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AMERICAN ELECTRIC POWER Service Corporation



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JOHN E. DOLAN  
Senior Executive Vice President  
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January 10, 1977

Donald C. Cook Nuclear Plant Unit Nos. 1 & 2  
Docket No. 50-315 and No. 50-316  
DPR No. 58 and CPPR No. 61

Mr. J. G. Keppler, Regional Director  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

This letter is in response to your letter of October 8, 1976, which was received on October 10, 1976, and which transmitted IE Circular No. 76-05 "Hydraulic Shock and Sway Suppressors-Maintenance of Bleed and Lock-up Velocities on ITT Grinnell's Model Nos. - Fig. 200 and Fig. 201, Catalog PH-74-R."

We hereby request a 60 day extension of time to respond to items 1, 2 and 3 for Unit No. 2 in the "Action to be taken by Licensee" section of your letter. This additional time is required due to a delay in obtaining all the necessary information for Unit No. 2 snubbers from ITT Grinnell.

The numbered paragraphs below are in response to items 1, 2 and 3 for Unit No. 1 in the "Action to be taken by Licensee" section of your letter.

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·ITEM 1 a.

Only three snubbers are currently installed on safety-related systems in Unit No. 1 having control valve serial numbers in the B-0001 through B-2000 range:

<u>Snubber</u> <u>Mark Number</u>	<u>Control Valve</u> <u>Serial Number</u>	<u>Piping System</u>
1-GCCW-S-278	B-0021-A1-D71C	Component Cooling Water
2-GMS-S-986	B-1021-A3-D71C	Main Steam
2-GMS-S-957	B-0646-A2-D71C	Residual Heat Removal

ITEM 1 b.

Mark No. 1-GCCW-S-278: This defective snubber was removed from its installed position in the component cooling water (CCW) system after having been discovered while performing a Technical Specification Surveillance Requirement 4.7.8.1.3 inspection. At that time a request was made of ITT Grinnell for the original test date and test results, however, this information was not available. For this reason, when the snubber was given to ITT Grinnell in April, 1976 it was given an "as received" test. This test was carried out on April 23, 1976 at ITT Grinnell's Warren, Ohio plant.

The results were: Locking Velocity 2.6 in./min. - tension  
5.4 in./min. - compression

Bleed Velocity 1.4 in./min. - tension  
2.1 in./min. - compression

The snubber was rebuilt the same day, then recalibrated and tested to the requirements of the AEPSC Specification DCC PM 402 QCN, Revision 2, Addendum C.

The results were: Locking Velocity 8.6 in./min. - tension  
8.6 in./min. - compression

Bleed Velocity    4.0 in./min. - tension  
                         4.0 in./min. - compression



Snubber 957 was returned to the plant and installed on the RHR System of Unit No. 1 the same day. There has been no problem encountered with this snubber since its installation.



There has been no regular or preventive maintenance of any kind performed on all of the above snubbers prior to or since they were recalibrated and tested by ITT Grinnell.

ITEM 1 c.

The current lock-up and bleed rates for the Unit No. 1 snubbers are defined in the AEPSC Specification DCC PM 402 QCN, Revision 2, Addendum C as follows:

"Paragraph 4.2.2 - The lock-up velocity and bleed rate of the snubber unit shall be determined. The piston lock-up velocity for all sizes shall be 8.0 in./min.,  $\pm 2.0$  in./min. The bleed rate under rated load for all sizes, except 5" x 5" size, shall be 4.0 in./min.,  $\pm 1.0$  in./min. For the size 5" x 5" snubber, the bleed rate under rated load shall be 2.5 in./min.,  $\pm 1.0$  in./min."

The American Electric Power Service Corporation specified the rates in the original construction/purchase specification. The rates the snubbers were required to meet in the original specification DCC PM 402 QCN, Revision 1, dated 11/29/72 were as follows:

"Paragraph 3.4.2 - The snubber piston during operation shall be free to move unrestricted in either direction, with the valves remaining fully open, for all fluid flow up to 0.25gpm. When the flow exceeds 0.25gpm and the valves close, the maximum piston rod displacement shall not exceed 0.25 inches, in going from zero to full load."

ITEM 1 d.

It is our intent to rely primarily on recalibration of the snubbers with special test equipment recently purchased for the Donald C. Cook Nuclear Plant from ITT Grinnell for that specific purpose. Recalibration will be to the requirements of the revision of specification DCC PM 402 QCN, in effect at the time of calibration. The current issue of this

specification does not permit a bleed rate of less than 2.0 in./min., except for the size 5" x 5" snubber for which ITT Grinnell recommended the specification of 1.5 in./min. as the lower bound under rated load.

ITEM 2

Documentation defining the lock-up and bleed velocities for the three Unit No. 1 snubbers is available in the Donald C. Cook Quality Assurance "Master File", the official repository for all QA/QC documentation.

ITEM 3

A plant maintenance procedure has not been written at this time. A number has been assigned (12 MHP 5021.001.028) in order to allow the procedure to be written following the January 1977 refueling shutdown. The current guidelines utilized for repair and testing of snubbers incorporate the provisions of various procedures supplied by ITT Grinnell which include:

- a. PHD 5434-1, a detailed procedure concerning the operation of the snubber test equipment and the testing of snubbers. This procedure has been reviewed and approved for use by AEPSC.
- b. Tear-down and rebuild procedures for the replacement of seals in the cylinder assemblies of various manufacturers utilized by ITT Grinnell in the snubbers supplied for Unit No. 1.
- c. Replacement Instructions for Control Valve seals in the Control Valve Assembly.

These will be used until a final plant procedure is written and approved.

Our course of action in the event that a snubber is found to be defective is dependent upon the nature of the defect. We have, in stock, certified ethylene propylene control valve thread seals and seal kits for cylinders of various sizes and manufacture. Such seals can be replaced





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through use of a Procedure Temporary Sheet and the appropriate ITT Grinnell teardown/rebuild procedure. The snubber is then tested to the lock-up and bleed requirements of specification DCC PM 402 QCN, Revision 2, Addendum C. This testing is accomplished through the use of the special test equipment supplied by ITT Grinnell for the purpose of recalibration to meet the required specifications.

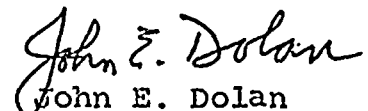
The Surveillance Test Procedure for the inspection of safety-related ITT Grinnell snubbers, 12 MHP 4030.STP.004, in April 1976 had a paragraph in Step 7.2.2 which permitted tightening of control valve seal nuts to stop minor leakage. The procedure stated that the valve screws must be maintained at their original settings. The result of Grinnell's "as-received" testing of Unit 1 snubbers during the April/May, 1976 rebuild program indicated that extreme care would be necessary if any tightening of the valve seal nuts was attempted. Accordingly, a Temporary Change Sheet No. 1 was issued at that time to specification 12 MHP 4030.STP.004. The Temporary Sheet stated:

"Do not tighten or otherwise move control valve seal nuts or adjustment screws as presently permitted in the third paragraph of Step 7.2.2."

The current specification 12 MHP 4030.STP.004, Revision 4 dated 1/3/77 has eliminated the provision for tightening the seal nuts.

At the present time, we do not have parts for the repair of locking and bleed valves. We have recently requested from ITT Grinnell a listing of control valve parts so that these items can also be stocked. If a defective control valve assembly is encountered, we will either replace the entire snubber with a spare unit, return the snubber to ITT Grinnell for repair, or purchase a replacement control valve assembly.

Very truly yours,

  
John E. Dolan

Senior Executive Vice President  
Engineering and Construction

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Mr. J. G. Keppler

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cc: Dr. E. Volgenau, Director I&E, U.S.N.R.C.  
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