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P. O. BOX 33189

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

TELEPHONE: AREA 704
373-4011

July 14, 1981

Mr. J. P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 300
Atlanta, GA 30303



REGIONAL DIRECTOR
DEPUTY DIRECTOR
ASSISTANT TO DIRECTOR
DIRECTOR, RRPI
DIRECTOR, EPOS
DIRECTOR, ENF/INV
DIRECTOR, ETI
PUBLIC AFFAIRS OFFICER

Re: Cherokee Nuclear Station, Unit 1
Docket No. 50-491
IE 81/01-5PS-491
NSSS-Shutdown Heat Exchanger
Duke Files: P81-1201.00, P81-1201.06

Dear Mr. O'Reilly:

Attached is Duke's progress report on the referenced 10CFR 50.55(e) reportable item. Another report will be submitted by October 1, 1981. Initial notification was made by telephone to Mr. Rausch of your office on December 17, 1980. An interim report was submitted to your office on January 15, 1981.

Very truly yours,

L. C. Dail, Vice-President
Design Engineering Department

GDR/pam

Attachment

cc: Director of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, DC 20555

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DUKE POWER CO.
CHEROKEE NUCLEAR STATION

Report Number: IE 81/01-SPS-491, (Progress Report)

Report Date: January 15, 1981 (Initial)

Facility: Cherokee Nuclear Station - Unit #1

Restatement of Deficiency:

Apparent breakdowns in manufacturing, cleaning, and inspection processes on Shutdown Heat Exchangers (SDHX's)

Description of Deficiency:

On December 17, 1980, Mr. R. E. Miller and Mr. W. H. Bradley informed Mr. John Rausch, NRC of potential deficiencies in the Shutdown Heat Exchangers, supplied by Combustion Engineering as part of the NSSS contract, along the following lines.

1. Due to problems encountered on the WPPSS Unit #3 SDHX, and since the Duke SDHX's were manufactured by the same vendor (Ametek), CE advised Duke that heat exchangers were suspect of similar deficiencies.
2. Duke Unit #1 SDHX's were inspected at the site, and were found to have problems with the stainless steel cladding and contamination of tube side material surfaces.

Analysis of Safety Implications:

Refer to initial report.

Update on Corrective Actions

Duke removed the Unit 1A and 1B SDHX's from the Reactor Building, and returned them to the original supplier for examination and repair. Results of the examination of the SDHX's are as follows:

Unit 1A:

- (1) Unacceptable hardness readings and cracking will require recladding of the tube sheet, tubesheet to channel weld, and channel cover. Acceptable clad thickness will be verified by ultrasonic inspection (UT).
- (2) Minor unacceptable PT indications in areas not to be reclad will be corrected and re-PT'd.
- (3) Complete retubing will be required due to recladding of the tube sheet. New tubing will be eddy current tested (ET) per revised CE procedure to assure no unacceptable defects.
- (4) Reworked heat exchangers will be cleaned, dried, and inspected following hydrotest to assure absence of surface contamination.