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NRC FORM 195 (2-76) U.S. NUCLEAR REGULATORY COMMISSION

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TO: Mr. B.C. Rusche	FROM: Duke Power Company Charlotte, N.C. 28242 Wm. O. Parker, Jr.	DATE OF DOCUMENT: 3-10-77 DATE RECEIVED: 3-16-77

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DESCRIPTION: Ltr notarized 3-10-77 requesting for exemptions & revisions from the provisions of 10CFR50, Appendix H which will permit the reinstitution of the Oconee surveillance program....& trans the following: (3P)

ENCLOSURE: Proposed replacement Tech Spec pages.. (2P)

DO NOT REMOVE
ACKNOWLEDGED

PLANT NAME: Oconee Units 1-2-3

DHL

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

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

March 10, 1977

TELEPHONE: AREA 704
373-4083

Mr. Benard C. Rusche, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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

Dear Mr. Rusche:

On March 26, June 25 and April 16, 1976, the Commission issued exemptions from the provisions of 10CFR50, Appendix H, which authorized operation of the Oconee Units 1, 2 and 3, respectively for the duration of their current fuel cycles. These exemptions permitted operation with reactor vessel material surveillance capsules removed from their reactor vessels. In addition, on October 23, 1976, the Commission issued another exemption for Oconee 3 which authorized operation for one additional fuel cycle with the reactor vessel material surveillance capsules removed from the Oconee 3 reactor vessel.

In your letter of November 16, 1976, you requested that a course of action be identified for the Oconee units which would reinstitute the reactor surveillance program. If plans did not involve resinstallation of the capsules in the Oconee reactors, information requested by Enclosure 1 to your letter was to be provided. Additionally, it was requested that information be submitted on plans to satisfy the fracture toughness requirements of Appendix G to 10CFR50, possibly through the use of data from the surveillance programs at several other reactors.

In letters dated December 9, 1976 and January 14, 1977, it was stated that it was our intention to continue the irradiation of the Oconee surveillance capsules in Florida Power Corporation's Crystal River, Unit 3 reactor vessel. An agreement has been formalized with Florida Power Corporation to this end. Additionally, we have participated in the B&W user's group effort to support additional surveillance capsule irradiation at other operating and test reactors in order to satisfy the fracture toughness requirements of Appendix G to 10CFR50. Specific descriptions of the Oconee surveillance program were provided in the responses to questions in our January 4, 1977 letter.

As stated in the response to Question 1, B&W has developed a combined program for irradiating surveillance specimens of welds of interest between operating reactors and test reactors. This synergistic program will offer protection against an extended outage of a host reactor. Redundancy will be incorporated in the combined program by ensuring that most of the representative welds to be irradiated in operating reactors will also be irradiated in test reactors. The fluence levels in these test reactors will

ensure that the surveillance material will remain ahead of the corresponding reactor vessel beltline region. Due to the variety of sources of information which can be useful for the Oconee reactor vessels, a rigid withdrawal schedule for the Oconee surveillance capsules is not considered prudent. Rather, a flexible program which will assure the availability of data needed to update Specification 3.1.2 would be appropriate.

Pursuant to 10CFR50, §50.90 and 10CFR50, §50.12, Technical Specification revisions and exemptions from the provisions of 10CFR50, Appendix H are requested which will permit the reinstitution of the Oconee surveillance program. The proposed Technical Specification revision is indicated on the attached replacement page. This change permits the irradiation of surveillance specimens representative of materials present in the reactor vessel beltline region in Oconee or similar power reactors or in test reactors. The specific withdrawal schedule has been deleted in favor of a general requirement for obtaining results necessary for updating Technical Specification 3.1.2. Annual reviews shall be conducted to assure the adequacy of the program. It is considered that this program meets the intent of 10CFR50, Appendix H, in that fracture toughness test data will be obtained from material specimens which will permit the determination of the conditions under which the reactor vessels can be operated, with adequate margins of safety against fracture throughout its life.

Very truly yours,

William O. Parker, Jr.

MST:ge

Attachment

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 Facility Operating Licenses DPR-38, DPR-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., Vice President

Subscribed and sworn to before me this 10th day of March, 1977.

Notary Public
(Notarial Seal)

My Commission Expires:
My Commission Expires February 15, 1982

4.2.3 The structural integrity of the Reactor Coolant System boundary shall be maintained at the level required by the original acceptance standards throughout the life of the station. Any evidence, as a result of the tests outlined in Table IS-261 of Section XI of the code, that defects have developed or grown, shall be investigated, including evaluation of comparable areas of the Reactor Coolant System.

4.2.4 The results of the Inservice Inspections performed pursuant to Specifications 4.2.1, 4.2.2, and 4.2.3 shall be reported to the Commission within 90 days of completion.

4.2.5 To assure the structural integrity of the reactor internals throughout the life of the unit, the two sets of main internals bolts (connecting the core barrel to the core support shield and to the lower grid cylinder) shall remain in place and under tension. This will be verified by visual inspection to determine that the welded bolt locking caps remain in place. All locking caps will be inspected after hot functional testing and whenever the internals are removed from the vessel during a refueling or maintenance shutdown. The core barrel to core support shield caps will be inspected each refueling shutdown.

4.2.6 Sufficient records of each inspection shall be kept to allow comparison and evaluation of future inspections.

4.2.7 The inservice inspection program shall be reviewed at the end of five years to consider incorporation of new inspection techniques and equipment which have been proved practical and the conclusions of this review and evaluation shall be discussed with the NRC/DRL.

4.2.8 At approximately three-year intervals, the bore and keyway of each reactor coolant pump flywheel shall be subjected to an in-place, volumetric examination. Whenever maintenance or repair activities necessitate flywheel removal, a surface examination of exposed surfaces and a complete volumetric examination shall be performed, if the interval measured from the previous such inspection is greater than 6 2/3 years.

4.2.9 Reactor vessel material surveillance specimens representative of the materials present in the reactor vessel beltline region shall be irradiated in the Oconee or similar power reactor vessels or in test reactors. Insofar as possible, the irradiation withdrawal and examination of these specimens shall be scheduled to provide surveillance results necessary for updating Technical Specification 3.1.2. The program shall be reviewed annually to assure that necessary data will be available when needed.

4.2.10 During the first two refueling periods, two reactor coolant system piping elbows shall be ultrasonically inspected along their longitudinal welds (4 inches beyond each side) for clad bonding and for cracks in both the clad and base metal. The elbows to be inspected are identified in B&W Report 1364 dated December, 1970.

4.2.11 To assure that reactor internals vent valves are not opening during operation, all vent valves will be inspected during each refueling outage to confirm that no vent valve is stuck open and that each valve operates freely.

Bases

The surveillance program has been developed to comply with Section XI of the ASME Boiler and Pressure Vessel Code, Inservice Inspection of Nuclear Reactor Coolant Systems, 1970, including 1970 winter addenda, edition. The program places major emphasis on the area of highest stress concentrations and on areas where fast neutron irradiation might be sufficient to change material properties.

Irradiation of reactor vessel material surveillance specimens representative of the materials present in the Oconee reactors provides the capability of determining radiation induced changes in the mechanical and impact properties in the region of the reactor vessel surrounding the core. Test specimens will be installed in holder tubes placed inside the reactor vessel at Crystal River Unit 3 and other similar power reactors and test reactors.

The program will provide sufficient data on the radiation effects on the toughness properties of the irradiated materials to allow an evaluation of the toughness properties of this reactor vessel throughout its service life and determine safe operating pressure-temperature limits.

To assure the availability of adequate surveillance data for the Oconee reactor vessels, the program will be reviewed annually.

Early inspection of Reactor Coolant System piping elbows is considered desirable in order to reconfirm the integrity of the carbon steel base metal when explosively clad with sensitized stainless steel. If no degradation is observed during the two annual inspections, surveillance requirements will revert to Section XI of the ASME Boiler and Pressure Vessel Code.