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FROM: Carolina Power & Light Co Raleigh, N.C. 27602 E.E. Utley		DATE OF DOC 12-18-74	DATE REC'D 12-20-74	LTR X	TWX	RPT	OTHER
TO: Mr. E. Case		ORIG 3 signed	CC 37	OTHER	SENT AEC PDR <u>XX</u> SENT LOCAL PDR <u>XX</u>		
CLASS	UNCLASS XXX	PROP INFO	INPUT XXXX	NO CYS REC'D 40	DOCKET NO: 50-261		

DESCRIPTION: Ltr notarized 12-18-74 requesting revisions & changes to Tech Specs & OL DPR-23 to change the conditions & limitations to be applied to by-product, source & special nuclear materials possessed at the plant & trans the following:

ENCLOSURES: Page changes & revisions to Tech Specs for H.B. Robinson Unit 2....

(40 cys encl. rec'd)

PLANT NAME: H.B. Robinson Unit 2

FOR ACTION/INFORMATION

DHL 12-21-74

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Carolina Power & Light Company

December 18, 1974

50-251

File: NG-3514 (R)

Serial: NG-74-1469

Mr. Edson G. Case, Acting Director
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Case:

H. B. ROBINSON UNIT NO. 2
LICENSE NO. DPR-23
REQUEST FOR REVISION OF
OPERATING LICENSE AND TECHNICAL SPECIFICATIONS

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 50.59, Carolina Power & Light Company hereby requests revisions to the Operating License and the Technical Specifications for its H. B. Robinson Unit No. 2 Plant. The revision to the Operating License would change the conditions and limitations to be applied to by-product, source and special nuclear materials possessed at the plant. The revisions to the Technical Specifications cover three separate areas which are discussed below.

One of the proposed Technical Specification revisions involves the addition of a new Section 4.13 which establishes periodic testing requirements for determination of leakage from by-product, source and special nuclear radioactive material sources. Incorporation of this specification will assure that such leakage will not exceed allowable limits and that failed sources can be identified and suitably repaired or disposed of in a timely manner.

Another proposed revision involves deletion of the reference to the Sixth Edition of the Table of Isotopes in the bases of Specification 3.1.4. This revision is requested for three reasons:

1. This reference is known to be incorrect in several areas.
2. This reference is useless for high resolution spectrometry.
3. Inclusion of this reference in our Technical Specifications prohibits us from using more accurate radionuclide references as they become available.

12847

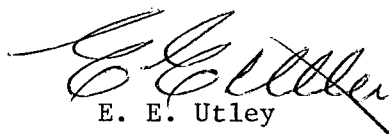
December 18, 1974

A third proposed revision involves the addition of a clarifying note to Table 4.1-2, Frequencies for Sampling Tests, which would provide additional time in which to verify sampling test results when such results are suspected to be incorrect. Several apparent violations of Limiting Conditions for Operation (LCO's) have occurred based on initial sampling test results which were later determined to be erroneous and the concentrations in question were indeed within specifications. Incorporation of this provision would eliminate needless and costly retirement of the plant due to incorrect sample results and avoid incorrect interpretations by plant personnel of what constituted timely action in the event a LCO is seemingly, but not actually, violated.

The above referenced revisions to the Operating License and Technical Specifications are attached in the form of page changes to the present documents.

As required by Commission Regulations, this submittal is signed under oath by a duly authorized officer of the Company.

Yours very truly,

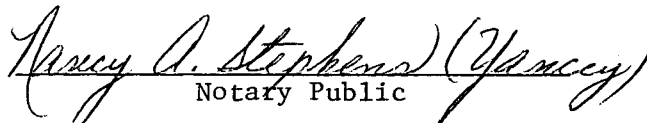


E. E. Utley
Vice-President
Bulk Power Supply

DBW:mvp
Attachment

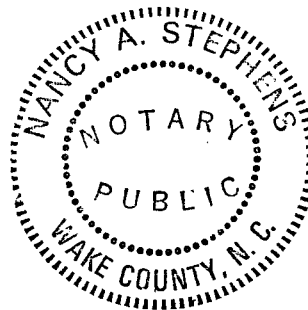
cc: Messrs. N. B. Bessac
W. B. Howell
J. B. McGirt
D. V. Menscer
D. B. Waters

Sworn to and subscribed before me this 18th day of December, 1974.


Notary Public

My Commission expires:

June 29, 1976



12-18-74

- f. The applicant has furnished proof of financial protection to satisfy the requirements of 10 CFR Part 140; and
- g. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;

Facility Operating License No. DPR-23 is hereby issued to Carolina Power & Light Company (CP&L), as follows:

- 1. This license applies to the H. B. Robinson Unit No. 2 nuclear facility, a closed cycle, pressurized, light water moderated and cooled reactor, and associated steam generators and electric generating equipment (the facility). The facility is located on the applicant's H. B. Robinson site, Darlington County, about 4.5 miles west northwest of Hartsville, South Carolina, and is described in the "Final Facility Description and Safety Analysis Report," as amended (Amendment Nos. 8 through 21), and in the reports filed with the applicant's letters dated June 5, 1970, and July 1, 1970.
- 2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses CP&L:

- A. Pursuant to Section 104b of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use and operate the facility as a utilization facility at the designated location on the H. B. Robinson site;
- B. By-product, source and special nuclear materials possessed at any one time at the plant shall be subject to the following conditions and limitations:

<u>Material</u>	<u>Form and Use</u>	<u>Possession Limit</u>
1. Any by-product, source and special nuclear material	As reactor fuel; as sealed neutron sources for reactor startup; as sealed sources for reactor instrument and radiation monitoring equipment calibration; and as fission detectors.	As required for reactor operation.
2. Any by-product, source or special nuclear material	Any form for sample analyses or instrument calibration.	100 millicuries each isotope; and by-product material. 100 milligrams each isotope, any source or special nuclear material.

C. (Deleted)

- D. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

4.13 RADIOACTIVE SOURCE LEAKAGE TESTING

Applicability:

Applies to by-product, source and special nuclear radioactive material used at H. B. Robinson Unit 2.

Objective:

The objective of this specification is to assure that leakage from by-product, source, and special nuclear radioactive material sources does not exceed allowable limits.

Specification:

- 4.13.1 The leakage test shall be capable of detecting the presence of .005 microcurie of radioactive material on the test sample. If the test reveals the presence of .005 microcurie or more of removable contamination, it shall immediately be withdrawn from use, decontaminated, and repaired, or be disposed of in accordance with Commission regulations. Sealed sources are exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
- 4.13.2 Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an agreement State as follows:
- A. Each sealed source, except startup sources subject to core flux, containing radioactive material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months.
 - B. The periodic leak test required does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another user unless they have been leak tested within six months prior to the date of use or transfer.

In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, sealed sources shall not be put into use until tested.
 - C. Startup sources shall be leak tested prior to and following any repair or maintenance and before being subjected to core flux.

site boundary, using a building wake coefficient of $\frac{1}{2}$.

$$3.7 \times 10^{10} \text{ dis/sec-Ci}$$

$$1.33 \times 10^{-11} \text{ rem/Mev/m}^3$$

The resulting dose is less than 0.5 Rem when A is equal to $\frac{50}{\bar{E}}$, which is the expression used in the specification.

The basis for the 500°F temperature contained in the specification is the saturation pressure corresponding to 500°F, 680.8 psia, which is well below the setpoint pressure of safety valves on the secondary side of the steam generator.

Measurement of \bar{E} will be performed at least twice annually, and in any event will be performed each time the primary coolant radioactivity concentration changes by 10 $\mu\text{Ci/cc}$ from the previous measurement of \bar{E} . Calculations required to determine \bar{E} will consist of the following:

1. Quantitative measurement in units of $\mu\text{Ci/cc}$ of radionuclides with half lives longer than 30 minutes making up at least 95% of the total activity in the primary coolant.
2. A determination of the beta and gamma decay energy per disintegration of each nuclide determined in (1) above by applying known decay energies and schemes.
3. A calculation of \bar{E} by appropriate weighting of each nuclides beta and gamma energy with its concentration as determined in (1) above.

References

- (1) FSAR Section 14.2.4
- (2) FSAR Table 9.2-5

TABLE 4.1-2

FREQUENCIES FOR SAMPLING TESTS

	<u>Check (7)</u>	<u>Frequency</u>	<u>Maximum Time Between Tests</u>
1. Reactor Coolant Samples	Gross Activity (1) Radiochemical (2) \bar{E} Determination Tritium Activity Cl & O ₂	5 day/week Monthly Semiannually (3) Weekly 5 day/week	3 days 45 days 30 weeks 10 days 3 days
2. Reactor Coolant Boron	Boron concentration	Twice/week	5 days
3. Refueling Water Storage Tank Water Sample	Boron concentration	Weekly	10 days
4. Boric Acid Tank	Boron concentration	Twice/week	5 days
5. Boron Injection Tank	Boron concentration	Weekly (6)	10 days
6. Spray Additive Tank	NaOH concentration	Monthly	45 days
7. Accumulator	Boron concentration	Monthly	45 days
8. Spent Fuel Pit	Boron concentration	Prior to Refueling	NA*
9. Secondary Coolant	Iodine-131	Weekly (5)	10 days
10. Stack Gas Iodine & Particulate Samples	I-131 and particulate radioactivity releases	Weekly (4)	10 days
11. Steam Generator Samples	Primary to secondary tube leakage	5 days/week	3 days
(1) A gross activity analysis shall consist of the quantitative measurement of the total radioactivity of the primary coolant in units of $\mu\text{Ci/cc}$.			
(2) A radiochemical analysis shall consist of the quantitative measurement of each radionuclide with half life greater than 30 minutes making up at least 95% of the total activity of the primary coolant.			
(3) \bar{E} determination will be started when the gross activity analysis indicates $\geq 10 \mu\text{Ci/cc}$ and will be redetermined if the primary coolant gross radioactivity changes by more than $10 \mu\text{Ci/cc}$ in accordance with Specification 3.1.4.			

- (4) When iodine or particulate radioactivity levels exceed 10% of the limit in Specification 3.9.2.1 the sampling frequency shall be increased to a minimum of once each day.
- (5) When the iodine-131 activity exceeds 10% of the limit in Specification 3.4.2 the sampling frequency shall be increased to a minimum of once each day.
- (6) The Boron concentration in the Boron injection tank shall be checked immediately after any actuation of the safety injection system that might result in dilution of the Boron concentration in the Boron injection tank.
- (7) When a sample test result is obtained which is suspected to be incorrect, a second sample may be obtained within one hour of the first sampling test result and analyzed. If the second sampling test result collaborates the first sampling test result, the values obtained shall be considered correct and reported. If the second sampling test result varies significantly from the first test result, a third sample shall be obtained within one hour of verification of the results of the second sampling test. The results of the analysis of the third sample shall then be considered correct and its value reported.

*NA - Not Applicable