH CHIEF:
✓	PROJECT MANAGER:	Zech		PROJECT MANAGER:
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	MIPC		MCCARY				SITE TECH
	CASE		KNIGHT		OPERATING REACTORS		GAMMILL
	HANAUER		SIHWEIL		STELLO		STEPP
	HARLESS		PAWLICKI				HULMAN
					OPERATING TECH		
	PROJECT MANAGEMENT		REACTOR SAFETY	✓	EISENHUT		SITE ANALYSIS
	BOYD		ROSS	✓	SHAO		VOLLMER
	P COLLINS		NOVAK	✓	BAER		BUNCH
	HOUSTON		ROSZTOCZY	✓	SCHWENCER	✓	J. COLLINS
	PETERSON		CHECK	✓	GRIMES		KREGER
	MELTZ						
	HELTEMES		AT & I		SITE SAFETY & ENVIRO		
	SKOVHOLT		SALTZMAN		ANALYSIS		
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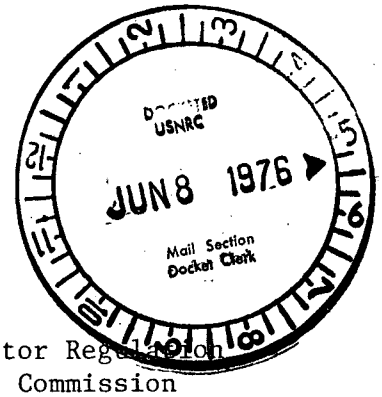
CONTROL NUMBER

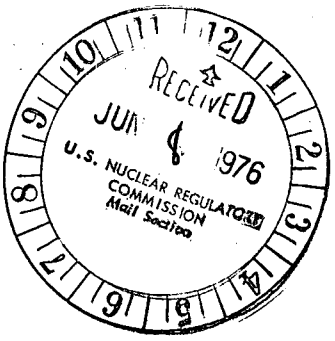
5813

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

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083





May 27, 1976

Regulatory Docket File

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

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

Dear Mr. Rusche:

Pursuant to 10 CFR 50, §50.90, an amendment to the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38, -47, and -55 is requested. These proposed changes concern the measurement and control of radioactive liquid and gaseous effluents from the Oconee Nuclear Station. Proposed replacement pages for Technical Specifications 4.1 and 4.11 are included in Attachment 1.

The proposed changes to the specifications and the justifications are as follows:

1. Table 4.1-3, "Minimum Sampling Frequency"

   a. All checks for gross beta and gamma activity have been deleted, and an isotopic analysis has been added to be performed on any tank prior to the release of effluents.

   b. The list of liquid tanks to be sampled has been updated to include the condensate monitor and laundry-hot shower tank.

   c. Requirements for analyzing Ba-La-140 and I-131 in liquid and gaseous samples have been deleted as the analysis for these nuclides is included in the gamma isotopic analysis.

   d. Gamma isotopic sensitivities for the waste gas decay tanks, unit vent and Reactor Building Purge have been revised to include separate sensitivities for gases and for particulates and iodines.

5813

2. Table 4.11-2, "Offsite Radiological Monitoring Program"

   a. Water samples have been divided into two categories, water supply (raw) and water (other than raw water supply). A specific analysis of I-131 will be performed for water supply (raw).

   b. Iodine-131 has been deleted from monthly and quarterly milk samples since it is performed weekly.

3. Table 4.11-3, "Analytical Sensitivities"

   a. Table 4.11-3 has been revised to be consistent with current guidance. The Iodine-131 sensitivities of 1.5 pCi/1 for raw water and 0.5 pCi/1 for milk are considered sufficient to demonstrate that the effluent releases are within the Appendix I design objective annual exposure limit in the case of a single-unit site. See Mr. W. O. Parker's letter dated April 12, 1976 to Mr. S. J. Chilk, Secretary of USNRC, for additional information.

   b. The sensitivity for animal samples has been deleted since this is no longer a part of the Oconee radiological sampling program.

   c. The gross beta and alpha sensitivities for water have been revised to 1.0 and 0.5 pCi/1 respectively since this is the lowest practical sensitivity which is achievable without unreasonably large volumes of sample water.

The above changes to the Oconee Nuclear Station radiological monitoring program are considered desirable to improve the program. In the interim until these changes are approved, all raw water supplies will be analyzed for Iodine-131 to a sensitivity of 1.5 pCi/1, and all gross beta and alpha for water will also be analyzed to a sensitivity of 1.0 and 0.5 pCi/1.

Very truly yours,

S/William O. Parker, Jr.
William O. Parker, Jr.

MST:mmb

Attachment

CC N. C. Moseley

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 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.

S/William O. Parker, Jr.
William O. Parker, Jr., Vice President

ATTEST:

S/Dorothea B. Stroupe
Dorothea B. Stroupe
Assistant Secretary

Subscribed and sworn to before me this 27th day of May 1976.

S/Edna B. Farmer
Notary Public

My Commission Expires:

_____

TABLE 4.1-3 Cont.

MINIMUM SAMPLING FREQUENCY

Item	Check	Frequency	Sensitivity of Waste Analysis in Lab
	c. Gases by Gamma Isotopic Analysis	c. Weekly	c. $<10^{-4}$ µCi/cc
10. Keowee Hydro Dam Dilution Flow	Measure Leakage Flow Rate	Annually	
11. Condenser Air Ejector Partition Factor	Measure Iodine Partition Factor in Condenser	One time if and when primary to secondary leaks develop	
12. Reactor Building	a. Gamma Isotopic Analysis	a. Each Purge	a. $<10^{-4}$ µCi/cc (gases) $<10^{-10}$ µCi/cc (particulates and iodines)
	b. Tritium	b. Each Purge	b. $<10^{-6}$ µCi/cc

(1) When radioactivity level is greater than 10 percent of the limits of Specification 3.1.4, the sampling frequency shall be increased to a minimum of once each day.

(2) $\overline{E}$ determination will be started when gross beta-gamma activity analysis indicates greater than 10 µCi/ml and will be redetermined for each 10 µCi/ml increase in gross beta-gamma activity analysis thereafter. A radiochemical analysis for this purpose shall consist of a quantitative measurement of 95 percent of the radionuclides in the reactor coolant with half lives greater than 30 minutes. This is expected to consist of gamma isotopic analysis of the primary coolant, including dissolved gaseous activities, radiochemical analysis for Sr-89 and Sr-90, and tritium analysis.

TABLE 4.11-2

OFFSITE RADIOLOGICAL MONITORING PROGRAM

Type Samples	Schedule	Analysis			
		Gross Alpha	Gross Beta	Gamma Analysis	Specific Nuclides
1. Water Supply (raw)	Monthly	x	x	x	^{131}I
	Quarterly	x	x	x	^{89}Sr, ^{90}Sr, ^{3}H
2. Water[3] (other than raw water supply)	Monthly[1][2]	x	x	x	
	Quarterly	x	x	x	^{89}Sr, ^{90}Sr, ^{3}H
3. Airborne Particulates (including iodine)	Weekly				^{131}I
	Monthly	x	x	x	^{89}Sr, ^{90}Sr
4. Rain and Settled Dust	Monthly	x	x		
	Quarterly			x	
5. Radiation Dose and Dose Rate (mR, mR/hr)	Quarterly				
6. Lake Bottom and Shoreline Sediment including benthos	Semiannually (as available)			x	^{60}Co, ^{89}Sr, ^{90}Sr
7. Aquatic Vegetation and/or Plankton	Semiannually (as available)			x	^{137}Cs, ^{40}K, ^{89}Sr, ^{90}Sr
8. Terrestrial Vegetation-pasture grass, forage, and commercial crops	Quarterly (as available)			x	^{137}Cs, ^{40}K, ^{131}I
9. Milk	Weekly[4]				^{131}I
	Monthly[5], Quarterly			x	^{89}Sr, ^{90}Sr, ^{137}Cs, ^{40}K, ^{3}H
10. Fish	Semiannually[6]			x	^{89}Sr, ^{90}Sr, ^{137}Cs, ^{40}K
11. Soil	Triennially			x	^{89}Sr, ^{90}Sr

NOTES: (1) Water supply samples will be composited weekly for monthly analyses.
(2) Record status of waste discharge operations at time of sampling for surface water samples.
(3) Surface water samples are to be collected closely following liquid discharge to allow for sufficient time for movement downstream in order to verify diultion, or monthly for continuous discharge.
(4) When animals are on pasture.
(5) Milk samples will be composited weekly for monthly analysis.
(6) When fish samples are available.

TABLE 4.1-3 Cont.

MINIMUM SAMPLING FREQUENCY

Item	Check	Frequency	Sensitivity of Waste Analysis in Lab
7. Low Activity Waste Tank, Condensate Test Tank, Condensate Monitoring Tank, Laundry-Hot Shower Tank	a. Gamma Isotopic Analysis including Dissolved Noble Gases	a. Prior to release of each batch	a. Gamma Nuclides $<5 \times 10^{-7}$ µCi/ml Dissolved Gases $<10^{-5}$ µCi/ml
	b. Radiochemical Analysis Sr 89,90	b. Monthly	b. $<10^{-8}$ µCi/ml
	c. Tritium	c. Monthly	c. $<10^{-5}$ µCi/ml
	d. Gross Alpha Activity	d. Monthly	d. $<10^{-7}$ µCi/ml
8. Waste Gas Decay Tank	a. Gamma Isotopic Analysis	a. Prior to release of each batch	a. $<10^{-4}$ µCi/cc (gases) $<10^{-10}$ µCi/cc (particulates and iodines)
	b. Tritium	b. Prior to release of each batch	b. $<10^{-6}$ µCi/cc
9. Unit Vent Sampling	a. Iodine Spectrum(4)	a. Weekly	a. $<10^{-10}$ µCi/cc
	b. Particulates (4)		
	1) Gamma Isotopic Analysis	1) Weekly Composite	1) $<10^{-10}$ µCi/cc
	2) Gross Alpha Activity	2) Quarterly on a sample of one week duration	2) $<10^{-11}$ µCi/cc
	3) Radiochemical Analysis Sr 89,90	3) Quarterly Composite	3) $<10^{-11}$ µCi/cc

TABLE 4.11-3

ANALYTICAL SENSITIVITIES

The sensitivity of the analyses for various radionuclides in representative samples is typically as follows:

Analysis	Water (pCi/l)	Airborne Particulate or Gas (pCi/m^3)	Fish (pCi/kg, wet)	Milk (pCi/l)	Vegetation (pCi/kg, wet)	Soil (pCi/kg, dry)
gross beta	1	1×10^{-2}				
gross alpha	0.5	1×10^{-3}				
^{3}H	330			330		
^{40}K			1200	200	400	
^{54}Mn	15		130			
^{59}Fe	30		260			
$^{58, 60}Co$	15		130			
^{65}Zn	30		260			
^{89}Sr	10	5×10^{-3}	40	10	40	600
^{90}Sr	2	1×10^{-3}	8	2	8	150
$^{95}Zr-Nb$	10					
^{131}I	1.5	7×10^{-2}		0.5	80(1)	
$^{134, 137}Cs$	15	1×10^{-2}	130	15	100(1)	150
$^{140}Ba-La$	15			15		

The sensitivity of the radiation exposure measurements (gross gamma) is approximately 10mR for a three-month integrated exposure and .005mR/hr for exposure rate measurement.

(1) These sensitivities may vary depending on the water content of the vegetation samples.