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

September 26, 1980

IE Information Notice No. 80-34: BORON DILUTION OF REACTOR COOLANT DURING  
STEAM GENERATOR DECONTAMINATION

Description of Circumstances:

Recently two instances of boron dilution of the reactor coolant system have occurred. Both cases were a result of high pressure washing of the steam generator tube sheets for decontamination to reduce the radiation levels during eddy current testing and related steam generator work.

On May 29, 1980, Trojan Nuclear Plant miscalculated the excess boric acid required to offset the demineralized water used in washing the tube sheets. This resulted in the boron concentration of the primary coolant being reduced to less than the minimum required by the Technical Specifications. The dilution was, however, expected since the wash water was allowed to enter the reactor vessel through the nozzles.

On July 5, 1980, San Onofre Unit 1 inadvertently diluted the reactor coolant boron concentration when the high pressure demineralized flushing water leaked by a dislodged nozzle seal. The inflatable seals had been installed to prevent the non-borated water from entering the reactor. The resulting boron concentration was greater than required for shutdown margin, but the positive reactivity added was in excess of that allowed by the Technical Specifications.

This Information Notice is provided to identify potential problem areas involved with decontaminating specific areas of steam generators. It is expected that recipients will review the potential hazards involved and consider increased monitoring of 1) inflatable seal performance, 2) vessel level, and 3) boron concentration. Increasing the boron concentration of the primary system prior to performing any decontamination activities or using borated water for washing should also be considered.

It is expected that recipients will review this information for possible applicability to their facilities. No specific action or response is requested at this time. If you have any questions regarding this matter, please contact the Director of the appropriate Regional Office.

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RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
80-33	Determination of Teletherapy Timer Accuracy	9/15/80	All teletherapy (G3) licensees
80-32	Clarification of certain requirements for Exclusive-use shipments of radioactive materials	8/12/80	All NRC and agreement state licensees
80-31	Maloperation of Gould-Brown Boveri Type 480 volt type K-600S and K-DON 600S circuit breakers	8/27/80	All light water reactor facilities holding OLs or CPs
80-30	Potential for unacceptable interaction between the control rod drive scram function and non-essential control air at certain GE BWR facilities	8/19/80	All boiling water reactor facilities holding power reactor OLs or CPs.
80-29	Broken studs on Terry turbine steam inlet flange	8/7/80	All light water reactor facilities holding power reactor OLs or CPs*
Supplement to 80-06	Notification of significant events at operating power reactor facilities	7/29/80	All holders of reactor and near-term OL applicants
80-28	Prompt reporting of required information to NRC	6/13/80	All applicants for and holders of nuclear power reactor CPs
80-27	Degradation of reactor coolant pump studs	6/11/80	All pressurized water reactor facilities holding power reactor OLs or CPs
80-26	Evaluation of contractor QA programs	6/10/80	All Part 50 licensees

\* Operating Licenses or Construction Permits