RO

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

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Docket No. 50-220

Niagara Mohawk Power Corporation
ATTN: Mr. Philip D. Raymond
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Gentlemen:

Inspections of hydraulic shock suppressors (snubbers) as required by RO Bulletin 73-3 revealed that a large percentage of the seals in Bergen-Patterson units were defective. Reinspections in compliance with RO Bulletin 73-4 indicated that defects can recur in six weeks' time or less.

Two different seal materials have been used in Bergen-Patterson snubbers; a millable gum polyurethane which contains plasticizers and other additives and a molded polyurethane known to be free of these additives. It has been postulated that dissolving of the plasticizer into the silicone hydraulic fluid has caused seal shrinkage and deterioration. Therefore, millable gum polyurethane should not be used in hydraulic snubbers, except on an emergency basis.

The performance and reliability of unadulterated molded polyurethane in a reactor environment has not yet been established. Test data indicate that an incompatibility exists between molded polyurethane and the silicone fluid which may limit the inservice life of the molded material. The use of molded polyurethane seals should, therefore, be considered an interim repair until more data is available or an improved material is established.

Based on the above considerations, we require the following action be taken on all Bergen-Patterson snubbers installed on safety related systems after the shutdown required by RO Bulletin 73-4.

1. Snubbers Inaccessible During Reactor Operation

During the shutdown required by RO Bulletin 73-4, replace seal material in all snubbers inaccessible during reactor operation with material demonstrated to be compatible with the hydraulic

Inquiry 50-220

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fluid at the operating environment. (If such material is unavailable, the use of molded polyurethane known to be free of additives will be acceptable as an interim repair.) Reinspect these snubbers whenever the reactor is shutdown for 24 hours or longer and snubbers have not been inspected for 30 days, but in no event should the interval between inspections exceed 120 days. Repair defective units before returning to power operation. If unavailability of materials prevents the changeout of all inaccessible snubbers or dictates repairs with millable gum seals, only defective units need be repaired. Under these conditions, reinspect every 30 days until improved seal material is installed which should be accomplished at the earliest practical time.

2. Snubbers Accessible During Reactor Operation

Repair defective snubbers accessible during reactor operation as outlined in 1. above. Reinspect accessible snubbers every 30 days or less and repair defective units as needed.

During the required surveillance, inspect snubbers supplied by manufacturers other than Bergen-Patterson. Report the results of the inspections and corrective action taken to the Directorate of Licensing within 15 days after the inspection. This report should include for each manufacturer the number of snubbers inspected, identification of defective units, and corrective action taken, including specific description of materials used in your repair.

Bergen-Patterson is coordinating a development program to determine a long-term solution to the current snubber problem. Based on the results of this program, the results of your reinspections, and any other pertinent information available, submit to the Directorate of Licensing at an appropriate time, but within one year, your proposed program to improve snubber service life and reliability and proposed changes to your Technical Specifications describing a snubber surveillance program with basis.

We also request that you submit to us within 60 days after your next shutdown information describing snubber temperature and radiation environment at full power.

Sincerely,

Donald J. Skovholt

Donald J. Skovholt
Assistant Director for
Operating Reactors
Directorate of Licensing

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