

SSINS No.: 6835
Accession No.
8202040130
IN 82-06

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

March 12, 1982

IE INFORMATION NOTICE NO. 82-06: FAILURE OF STEAM GENERATOR PRIMARY SIDE MANWAY
CLOSURE STUDS

Description of Circumstances:

The Nuclear Regulatory Commission (NRC) was notified by Maine Yankee Atomic Power Company and by Combustion Engineering (CE) that during routine disassembly of a steam generator primary side manway at Maine Yankee, 6 of the 20 manway closure studs failed and another 5 were found by ultrasonic testing to be cracked. These are 1½" x 10-inch studs of SA 540 grade B 24 alloy steel. The studs had been exposed to boric acid from a small primary coolant leak and to Furmanite sealing compound (primary grade) applied in an attempt to seal this leak. The studs exhibited evidence of surface corrosion attack possibly as a result of an interaction associated with stud preload, lubricant, Furmanite and primary coolant leakage environment. A metallurgical analysis to determine the failure mechanism is currently underway at CE. The entire set of studs on the affected steam generator (SG #2) have been replaced and an ultrasonic examination of all primary manway studs on steam generator units 1 and 3 is being performed. Further corrective actions are pending stud failure analysis and its applicability to other primary boundary closures.

In the last few years there have been a significant number of incidents of failed or severely degraded bolts and studs. Examples of the latter included primary coolant pump stud-bolts (Calvert Cliffs and Ft Calhoun) and steam generator primary manway closures studs (Oconee and ANO-1). The failures described were attributed to stress corrosion cracking and corrosion wastage of high strength studs that are difficult to detect.

The NRC has contacted the CE Regulatory Response Group and requested a review of the problem.

This IE information notice is provided as an early notification of a potentially significant matter that is still under review by the NRC staff. If NRC evaluation so indicates, further licensee action may be requested. In the interim, we expect that licensees will review this information for applicability to their facilities.

No written response to this information notice is requested. If you need additional information, please contact the Regional Administrator of the appropriate NRC Regional Office.

8202040130

IE Information Notice: 82-06
March 12, 1982

LISTING OF RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date Issued	Issued To
82-01	Auxiliary Feedwater Pump Lockout Resulting from Westinghouse W-2 Switch Circuit Modification	1/25/82	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
82-02	Westinghouse NBFDR Relay Failures in Reactor Protection Systems at Certain Nuclear Power Plants	1/27/82	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
80-32 Rev. 1	Clarification of Certain Requirements for Exclusive-Use Shipments of Radioactive Materials	2/12/82	All fuel facility, materials, and Part 50 licensees
82-01 Rev. 1	Auxiliary Feedwater Pump Lockout Resulting from Westinghouse W-2 Switch Circuit Modification	2/26/82	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
82-03	Environmental Tests of Electrical Terminal Blocks	3/04/82	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
82-04	Potential Deficiency of Certain AGASTAT E-7000	3/10/82	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)
82-05	Increasing Frequency of Drug-Related Incidents	3/10/82	All power reactor facilities with an Operating License (OL) or Construction Permit (CP)

Enclosure