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SUBJECT: Forwards Request for Relief 89-08 from inservice insp requirements of Section XI of ASME Boiler & Pressure Code.

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October 13, 1989

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Subject: Oconee Nuclear Station  
Docket Nos. 50-287  
Second Ten Year Interval  
Request for Relief No. 89-08

Gentlemen:

Pursuant to 10CFR 50, 50.55a, please find attached request for relief number 89-08 from the requirements of Section XI of the ASME Boiler and Pressure Vessel Code (with Addenda through Winter 1980). This request is being submitted due to the impracticality of examining a reactor coolant pump stud hole as required by the code. The attached request concerns the inservice inspection at Oconee Unit 3 being performed during the second ten year interval. Please review and approve this request prior to November 1, 1989 in support of the Unit 3 end of cycle 11 refueling outage currently scheduled to begin November 8, 1989.

Very truly yours,

  
Hal B. Tucker

PJN/58/td

Attachment

8910240019 891013  
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Q PNU

A047  
11

Document Control Desk

October 13, 1989

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Duke Power Company  
Oconee Nuclear Station  
Second Ten Year Interval  
Request for Relief No. 89-08

I. Component for which relief is requested:

- (a) Name and Number: 3A2 and 3B1 Reactor Coolant pump flange stud holes. (see attached drawings).
- (b) Function: Studs attach the pump motor stand to the pump and clamp the stuffing box in place.
- (c) ISI Class/Duke Class: ISI Class A/Duke Class A
- (d) IWV-2200 Valve Category: N/A

II. Reference Code requirement that has been determined to be impractical:

ASME Boiler and Pressure Vessel Code Section XI, 1980 Edition (with Addenda through Winter 1980) paragraph IWB-2420(b), which states that if flaw indications are evaluated in accordance with IWB-3122.4 and the component qualifies as acceptable for continued service, the areas containing such flaw indications shall be reexamined during the next three successive inspection periods.

During outage 9 as part of the 10 year Inservice Inspection Plan (as reported June 19, 1987 pursuant to IWA-6230), Reactor Coolant Pumps (RCP) 3A1 and 3A2 main flange studs and RCP 3B1 seal gland bolts received an ultrasonic examination. RCPs 3A1, 3A2, 3B1, and 3B2 flange surfaces and RCPs 3A1 and 3A2 main flange nuts, bushings, and washers received a visual examination. Reportable indications were found on RCPs 3A2 and 3B1 stud holes. An engineering evaluation has been performed and results indicate that damaged threads in stud holes are acceptable for continued operation of RCPs and 3A2 and 3B1. The results of the evaluation are based on an analysis which indicates that the RCPs are operable with 19 of 20 studs in place.

### III. Basis for requesting relief:

The damage to the stud hole threads is not due to cracks in the base metal or pitting caused by boric acid corrosion but instead more characteristic of damage done during the process of removing the studs. The damage to the threads on the 3A2 RCP casing is typically seen after removing a stuck stud. The damage on 3B1 RCP casing is typical of damage due to stud handling during removal and installation.

In addition, past experience has shown that it is not practical to remove a single stud without loosening all studs. Loosening all studs is necessary in order to allow some float in the motor stand and motor such that the stud to be removed will not bind. However, this would require removal of the pump in order to replace the flexatalic gasket which would then result in 25 person rem of additional unnecessary radiation exposure per pump. As such, performance of IWB-2420 required reexaminations during the next three inspection periods has been determined to be impractical.

### IV. Alternate Examination:

Each refueling outage the flange joint and surrounding area will be inspected for any accumulation of boron or visible stud degradation. If any degradation is noted, actual dimensional checks will be made of the studs. Additionally, when a RCP is disassembled for maintenance activities, all stud holes will be inspected as required by the Code. Stud holes will be examined during the third ten year interval as part of the Inservice Inspection program.

### V. Acceptability Of Proposed Alternate Testing With Respect To The Level Of Quality And Safety As Well As Public Health And Safety:

The proposed alternate examination will minimize the possibility of further damage to the stud hole threads during removal and replacement.

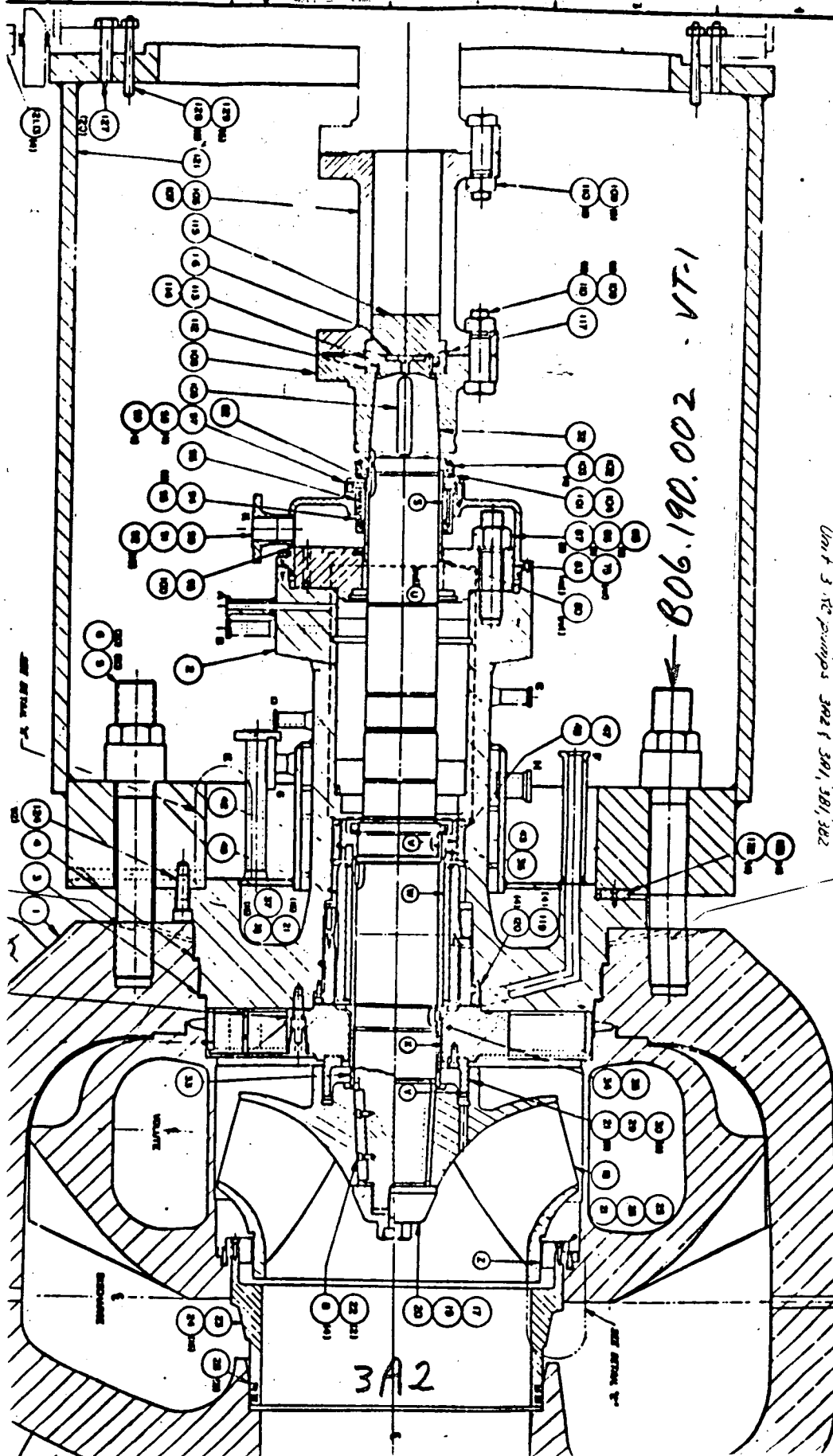
The IWB-2420 required reexaminations verify operability of the subject studs. Evaluations indicate that the RCPs are operable with 19 of 20 studs in place. The basis for the evaluation is that even if one of the twenty studs is removed, the remaining 19 studs will still remain below the code allowable stresses. As such, it is not necessary to take credit for the damaged stud hole. The alternate examinations assure that further stud degradation is detected and appropriate compensatory measures taken. Therefore, the proposed alternate examinations provide an acceptable level of quality and safety and will not endanger the health and safety of the public.

VI. Implementation Schedule:

Alternate examinations will commence during the Unit 3 end of cycle 11 refueling outage.

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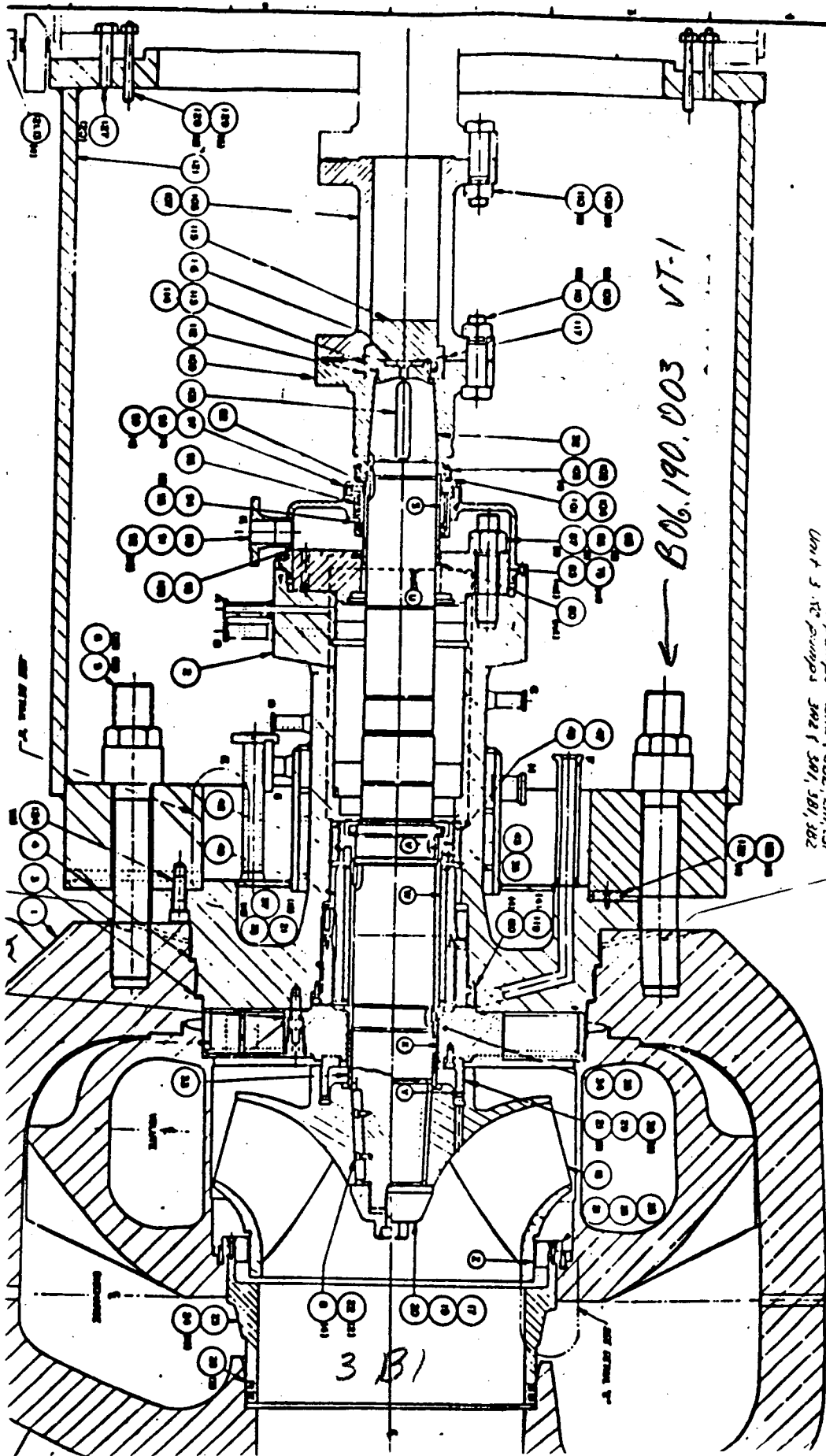
← B06.190.002 VT-1

For service Injection Top for  
Unit 2 & 3 pumps 282, 282, 281, 231  
Unit 3 382 pumps 382, 381, 381, 382

3A2

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For more Injection Top for  
Unit 2 & 3: pumps 282, 283, 284, 285  
Unit 3: pumps 302, 303, 304, 305, 306