

C 06/14/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL

50-269/270/287

REC: CASE E G
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DUKE PWR

DOCDATE: 06/08/78
DATE RCVD: 06/13/78

DOCTYPE: LETTER NOTARIZED: NO
SUBJECT: -----

COPIES RECEIVED
LTR 1 ENCL 1

FURNISHING SUPPLEMENTAL INFO TO 06/21/77 TECH SPEC PROPOSED CHANGE CONCERNING
REVISION TO GENERATOR INSPEC PROGRAM & STEAM GENERATOR LEAK RAE LIMIT OF 1
GPM, AND REQUEST APPROVAL ALLOWING MAXIMUM OF 1 GPM LEAKAGE THROUGH STEAM
GENERATOR TUBES PRIOR TO ~~INSE~~ INITIATION OF A A UNIT SHUTDOWN

PLANT NAME: OCONEE - UNIT 1
OCONEE - UNIT 2
OCONEE - UNIT 3

REVIEWER INITIAL: XJM
DISTRIBUTER INITIAL: *AE*

***** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS *****

NOTES:

1. M. CUNNINGHAM - ALL AMENDMENTS TO FSAR AND CHANGES TO TECH SPECS

GENERAL DISTRIBUTION FOR AFTER ISSUANCE OF OPERATING LICENSE.
(DISTRIBUTION CODE A001)

FOR ACTION: ~~BR CHIEF~~ ORB#4 BC**W/7 ENCL

INTERNAL: REG FILE**W/ENCL -NRC PDR**W/ENCL
I & E**W/2 ENCL OELD**LTR ONLY
HANAUER**W/ENCL CORE PERFORMANCE BR**W/ENCL
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REACTOR SAFETY BR**W/ENCL PLANT SYSTEMS BR**W/ENCL
EEB**W/ENCL EFFLUENT TREAT SYS**W/ENCL
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WALHALLA, SC**W/ENCL
TIC**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

DISTRIBUTION: LTR 40 ENCL 39
SIZE: 3P+1P+3P

CONTROL NBR: 781650026

***** THE END *****

AA/2

U.S. NUCLEAR REGULATORY COMMISSION
DAILY ACCESSION LIST

05/10/78

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FILE LOCATION _____

8124-0214 TASK NBR:
LETTER FICHE NBR :
PP NOTARIZED: NO
LPDR: YES CLASS:
NUREG-0219 DRAFT #2
RECP AFFILIATION: DUQUESNE LIGHT
ORG AFFILIATION: NRC

ING NUREG-0219, DRAFT 2, WHICH OUTLINES THE CURRENT POSITION OF THE NRR
N IMPLEMENTATION OF THE REQUIREMENTS TO UPGRADE THE QUALIFICATION,
G, & EQUIPPING OF SECURITY PERSONNEL. W/O ENCL.

7354-0241 TASK NBR:
MEMO FICHE NBR :
P NOTARIZED: NO
LPDR: NO CLASS:
RECP AFFILIATION: NRC
ORG AFFILIATION: NRC

RECENT TORNADO AT THE SUBJECT FACILITY.

7354-0242 TASK NBR:
MEMO FICHE NBR :
P NOTARIZED: NO
LPDR: NO CLASS:
RECP AFFILIATION: NRC
NRC
NRC
B J
W
ORG AFFILIATION: NRC

NCE REVIEW OF ENVIRON REPT (OL) FOR SUBJECT FACILITY.

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

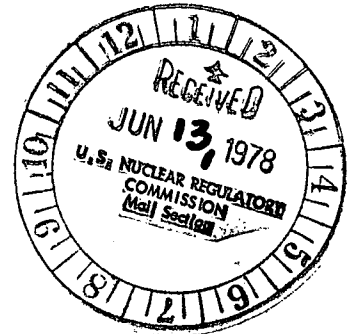
June 8, 1978

TELEPHONE: AREA 704
373-4083

Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. R. Reid, Chief
Operating Reactors Branch #4

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



Dear Sir:

My letter of June 21, 1977 submitted a proposed revision to the Oconee Nuclear Station Technical Specifications. That revision contained a proposed steam generator inspection program and a steam generator leak rate limit of 1 gpm. In an October 4, 1977 letter, Mr. A. Schwencer provided a safety evaluation of the steam generator tube degradation concern at Oconee and established a steam generator leak rate limit of 0.3 gpm for Oconee Unit 1. In addition, that evaluation contained seven commitments which have either been responded to by earlier correspondence or are addressed in this letter. The following are the commitments and their responses:

1. Information will be provided in a subsequent status report on the metallurgical examination conducted on removed tubes 43/108 and 83/117. This information is expected to be available by December 15, 1977.

This information was provided in my letter of December 16, 1977.

2. Evaluations will be performed to evaluate a plugging limit criteria for defective tubes.

Evaluations were performed and reports of the results were provided in my letter of December 16, 1977.

3. An attempt will be made to develop an inservice inspection calibration standard which will permit a more realistic, less conservative evaluation of large-area, shallow defects.

A discussion of the inservice eddy current inspection calibration standard was provided in my letter of December 16, 1977.

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A001/s *
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4. An attempt will be made to determine the rate of growth, if any, of indications at the 14th support plate at future Oconee 1 outages.

Attachment 1 provides a description of the results of the reexamination of several Oconee 1B steam generator tubes.

5. At the next Oconee 1 outage, additional peripheral tubes will be examined consistent with critical path scheduling.

Attachment 2 provides a description of the results of the inspection of additional peripheral tubes during the recent Oconee Unit 1 outage.

6. Technical Specifications concerning inservice inspection of steam generator tubing will be reevaluated, and resubmitted if necessary, to incorporate the most recent experience.

As stated in my letter of December 16, 1977, the steam generator tubing surveillance specifications submitted in our January 21, 1977 letter are considered adequate to provide a realistic assessment of the conditions of the steam generator tubing at routine surveillance intervals.

7. Information will be provided in the near future concerning the visual examination of previously leaking, stabilized tube 114/109.

This tube was stabilized in December of 1976 due to a leak at the 14th TSP. At that time, it was assumed to be a crack similar to the other leaking tube along the inspection lane. In order to determine the exact nature of this defect, the stabilizer was removed and the defect area viewed with a fiber-scope in September, 1977. The defect appeared to be a small, roughly circular pit approximately 1/8" in diameter. There was no evidence of circumferential cracking. Approximately 1 foot above the 14th TSP, a second pit type area was noted. Whether or not this was through wall is not known.

Additionally, my letter of December 30, 1977 provided responses to questions in Mr. A. Schwencer's letter of November 23, 1977 concerning the Steam Generator Tube Leakage Safety Assessment Report, which had been transmitted in my letter of September 9, 1977.

The safety evaluation further stated that until the above investigation is completed, a specification limiting the leak rate for Oconee Unit 1 to 0.3 gpm would be added to the Technical Specifications.


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Duke Power Company considers that all of the commitments contained in the Safety Evaluation have been met. The investigation of this tube degradation concern has been and will be continuing by both Duke and Babcock and Wilcox. In the interim, it is felt that the specification of a 0.3 gpm leak rate limit is unnecessarily restrictive.

With the 0.3 gpm leak limit, determination of leaking tubes while conducting a hydrostatic test is extremely difficult. Actual leakage is partially dependent on the differential pressure across the tube. When operating, this pressure is in excess of 1200 psid; however, when shutdown it is only on the order of 100 psid. With a small leak, that is detectable when operating, detection when shutdown at the reduced pressure is nearly impossible. This difficulty contributes to extended outages to locate a tube leak on the order of 0.3 gpm, which has been shown to have a minimal impact on public health and safety. Difficulty in locating a leak results not only in longer forced outages, but also in a larger exposure to personnel involved in that more entries into the upper and lower heads of the steam generator are required. For these reasons, in addition to those provided in previous correspondence and the attached pages, it is felt that the current leakage limit of 0.3 gpm for Oconee Unit 1 is unnecessarily restrictive and should be rescinded. It is requested that the original specification submitted in my letter of June 21, 1977 be approved allowing a maximum of 1 gpm leakage through the steam generator tubes prior to initiation of a unit shutdown. Attachment 3 is a copy of this original specification.

This request is considered to supplement information provided in my previous letters of June 21 and December 16, 1977. As such, no license fees are included with this transmittal.

Very truly yours,


William O. Parker, Jr. *By [Signature]*

RLG:scs
Attachments

Attachment 1

Results to Tube Re-examination

During the recent Oconee Unit 1 outage for a tube leak, several tubes that had been previously examined were re-examined. Twenty-seven tubes with 14th support plate (SP) indication were re-examined with no significant increase in degradation within the accuracy of the measurement system. The accuracy of the eddy current (EC) system is considered to be \pm (10-20%) throughwall indication. These tubes had been previously inspected during the Unit 1 refueling outage in September 1977. The unit had been operated for 162EFPD during this period. None of these tubes exceeded the tube plugging EC limit of 40% and will be available for future examination.

In addition to these 27 tubes with 14th SP indication, 22 tubes were re-examined with other SP degradation indication. These tubes also showed no significant increase in degradation, within the accuracy of the measuring system. These 49 tubes are located in all regions of the steam generator: periphery, bundle, and lane.

Attachment 2

Results of Eddy Current Examination

Results of Eddy Current Examination during the May 1978 outage of Oconee Unit 1 for a steam generator tubes leak, approximately 3.1% of the tube bundle was inspected by eddy current. A total of 482 tubes were inspected. Of these, 242 were in the periphery area and 240 were in rows 74, 75, 77, 78 adjacent to the open lane.

During a hydrostatic test of the 1B generator, two tubes were identified as possible leakers. Tubes 69-1 and 70-1 were plugged due to visually observing water drops coming from the area of these tubes. A subsequent hydrostatic test after plugging revealed that the source of the water was a weld crack around tube 69-1 at the lower tube sheet. In an attempt to visually inspect a lane tube, tube 77-27 was cut out of the tube sheet. However, it could not be removed so it was stabilized and plugged. During the second hydrostatic test of the 1B generator, tube 74-2 was observed to be leaking. It was viewed with fiber optics to have a 45-90 degree crack near the upper tube sheet and was plugged. Tube 59-1 was inspected by eddy current, observed to have a ding indication. Additionally, a water drop was observed to have come from this tube, so it was plugged as a precautionary measure. In all, five tubes were stabilized and/or plugged.

Attachment 3

Proposed Technical Specification

3.1.6 * Leakage

Specification

- 3.1.6.1 If the total reactor coolant leakage rate exceeds 10 gpm, the reactor shall be shutdown within 24 hours of detection.
- 3.1.6.2 If unidentified reactor coolant leakage (excluding normal evaporative losses) exceeds 1 gpm or if any reactor coolant leakage is evaluated as unsafe, the reactor shall be shutdown within 24 hours of detection.
- 3.1.6.3 If any reactor coolant leakage exists through a non-isolable fault in a RCS strength boundary (such as the reactor vessel, piping, valve body, etc., except the steam generator tubes), the reactor shall be shutdown, and cooldown to the cold shutdown condition shall be initiated within 24 hours of detection.
- 3.1.6.4 If reactor coolant system leakage exceeds 1 gpm through the steam generator tubes, a reactor shutdown shall be initiated within 4 hours and the reactor shall be in a cold shutdown condition within the next 36 hours.
- 3.1.6.5 If reactor shutdown is required by Specification 3.1.6.1, 3.1.6.2 or 3.1.6.3, the rate of shutdown and the conditions of shutdown shall be determined by the safety evaluation for each case and justified in writing as soon thereafter as practicable.
- 3.1.6.6 Action to evaluate the safety implication of reactor coolant leakage shall be initiated within 4 hours of detection. The nature, as well as the magnitude, of the leak shall be considered in this evaluation. The safety evaluation shall assure that the exposure of offsite personnel to radiation is within the guidelines of 10CFR20.
- 3.1.6.7 If reactor shutdown is required per Specification 3.1.6.1, 3.1.6.2, 3.1.6.3 or 3.1.6.4, the reactor shall not be restarted until the leak is repaired or until the problem is otherwise corrected.
- 3.1.6.8 When the reactor is critical and above 2% power, two reactor coolant leak detection systems of different operating principles shall be operable, with one of the two systems sensitive to radioactivity. The systems sensitive to radioactivity may be out-of-service for 48 hours provided two other means to detect leakage are operable.
- 3.1.6.9 Loss of reactor coolant through reactor coolant pump seals and system valves to connecting systems which vent to the gas vent header and from which coolant can be returned to the reactor coolant system shall not be considered as reactor coolant leakage and shall not be subject to the consideration of Specifications 3.1.6.1, 3.1.6.2, 3.1.6.3, 3.1.6.4, 3.1.6.5, 3.1.6.6 or 3.1.6.7 except that such losses when added to leakage shall not exceed 30 gpm.

Bases

Every reasonable effort will be made to reduce reactor coolant leakage including evaporative losses (which may be on the order of .5 gpm) to the lowest possible rate and at least below 1 gpm in order to prevent a large