

DUKE POWER COMPANY

POWER BUILDING

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

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

July 29, 1982

TELEPHONE AREA 704
373-4083

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

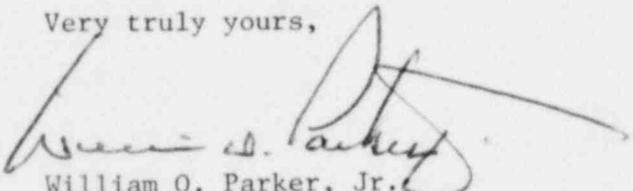
Subject: Oconee Nuclear Station
IE Bulletin 82-02

Dear Sir:

As specified in IE Bulletin 82-02 dated June 2, 1982, please find attached a response to Item 3. Other actions are being performed as specified in the Bulletin and will be reported at the appropriate time.

I declare under penalty of perjury that the statements set forth herein are true and correct to the best of my knowledge, executed on July 29, 1982.

Very truly yours,


William O. Parker, Jr.

JFN/php
Attachment

cc: Mr. W. T. Orders
NRC Resident Inspector
Oconee Nuclear Station

Mr. Philip C. Wagner
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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Attachment

Item 3

NRC Information Notice Nos. 80-27 and 82-06, and similar INPO (Institute of Nuclear Power Operations) correspondence (with recommendations) have been issued in regard to corrosion problems associated with bolts/studs in RCPB closures (INPO/NSAC SER 81-12). To assist the Nuclear Regulatory Commission in its ongoing review and assessment of the scope of the problem you are asked to provide the following information for closures and connections within the scope of this bulletin:

- a. Identify those bolted closures of the RCPB that have experienced leakage, particularly those locations where leakage occurred during the most recent plant operating cycle. Describe the inspections made and corrective measures taken to eliminate the problem. If the leakage was attributed to gasket failure or its design, so indicate.
- b. Identify those closures and connections, if any, where fastener lubricants and injection sealant materials have been or are being used and report on plant experience with their application particularly any instances of SCC of fasteners. Include types and composition of materials used.

Response

Item 3a: The bolted closures (that are a part of the reactor coolant pressure boundary where leakage problems have been experienced) have been the once through steam generator (OTSG) manways and the Unit 2 and 3 (Bingham) reactor coolant pumps (RCP) main closure flange. The OTSG manways are inspected as a part of the RB final tour before a start-up from cold shutdown. If leakage is detected, it is repaired before proceeding with unit heat-up. Because of the scope of the work that would be necessary to repair the leak in the RCPs with new closure gasket, other methods, as will be discussed later, are being used to slow down the leakage rate. It appears that the design of the gaskets currently installed in the Unit 2 and 3 RCPs is possibly deficient and the possible reason for the leakage. An improved design gasket is onsite ready for use the next time there is an opportunity to repair the RCPs.

Item 3b: Almost all RCPB bolted closures have had some type of thread lubricant applied to it. The Duke Power Company Power Chemistry Materials Guide specifies what thread lubricants can be used. Typically, Molykote G-Rapid spray, NEVER-SEEZ Pure Nickel, and Felpro N-5000 are the most widely used lubricants. Furmanite F-500 and F-700-N have been used as sealants on four valves and four RCPs as follow: Valve 3CF-1 (NSM ON-983), valve 2RC-68 (NSM ON-1594), valve 1LP-1 (NSM ON-1936), valve 3HP-152 (NSM ON-1997), RCPs 2A1, 2A2, 2B2, and 3A1. Valve 3HP-152, which is a Velan stop check valve, is the only valve that has not been disassembled, furmanite removed, repaired, and reassembled. The RCPs had the furmanite injected into an annulus above the outermost of the two closure gaskets and none have been disassembled for repair after the furmanite injection.

The only known problem with stress corrosion cracking (SCC) on RCPB bolting occurred on Unit 3 on the 3A OTSG lower primary manway (reported in Licensee Event Report No. 287/80-11). As was stated in a later report, Molykote G-Rapid

was suspected of having caused the SCC although this has not been proven as being the main cause.

A check would have to be made with each manufacturer to ensure that the composition of each product is nonproprietary. However, Duke Power Company is not as concerned about the composition as ensuring that the materials do not contain known contaminants. Lubricants and sealants are tested by Duke Power and classified as to where each can be used in accordance with the Duke Power Company Power Chemistry Materials Guide. Of the materials listed above, the Molykote G-Rapid spray lubricant is of potential concern due to its high sulphur content. While the composition of the material as formulated is not of concern, there is some question regarding the potential for degradation of the material in a specific aqueous environment.