



Public Service of New Hampshire

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May 4, 1983
SBN-506
T.F. Q2.2.2

United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

Attention: Mr. Richard W. Starostecki, Director
Division of Resident and Project Inspection

References: (a) Construction Permit CPPR-135 and CPPR-136, Docket
Nos. 50-443 and 50-444
(b) Telecon of August 5, 1982, H. E. Wingate (YAEC) to Eugene
Kelly (NRC Region I)
(c) PSNH Letter, dated September 2, 1982, "Interim
10CFR50.55(e) Report; Sheared Pinion Keys," J. DeVincentis
to R. W. Starostecki
(d) PSNH Letter, dated October 18, 1982, "Interim 10CFR50.55(e)
Report; Sheared Pinion Keys," J. DeVincentis to
R. W. Starostecki
(e) PSNH Letter, dated January 26, 1983, "Interim 10CFR50.55(e)
Report; Sheared Pinion Keys," J. DeVincentis to
R. W. Starostecki
(f) Westinghouse Letter, dated March 16, 1983, Re: Sheared
Pinion Keys in Limitorque SB-0-25 Motor Operators,
E. P. Rahe to R. C. DeYoung

Subject: Final 10CFR50.55(e) Report; Sheared Pinion Keys

Dear Sir:

In References (c), (d) and (e), we filed interim 10CFR50.55(e) reports
regarding sheared pinion keys in Limitorque Model SB-0-25 motor operators.

It has been determined that this item is reportable under 10CFR50.55(e).
The following information is provided per 10CFR50.55(e)(3) and is considered
to be the final report on this item:

Description of the Deficiency

In the course of performing field modifications/inspections on
Westinghouse supplied valves with Limitorque Model SB-0-25 motor operators at
another plant, sheared pinion keys were found on six of the operators. These
keys are used to secure the pinion gear to the motor shaft which transmits

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torque to the operator. A metallurgical evaluation of the failed pinion keys performed by Westinghouse indicated that they were of a low carbon steel rather than an available hardened alloy as noted in I&E Information Notice 81-08 which addressed key failures associated with the Limitorque SMB-4 motor operator. Westinghouse was unable to obtain sufficient information as to the adequacy of material properties of pinion keys in other motor operators supplied by Limitorque. The lack of specific information on pinion key material was the basis for concluding that other models of Limitorque motor operators could be affected.

Analysis of Safety Implications

Sheared pinion keys in Limitorque motor operators could result in failure of motor-operated valves to perform their intended safety function.

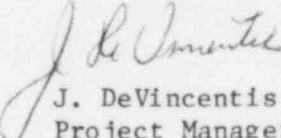
Corrective Action

Westinghouse and Limitorque have now completed an extensive investigation of this issue, and Westinghouse has determined [Reference (f)] that the potential for sheared keys is limited to Westinghouse Electro-Mechanical Division (WEMD) manufactured valves equipped with Limitorque Model SB-0-25 motor operators.

Although it has been determined that the unique circumstances resulting in key failure affect only the SB-0-25 motor operators on WEMD manufactured valves, WEMD has elected to replace the pinion keys on all SB-0 motor operators on WEMD manufactured valves.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY


J. DeVincentis
Project Manager

MHO/pf

cc: Atomic Safety and Licensing Board Service List

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