NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

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DOCKET NUMBER: 50-269/270/287

FILE NUMBER:

TO: B.C. RUSCHE

FROM: DUKE POWER CO.
CHARLOTTE, N.C.
W.O. PARKER, JR.

DATE OF DOCUMENT: 9-22-76

DATE RECEIVED: 9-30-76

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INPUT FORM

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DESCRIPTION
LTR. NOTARIZED 9-22-76...RE OUR 8-18-76 LTR.. REQUEST THAT THE TECHNICAL SPECIFICATION BE REVISED TO INCORPARATE THE SECONDARY WATER CHEMISTRY SPECIFIATIONS......W/ATTACHED SECONDARY WATER CHEMISTRY AND TABLE 4.1-3...

(3 SIGNED CYS. RECEIVED)
(5 PAGES)

PLANT NAME: OCONEE # 1,2 & 3

ENCLOSURE

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FOR ACTION/INFORMATION

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NRC FORM 195 (2-76)

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

Regulatory

File Cy.

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
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RECEIVED SEP 30 1976 U.S. NUCLEAR REGULATORY COMMISSION Mail Section

September 22, 1976

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 Reactors Branch #1

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

Dear Mr. Rusche:

Your letter dated August 18, 1976 stated the staff's position that secondary water chemistry monitoring requirements should be made a part of the Technical Specifications for each pressurized water reactor. A model specification was included in your letter as a guide for use in preparation of a specification for Oconee Nuclear Station. The Oconee Nuclear Station utilizes steam generators of the "once-through" design and secondary water chemistry controlled through a full flow condensate polishing system with volatile chemical additives. Therefore, the pH, total solids, and condensate cation requirements of the model specification are not directly applicable to the Oconee design.

It is requested, pursuant to 10CFR50, §50.90 that the Oconee Nuclear Station Technical Specifications be revised to incorporate the attached secondary water chemistry specifications. These specifications place appropriate limitations on the cation conductivity of final feedwater.

Very truly yours,

William O. Parker, Jr.

MST:vr
Attachments

9899

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, -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.

William O. Parker, Jr., Vice President

ATTEST:

John C. Goodman, Jr.

John C. Goodman, Jr.
Assistant Secretary
(Seal)

Subscribed and sworn to before me this 22nd day of September 1976.

Edna L. Farmer

Notary Public
(Notarial Seal)

My Commission Expires:

October 24, 1977

3.11 SECONDARY WATER CHEMISTRY

Applicability

Applies to the limiting conditions of secondary system feedwater when reactor coolant temperature is above 300°F.

Objective

To limit the steam generator cation (acid) conductivity in the final feedwater.

Specification

3.11.1 While in the startup mode and with final feedwater cation conductivity greater than 0.5 μmho/cm but less than 1.0 μmho/cm, restore the conductivity to 0.5 μmho/cm or less within 48 hours or reduce reactor coolant system temperature below 300°F within an additional 36 hours.

3.11.2 During operation other than startup and with final feedwater cation conductivity greater than 0.5 μmho/cm but less than 1.0 μmho/cm, restore the conductivity to 0.5 μmho/cm or less within 24 hours or reduce reactor coolant system temperature below 300°F within an additional 36 hours.

3.11.3 With final feedwater cation conductivity greater than 1.0 μmho/cm but less than 2.0 μmho/cm, restore the conductivity to the provisions of Specifications 3.11.1 or 3.11.2 within 12 hours or reduce reactor coolant system temperature below 300°F within an additional 36 hours.

3.11.4 With final feedwater cation conductivity greater than 2.0 μmho/cm, restore the conductivity to the provisions of Specifications 3.11.1, 3.11.2, or 3.11.3 within one hour or reduce reactor coolant system temperature below 300°F within an additional 36 hours.

3.11.5 The provisions of Specification 6.6.2.1 b(2) apply only when it becomes necessary to reduce the reactor coolant system temperature below 300°F to remain within the provisions of this specification.

Bases

Contamination of the steam generator secondary coolant can cause potential tube degradation and impair tube integrity. Generally, the most severe contamination results from condenser inleakage of caustic-forming impurities that may accumulate on the secondary side of the steam generator, or on the high heat flux surfaces of the steam generator tubes and can lead to the potential for intergranular stress corrosion cracking. The cation conductivity of the steam generator final feedwater will indicate direct potential damage.

Controlling the secondary water chemistry within the specified limits will control the potential accumulation of corrosive impurities in the steam generator and minimize tube degradation. These limits provide reasonable assurance that the conditions in the steam generator will minimize the potential for tube degradation during all conditions of operation, and postulated accidents. These measures ensure the continued protection of the steam generator tubing which is an essential part of the reactor coolant pressure boundary.

During plant startups, small air inleakage may occur in the condensate and feedwater system. Carbon dioxide ingress through these leaks elevates the feedwater cation conductivity, but is not detrimental to plant materials for the relatively short initial startup period up to 70 percent power. Degassing of the feedwater sample to eliminate the carbon dioxide will result in a cation conductivity measurement which is indicative of only the corrosive contaminants and will not result in unwarranted corrective action or shutdowns during the startup period.

TABLE 4.1-3

MINIMUM SAMPLING FREQUENCY

Item	Check	Frequency
1. Reactor Coolant	a. Gamma Isotopic Analysis	a. Monthly*
	b. Radiochemical Analysis for Sr 89, 90	b. Monthly*
	c. Tritium	c. Monthly*
	d. Gross Betta and Gamma Activity (1)	d. 5 times/week*
	e. Chemistry (Cl, F and O_2)	3. 5 times/week*
	f. Boron Concentration	f. 2 times/week**
	g. Gross Alpha Activity	g. Monthly*
	h. $\overline{E}$ Determination (2)	h. Semi-annually
2. Borated Water Storage Tank Water Sample	Boron Concentration	Weekly* and after each makeup
3. Core Flooding Tank	Boron Concentration	Monthly* and after each makeup
4. Spent Fuel Pool Water Sample	Boron Concentration	Monthly*** and after each makeup
5. Secondary Coolant	a. Gross Beta and Gamma Activity	a. Weekly*
	b. Iodine Analysis (3)	b. Weekly*
	c. Final Feedwater Cation Conductivity	c. 5 times/week ****
6. Concentrated Boric Acid Tank	Boron Concentration	Twice weekly*

*Not applicable if reactor is in a cold shutdown condition for a period exceeding the sampling frequency.
**Applicable only when fuel is in the reactor.
***Applicable only when fuel is in wet storage in the spent fuel pool.
****Sample may be degassed, sample applicable only when Reactor Coolant System temperatures is above $300^{o}F$.