

JUL 3 1984

Carolina Power and Light
H. B. Robinson Plant
ATTN: Mr. Rick Dayton
P. O. Box 790
Hartsville, South Carolina 29550

Gentlemen:

The Nuclear Regulatory Commission is in the process of preparing an information notice based on the recent failure of a steam generator hydraulic snubber at the H. B. Robinson Plant, Unit 2, due to the failure of a self-aligning ball bushing. The information notice is based on reports submitted by Baxter Fluidpower Group (Anker-Holth) and Telephone conversations with Carolina Power and Light, Baxter Fluidpower Group (Anker-holth), the Torrington Company, and the Roller Bearing Company of America.

A copy of the latest draft of this information notice is enclosed for your review and comment.

Comments, particularly those dealing with the facts presented in the information notice, received by August 6, 1984 will be considered in the final revision.

Sincerely,

Robert L. Baer, Chief
Engineering and Generic
Communications Branch
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

Enclosure: Draft IE Information Notice
No. 84-XX, "Down Rating of Self-Aligning
Ball Bushings Used in Snubbers"

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, DC 20555

August , 1984

IE INFORMATION NOTICE NO. 84-XX: DOWN RATING OF SELF-ALIGNING BALL BUSHINGS
USED IN SNUBBERS

Addressees:

All nuclear power facilities holding an operating license (OL) or a construction permit (CP).

Purpose:

This information notice is provided as a notification of a potentially significant problem pertaining to the down rating of self-aligning ball bushings used in both mechanical and hydraulic snubbers. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to preclude a similar problem occurring at their facilities. However, suggestions contained in this information notice do not constitute NRC requirements and, therefore, no specific action or written response is required.

Description of Circumstances:

On May 25, 1984, the Carolina Power and Light Company notified the NRC resident inspector of the failure of a steam generator hydraulic snubber at H. B. Robinson Plant Unit 2 to pass its operability testing at a rated load of 470,000 pounds (470 kips). One of the contributors to this failure was the failure of the self-aligning ball bushing at a static load of 412 kips. Bushing failure could prevent the snubber from properly aligning itself with the load and thus lead to failure of the snubber itself. At the time of manufacture in 1969, one of the 12 snubbers used at H. B. Robinson Plant Unit 2 had been successfully tested at its rate load of 470 kips. However, the snubbers had not been inservice tested since installation because they were categorized as being inaccessible. It was a recent change to the definition of inaccessible in the snubber technical specifications which prompted the inservice testing of these snubbers and the discovery of the failure.

In their June 5, 1984 10 CFR Part 21 report, Baxter Fluidpower Group (Anker-Holth), the snubber manufacturer, indicated that the rating for the self-aligning ball bushing was 899 kips at the time the snubbers were manufactured in 1969. The report continued by noting that subsequent to manufacture the bushing manufacturer, The Torrington Company, had revised their load rating downward to 300 kips for this model bushing. The report also indicated that the only other snubber with this bushing in it was a 500 kip model used at Point Beach Nuclear Plant, Units 1 and 2, and that the affected utility had been notified.

In their supplemental 10 CFR Part 21 report, Baxter Fluidpower Group (Anker-Holth) identified two other snubber models which may be affected by this down rating. They are an 800 kip model at Point Beach Nuclear Plant Units 1 and 2, and a 90 kip model at Prairie Island Nuclear Station Units 1 and 2. In both cases, the affected utilities have been notified.

Conversations with The Torrington Company indicated that this down rating of their self-aligning ball bushings took place in 1972 and that they had issued a notice of this to their primary customers. They indicated that this down rating had been across their entire product line and that it was due to taking a more conservative approach in considering the methods of use actually encountered in the industries they were servicing. Prior to this, the ratings had been predicated on their use in the aviation industry where the bushing's use more closely approached the ideal conditions used in determining the theoretical maximum load the bushings could carry. They also indicated that they had supplied self-aligning ball bushings to other snubber manufacturers, but that their records are not specific enough to permit them to determine which other nuclear facilities, if any, might be affected.

The conversations with The Torrington Company also indicated that at least one other self-aligning ball bushing manufacturer in the United States, Roller Bearing Company of America, had also down rated their bushings at approximately the same time. This was confirmed by conversations with the Roller Bearing Company of America who indicated that, as with The Torrington Company, their records were not specific enough to permit them to determine which nuclear facilities, if any, might have their bushings.

No written response to this information notice is required. If you have any questions about this matter, please contact the Regional Administrator of the appropriate NRC Regional Office, or this office.

Edward L. Jordan, Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

Technical Contact: R. J. Kiessel, IE
(301) 492-8119

Attachment:
List of Recently Issued IE Information Notices