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

April 22, 1985

IE INFORMATION NOTICE NO. 85-33: UNDERSIZED NOZZLE-TO-SHELL WELDED JOINTS IN TANKS AND HEAT EXCHANGERS CONSTRUCTED UNDER THE RULES OF THE ASME BOILER AND PRESSURE VESSEL CODE

Addressees:

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

Purpose:

This information notice is to provide addressees with information pertaining to undersized nozzle-to-shell welded joints in tanks and heat exchangers constructed under the rules of the ASME Boiler and Pressure Vessel Code. These observations were made at several nuclear power plant sites during NRC Construction Appraisal Team (CAT) inspections. It is expected that recipients will review the information for specific and generic applicability to their facilities and consider appropriate actions. However, the suggestions contained in this notice do not constitute NRC requirements; therefore, no specific action or response is required.

Description of Circumstances:

During the CAT inspections conducted at the River Bend, Shearon Harris, and Braidwood nuclear power projects, the NRC identified undersized nozzle-to-shell welded joints (ASME Category D joints) in tanks and heat exchangers manufactured by various vendors. Specifically, four main steam isolation valve air accumulator tanks were found to have undersized nozzle-to-shell joints at the River Bend plant; seven tanks were found to have undersized nozzle-to-shell weld reinforcements at the Shearon Harris Station; eight tanks and two heat exchangers were found to have undersized nozzle-to-shell weld reinforcements at Braidwood Station. These tanks and heat exchangers were Code stamped and certified as being constructed in accordance with the requirements of the ASME Code. The ASME Code, Section III (NX-3352.4) requires that nozzle-to-shell welded joints have reinforcement (t_c) of $0.7t_n$ or 1/4 inch, whichever is less, where t_n is the thickness of the penetrating part. Some of the inspected welded joints did not have the minimum weld reinforcement (t_c) required by the Code. Other joints had the minimum weld reinforcement (t_c) required by the Code, but were found to be undersized with respect to the sizes specified on the applicable construction drawings.

Discussion:

The NRC inspection program examines only a small sample of construction activities. The NRC CAT inspections conducted at nuclear power plant construction sites have indicated that tanks and heat exchangers have been installed at these facilities that do not have the weld reinforcements required by the ASME Code or do not follow the specifications of the construction drawings. As a result of these findings, the licensee of each affected facility has initiated reinspection actions to find out whether the installed components meet the design rules of NX-3352.4 of Section III of the ASME Code for Category D joints. Components that meet the design rules of the ASME Code but do not meet the weld reinforcement size specified on the applicable design drawings are being evaluated for adequacy.

No specific action or written response is required by this information notice. 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

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Attachment: List of Recently Issued IE Information Notices

Attachment 1
IN 85-33
April 22, 1985

LIST OF RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-32	Recent Engine Failures Of Emergency Diesel Generators	4/22/85	All power reactor facilities holding an OL or CP
85-31	Buildup Of Enriched Uranium In Ventilation Ducts And Associated Effluent Treatment Systems	4/19/85	All uranium fuel fabrication licensees
85-30	Microbiologically Induced Corrosion Of Containemnt Service Water System	4/19/85	All power reactor facilities holding an OL or CP
85-29	Use Of Unqualified Sources In Well Logging Applications	4/12/85	All well logging source licensees
85-03 Sup. 1	Separation Of Primary Reactor Coolant Pump Shaft And Impeller	4/9/85	All power reactor facilities holding an OL or CP
85-28	Partial Loss Of AC Power And Diesel Generator Degradation	4/9/85	All power reactor facilities holding an OL or CP
85-27	Notifications To The NRC Operations Center And Reporting Events In Licensee Event Reports	4/3/85	All power reactor facilities holding an OL or CP
85-26	Vacuum Relief System For Boiling Water Reactor Mark I And Mark II Containments	4/2/85	All BWR facilities having a Mark I or Mark II containment and holding an OL or CP
85-25	Consideration Of Thermal Conditions In The Design And Installation Of Supports For Diesel Generator Exhaust Silencers	4/2/85	All power reactor facilities holding an OL or CP

OL = Operating License
CP = Construction Permit