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SUBJECT: Deficiency rept re possible operability loss of Borg-Warner valves w/limitorque series SMC operators. Identified valves will be reworked by thread staking procedure. Schedule to be provided after labor negotiations.

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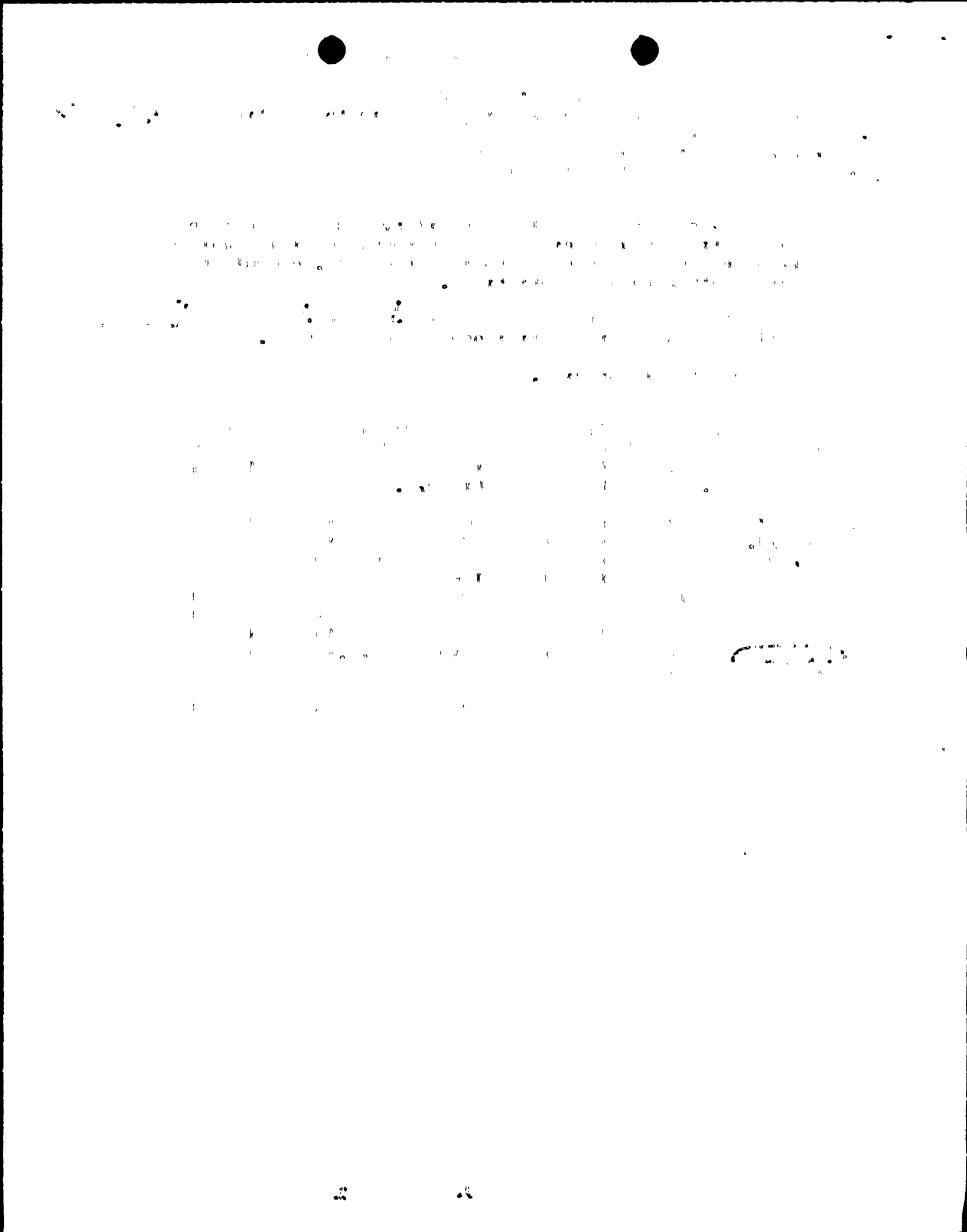
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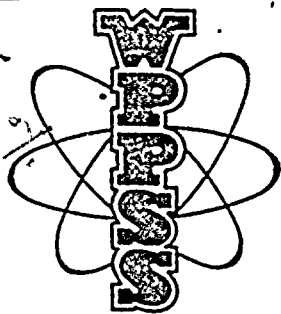
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G02-80-184

August 20, 1980

Docket No. 50-397

Nuclear Regulatory Commission
Region V
Suite 202, Walnut Creek Plaza
1900 N. California Blvd.
Walnut Creek, California 94596

Attention: Mr. R. H. Engelken, Director

Dear Mr. Engelken:

Subject: WPPSS Nuclear Project No. 2
Docket No. 50-397, CPPR-93
Reportable Deficiency - 10CFR50.55(e)

In accordance with the provisions of 10CFR50.55(e) your staff was informed by telephone on July 24, 1980, of a reportable deficiency relative to Borg-Warner valves with Limitorque Series SMC motor operators, which could result in the loss of valve operability. The deficiency was initially identified in a 10CFR21 Preliminary Notification Report to the Commission by the Borg-Warner Nuclear Valve Division on May 23, 1980.

Attached is our report on this deficiency.

Please contact us if you have additional questions.

very truly yours,

D. L. Renberger
Assistant Director,
Technology

DLR:HLB:cph

attachment

cc w/att: JR. Lewis - BPA
ND Lewis - EFSEC, Olympia
RE Snaith - B&R, NY
JJ Verderber, B&R, NY
B. Wood, NUS Corp.
~~V. Stelio~~ - NRC
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WNP-2 Files

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REPORTABLE DEFICIENCY AND CORRECTIVE ACTION
WPPSS NUCLEAR PROJECT NO. 2
POSSIBLE LOSS IN OPERABILITY OF BORG-WARNER-NDV VALVES
WITH LIMITORQUE SMC SERIES ACTUATORS

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
DOCKET NO. 50-397
LICENSE NO. CPPR-93

Description of Deficiency:

The reported deficiency involves the possible loosening of the stem nut on some Borg-Warner Nuclear Valve Division valves equipped with Limitorque SMC series operators. Loosening of the stem nut could result in disengagement of the connection between the valve and operator, rendering the valve inoperable.

The deficiency is similar to that reported by NRC IE Circular 79-04, however, the design of the connection between the valve and operator is not the same as described by the Circular and involves components provided by the valve manufacturer. The design, for which the deficiency is reported, applies to valves with threaded rising stems that rotate. The required axial movement of valve stem is provided by the interaction between the valve stem threads and a fixed insert nut installed in a flange fitting between the valve assembly mount flange and the operator. Rotation of the valve stem is provided by a splined stem nut which mates with splines in the hub of the operator drive gear. The stem nut, which has a square socket to mate with a squared section of the valve stem, is retained by a nut on the end of the valve stem. The stem nut moves axially with the valve stem as the valve opens or closes. Loosening or loss of the retainer nut could result in movement of the stem nut to a point that the connection between the valve and operator disengages.

Safety Implications:

A total of twenty-six (26) valves have been identified by the Borg-Warner Nuclear Valve Division as supplied for the WNP-2 Project and subject to the reported deficiency. Four (4) valves are employed in the safety related Residual Heat Removal (RHR) system. Sixteen (16) valves are used in non-safety related systems. Six (6) valves have no end use designation assigned at this time.

The valves in the RHR system serve a containment isolation function during accident conditions. Failure of the valves, in the manner described could result in a violation of containment integrity.

Corrective Action:

The Borg-Warner Nuclear Valve Division has developed a method of correcting the reported deficiency which involves staking the threads of the valve stem and retainer nut as indicated on Figure 1. This staking procedure has been tested with very satisfactory results.

All of the valves, which have been identified, will be reworked in accordance with Borg-Warner's recommendations. The rework will be supervised and checked by Borg-Warner personnel.

Completion of the required rework will be determined when current labor negotiations are concluded and the necessary craft labor is available at the WNP-2 Site. The expected rework completion date will be provided as soon as conditions permit this determination to be made.

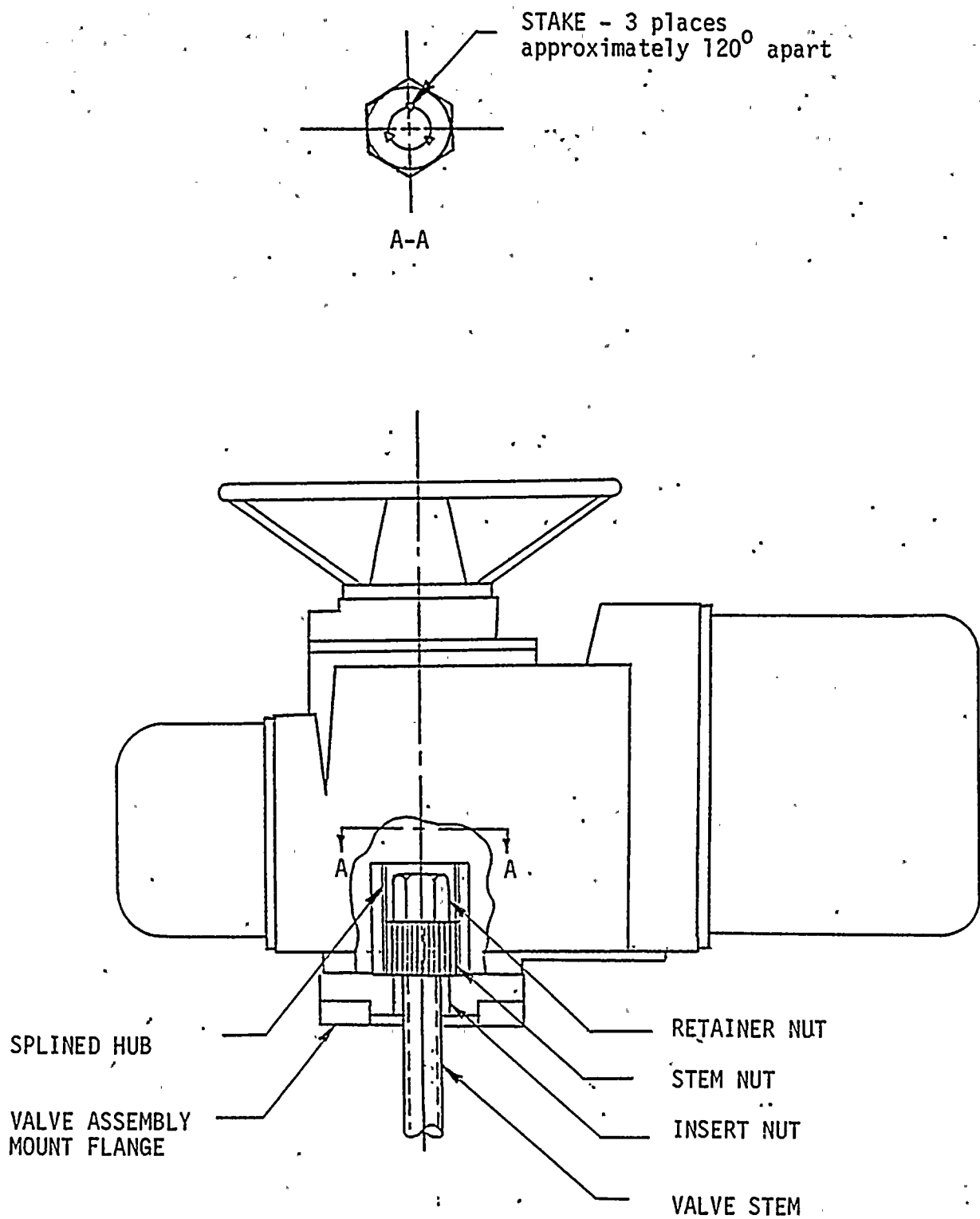


FIGURE 1.