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TO:	ORIG	CC	OTHER	SENT NRC PDR XXX SENT LOCAL PDR XXX
N.C. Moseley	1 Signed	0		

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX			1	50-269/270/287

DESCRIPTION:
Letter Re. their letter of 11-21-75...
Letter advising weekly training sessions will begin on 1-15-76 and completed by 2-12-76...

(1 Copy Received)

ENCLOSURES:

ACKNOWLEDGED

DO NOT REMOVE

PLANT NAME: Oconee # 1,2, & 3

FOR ACTION/INFORMATION

SAFETY

ASSIGNED AD

BRANCH CHIEF PURPLE W/6 CYS

PROJECT MANAGER

LIC. ASST. SHEPPARD W/16 CYS ACRS

ENVIRO SAB 1-26-76

ASSIGNED BRANCH CHIEF

PROJECT MANAGER ZECH

LIC ASST. W/ ACRS

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STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

Regulatory

File Cy.

DOCKETED USNRC JAN 20 1976 Mail Section Docket Clerk

RECEIVED 1-20-76 U.S. NUCLEAR REGULATORY COMMISSION Mail Section

January 13, 1976

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

Re: IE:II:TNE
50-269/75-10
50-270/75-11
50-287/75-11

Dear Mr. Moseley:

My letter of November 21, 1975 stated that a training program concerning Oconee emergency power would be established and administered to area dispatchers, system dispatchers, Lee operating personnel, Steam Production operating personnel and Central Switchyard operating personnel. In that letter it was stated that the training course was under preparation and would be administered by January 15, 1976. The training course has been prepared, a practice session has been given, and the first group of personnel will receive the training on January 15, 1976. However, since most of the personnel are on shift work, several sessions of the training course will be necessary. These sessions will be given weekly and will be completed by February 12, 1976.

Very truly yours,

William O. Parker, Jr.

MST:mmb

444

January 9, 1976

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

NRC Public Document Room
Local Public Document Room

By letter dated December 16, 1975, Duke Power Company submitted large size drawings of the Permanent Waste Management Facility for the Oconee Nuclear Station. This information will not be routinely placed in the Public Document Rooms due to size and detailed nature. However, arrangements can be made for inspection and copying upon advance notice.

Original signed by

Gary Zech, Project Manager
Operating Reactors Branch #1
Division of Reactor Licensing

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DUKE POWER COMPANY
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WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

January 5, 1976

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

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

Dear Mr. Moseley:

Pursuant to the requirements of Oconee Nuclear Station Technical Specification 6.6.2.6.d, this report is submitted describing a condition in which a measured level of radioactivity exceeded the control level by greater than four times.

On December 5, 1975, analytical results of composite water samples collected over the quarter July 1, 1975 to September 30, 1975 and a milk sample collected from the Clemson dairy on October 7, 1975 were reviewed. Given below is a summary of the pertinent results of the radioactive concentrations of these samples.

Sample Location	Type Sample	Tritium Concentration
005.2 Hwy. 27 Bridge Newry	Surface Water	$(2.23 \pm 0.14) \times 10^{-6}$ μCi/ml
013 Hartwell Reservoir, 5.8 miles South of Keowee Dam	Surface Water	$(2.17 \pm 0.13) \times 10^{-6}$ μCi/ml*
000.3 Hwy. 183 bridge North of site (control)	Surface Water	$(5.5 \pm 0.7) \times 10^{-7}$ μCi/ml

006.1	Clemson water supply	Raw Water	$(2.40 \pm 0.15) \times 10^{-6}$ µCi/ml
012	Anderson water supply (control)	Raw Water	$(3.6 \pm 0.7) \times 10^{-7}$ µCi/ml
006.1	Clemson water supply	Finished Water	$(2.50 \pm 0.15) \times 10^{-6}$ µCi/ml
012	Anderson water supply (control)	Finished Water	$(4.1 \pm 0.7) \times 10^{-7}$ µCi/ml
006.3	Clemson dairy	Milk	$(3.00 \pm 0.18) \times 10^{-6}$ µCi/ml
006.3	Clemson dairy (control) April 8, 1975	Milk	$(4.1 \pm 0.8) \times 10^{-7}$ µCi/ml

* The tritium value is less than four times the control value, but is elevated and included here for completeness.

Tritium concentrations in the water samples collected are dependent upon the tritium concentrations of liquid effluents released from the station. For the quarter July 1 to September 30, 1975, 986 Curies of tritium were released from the station in liquid effluents. The maximum tailrace concentration of tritium was 3×10^{-3} µCi/ml. The average tailrace concentration of tritium was 4.94×10^{-6} µCi/ml. The station's objective (Technical Specification 3.9) in making effluent releases is to maintain the average concentration of tritium in liquid effluents upon release from the Restricted Area to not more than 5×10^{-6} µCi/ml. Technical Specification 3.9.2 specifies that the quarterly average concentration of tritium released from the Restricted Area shall not exceed 1×10^{-5} µCi/ml. Therefore, it can be seen that the average tritium concentration for the quarter in liquid effluents is within the objective concentration and well below the specified quarterly average concentration.

Dilution and dispersion of tritium in liquid effluents between Oconee Nuclear Station and the Clemson water intake has been calculated using the equation for instantaneous release taken from the U. S. Geological Survey Paper No. 433-B, "Dispersion of Dissolved or Suspended Materials in Flowing Streams" by Robert E. Glover (1964), p. 5. This equation accounts for longitudinal dispersion only. Conservatism was used in selecting parameters for substitution in the instantaneous release equation to determine the concentration of effluents at the Clemson water intake. These assumptions were 1) the elevation of Lake Hartwell is 654.0 feet, and 2) the flow of the Keowee River is 1100 cfs, the yearly average. Listed below are the resulting calculated concentrations of tritium at the Clemson water intake using the above method.

July	3.575×10^{-6} μCi/ml
August	5.060×10^{-6} μCi/ml
September	3.740×10^{-6} μCi/ml
Quarterly Average	4.125×10^{-6} μCi/ml

These calculated tritium concentrations are nearly a factor of two higher than those observed; with the water samples collected over the quarter at the Clemson water intake having an average tritium concentration of about 2.40×10^{-6} μCi/ml. Therefore, the observed concentrations are within the limits of conservative calculated values.

The milk sample collected at the Clemson dairy has approximately the same concentration of tritium as the Clemson raw and finished water. These dairy cows drink about 230 liters of water a day, at least half of which is Clemson treated water.

The Final Environmental Statement for Oconee states that "the largest estimates of dose to individuals from liquid effluents are at Clemson and Pendleton where drinking water is withdrawn from the Keowee River. The radionuclide making the most important contribution to dose at these locations is tritium (more than 50%)." The dose estimate for any individual consuming Clemson water containing 2.40×10^{-6} μCi/ml of tritium is 0.24 mrem/year if these tritium concentrations were maintained over the year. Individuals would get no higher dose if they also drank milk from the Clemson dairy. This estimate of dose is less than 0.5% of the dose from natural background and less than 0.1% of the limits of 10 CFR 20. Therefore, it is concluded that the observed anomalous tritium concentrations do not adversely affect public health and safety.

Very truly yours,

William O. Parker, Jr.

EDB:mmb

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

December 23, 1975

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

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

Dear Mr. Moseley:

In response to requirements of Oconee Technical Specification 6.6.2.6.d, my letter of December 11, 1975 described a condition in which the tritium concentration in a composite water sample collected over the quarter, July 1 to September 30, 1975, exceeded the tritium concentration at the control location by greater than ten times. The following supplemental information is submitted to provide an evaluation of this condition:

Tritium concentrations in water samples collected at Location 000.7 are dependent upon the tritium concentrations of liquid effluents released from the station. For the quarter, July 1 to September 30, 1975, 986 Curies of tritium were released from the station in liquid effluents; the average tailrace concentration of tritium was 4.94×10^{-6} µCi/ml, and the maximum tailrace concentration of tritium was 3×10^{-3}µCi/ml which is the 10 CFR 20 mpc concentration. The station's objective in making effluent released is to maintain tritium tailrace concentrations at 5×10^{-6} µCi/ml.

The Technical Specification limiting quarterly concentration of tritium in liquid effluents is 1×10^{-5} µCi/ml. From this data, it can be seen that the average tritium concentrations for the quarter in liquid effluent is within the objective concentration and well below the quarterly Technical Specification limiting concentration.

The water sample collected at Location 000.7 was a composite of three monthly grab samples collected during the quarter. This sample is representative only of the tritium concentrations present at the three times the grab samples were collected. The average tailrace concentration of tritium, expressed in the same units as the sample collected from 000.7 is 4.94 x 10^3 pCi/l; the maximum tailrace concentration, also expressed in the same units as the sample collected from 000.7, is 3 x 10^6 pCi/l. The tritium concentration of 7.30 ± 0.44E + 04 pCi/l indicates that a portion of the composite sample was collected when an effluent release was made, at or near the maximum tailrace concentration.

A continuous composite sampler, collecting small increments of sample at set time intervals, is and has been located at sample Location 000.7. Tritium analyses performed on samples collected monthly from this sampler are listed below:

July	15,600 pCi/l
August	39,000 pCi/l
September	63,800 pCi/l

Even these results are not representative of the average tritium concentrations present at Location 000.7 because the sampler does not composite samples proportional to the flow of water passing the sampler at Location 000.7

The flow of water passing the sampler at Location 000.7 may vary from the leakage flow of 40 cfs to 20,800 cfs when the hydro is operating; the annual average flow is 1100 cfs. The hydro plant operates approximately 40 hours per month or about 5% of the time. 95% of the sample collected with the composite sampler is under conditions of minimum flow and will more nearly approximate the concentrations of tritium in the tailrace without hydro operation.

Very truly yours,

William O. Parker, Jr.

EDB:mmb

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

December 22, 1975

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

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

Dear Mr. Moseley:

My letter of October 28, 1975, submitted pursuant to the requirements of Oconee Technical Specification 6.6.2.6.c, described a condition in which a measured level of radioactivity from an aquatic vegetation sample exceeded the control level by greater than ten times. This report stated that the buildup of activity in aquatic vegetation collected in the discharge area is to be expected due to the normal discharge of radioactive effluents. The following supplemental information is submitted to provide an evaluation of release conditions, environmental factors, and other aspects necessary to explain this condition:

The expected buildup of activity in organisms living in station effluents is discussed on pp. 130-133 of the Final Environmental Statement for Oconee Nuclear Station. From the information provided in FES, it is possible to calculate the concentrations one would expect to see in aquatic vegetation samples collected from the vicinity of the liquid effluent release point; the specific information required is:

1. The tailrace concentrations of the radionuclides found in the aquatic vegetation samples, discharged as radioactive waste. These concentrations can be calculated from the liquid effluent release information provided in the Semiannual Operating Report for the period ending June 30, 1975. The tailrace concentrations calculated in this manner compare favorably with those presented in Table III-12 of the FES for anticipated annual tailrace concentrations.

2. The biological accumulation factors for the radionuclides found in the aquatic vegetation samples. The biological accumulation factors used in the calculation of expected concentrations in aquatic vegetation are those found in Table V-7 of the FES.

3. The conversion factor to convert from wet weight to dry weight of aquatic vegetation. The aquatic vegetation sample collected on August 8, 1975 from Location 000.4 weighed 500 grams on wet weight basis and 18.63 grams on a dry weight basis.

The following table summarizes this data and provides a comparison of expected and actual concentrations:

Isotope	H_2O Conc.	Bioaccumulation Factor	Expected Vegetation Conc.	Actual Vegetation Conc.
	μCi/ml		pCi/g dry wt.	pCi/g dry wt.
^{134}Cs	7.74×10^{-11}	25000	52	10 ± 3
^{137}Cs	2.40×10^{-10}	25000	161	24 ± 3
^{58}Co	2.15×10^{-9}	2500	144	128 ± 10
^{60}Co	4.23×10^{-10}	2500	28	77 ± 10

Additional aquatic vegetation samples from the effluent discharge area were collected on October 24, 1975; the results, obtained from the analysis of these samples, indicate higher concentrations of the above listed radionuclides and in addition indicate the presence of manganese -54 and iodine -131. The sampling area is the old Keowee riverbed. This area fills with water during operation of the hydro and retains water in a backwater eddy when the hydro is not operating. This encourages the accumulation of radionuclides in aquatic vegetation and silt. The eddy-water concentrations of the radionuclides present in aquatic vegetation, are probably not average tailrace concentrations, but concentrations somewhere between 10 CFR 20 mpc discharge concentrations and the final effluent dilution concentrations resulting from operation of the hydro since radioactive effluent releases are also made when the hydro plant is not operating. This explains the higher concentrations seen in the follow-up aquatic vegetation samples.

Very truly yours,

William O. Parker, Jr.

EDB:mmb

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

DEC 18 1975

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: Oconee Nuclear Station, Units 1, 2, and 3

The subject of guard responsibilities in protecting special nuclear material from theft and sabotage is being reviewed by the Nuclear Regulatory Commission. The purpose of this letter is to clarify one aspect of these responsibilities so as to assure effective application of regulatory requirements in this important area.

Nuclear reactor facilities are required, under 10 CFR 73.40, to provide physical protection and to implement the security plan submitted to the Commission. A necessary element for approval of the plan of a nuclear power reactor is the provision of guards. We expect that the response requirements for these guards will be the same as called out in 10 CFR 73.50 (g)(2) which requires that guards responding to a possible threat shall determine if a threat exists, assess the extent of the threat, and initiate measures to neutralize the threat, either by acting on their own or by calling for assistance from local law enforcement authorities, or both. It appears that the option for guards taking action on their own or calling for outside assistance may conceivably be subject to misinterpretation. The current regulation contemplates that guards are to be instructed that their first priority is to assess the extent of the threat and convey to the proper law enforcement authorities the nature of the threat. They should then, or simultaneously if possible, take action on their own to counter the threat, deferring action pending the arrival of reinforcements only in those instances in which a guard's life would be placed in needless peril when faced with an overwhelming force. In such instances, guards could be expected to take prudent delaying action whenever possible while awaiting assistance.

Your early response to this letter would be very much appreciated, either affirming that your present practices for implementing the requirements of 10 CFR 73.40 are consistent with this view for the implementation of §73.50 (g)(2) or advising us of any deviation from this approach, and in the latter case, indicating the cause of such deviation.

Sincerely,

Original Signed By
Roger S. Boyd

Roger S. Boyd, Acting Director
Division of Reactor Licensing
Office of Nuclear Reactor Regulation

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

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