

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION  
WASHINGTON, D.C. 20555-0001

October 18, 2000

NRC INFORMATION NOTICE 2000-17: CRACK IN WELD AREA OF REACTOR COOLANT  
SYSTEM HOT LEG PIPING AT V. C. SUMMER

Addressees

All holders of operating licenses for nuclear power reactors except those who have ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to inform addressees of a crack in a weld in the A loop hot leg pipe in the reactor coolant system (RCS) at the V. C. Summer Nuclear Station.

It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On October 7, 2000, during a containment inspection after entering a refueling outage, the licensee identified a large quantity of boron on the floor and protruding from the air boot around the A loop RCS hot leg pipe.

On October 12, 2000, the licensee partially removed the air boot to determine the source of the leakage. A liquid penetrant test confirmed a 4-inch long circumferential, hairline crack in the first weld between the reactor vessel nozzle and the A loop hot leg piping approximately 3 feet from the reactor vessel. The licensee is continuing with their scheduled refueling outage activities. A full core offload was completed on October 17, 2000. The licensee does not plan to reload fuel until the hot leg pipe is repaired. The licensee has assembled a multidisciplinary team including experts from Westinghouse, the Electric Power Research Institute (EPRI), and other industry experts to conduct a root cause assessment and develop corrective actions.

The NRC has formed a multidisciplinary special inspection team to determine the adequacy of the licensee's previous inspections, confirm that the licensee has performed a technically adequate examination and analysis to determine the root cause, and to review the overall corrective action plan and the actions to be taken to address the condition.

ML003760993

Discussion

Based on preliminary information, the RCS piping is SA 376, type 304 stainless steel material with a 29-inch inside diameter and a 2 1/8-inch nominal thickness. The pipe-to-nozzle field weld is between the low alloy steel nozzle and the 304 stainless steel pipe. The low alloy steel nozzle was weld buttered with the shielded metal arc (SMA) process. The field weld was fabricated with inconel weld material using a combination gas tungsten arc (GTA) and the SMA process (See Attachment 1).

It is not yet known how long the hot leg had been leaking. The licensee did not see an elevated level of unidentified leakage during the last operating cycle. Additionally, no abnormal indication was detected by the reactor building radiation monitoring system during the cycle. The leak was only detected after the reactor was shut down and the licensee discovered boron on the containment building floor.

A supplement to this information notice will be issued once the root cause and extent of condition of the crack is determined.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please call or email one of the technical contacts listed below or contact the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

***/RA by Charles Petrone Acting For/***  
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and Non-Power Reactors Branch  
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Office of Nuclear Reactor Regulation

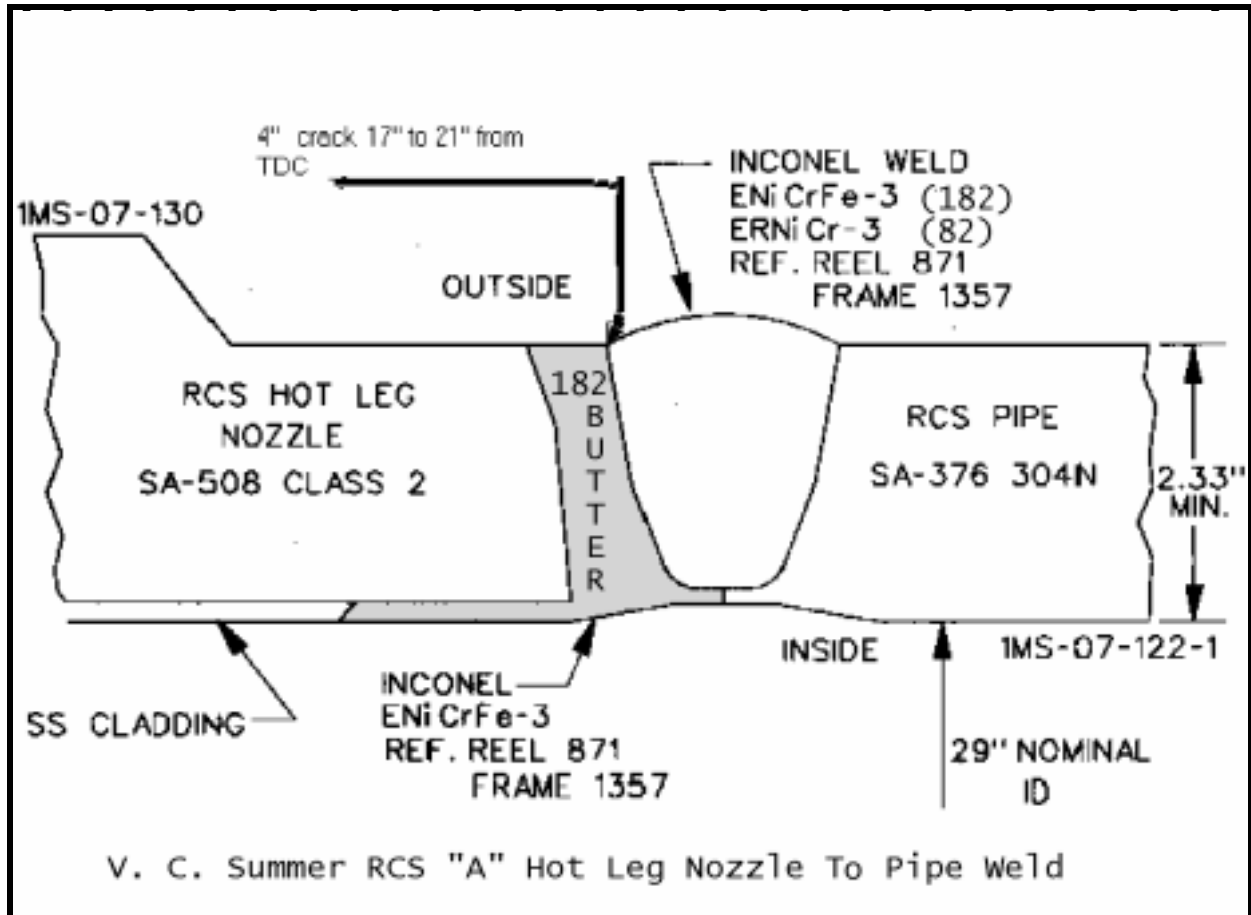
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Attachments:

1. Sketch of RCS Hot Leg Nozzle to Pipe Weld
2. List of Recently Issued NRC Information Notices



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\*See previous concurrence

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LIST OF RECENTLY ISSUED  
 NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
2000-16	Potential Hazards Due to Volatilization of Radionuclides	10/5/2000	All NRC licensees that process unsealed byproduct material
2000-15	Recent Events Resulting in Whole Body Exposures Exceeding Regulatory Limits	9/29/2000	All radiography licensees
2000-14	Non-Vital Bus Fault Leads to Fire and Loss of Offsite Power	9/27/2000	All holders of OL for nuclear power reactors
2000-13	Review of Refueling Outage Risk	9/27/2000	All holders of OL for nuclear power reactors
2000-12	Potential Degradation of Firefighter Primary Protective Garments	9/21/2000	All holders of licenses for nuclear power, research, and test reactors and fuel cycle facilities
2000-11	Licensee Responsibility for Quality Assurance Oversight of Contractor Activities Regarding Fabrication and Use of Spent Fuel Storage Cask Systems	8/7/2000	All U.S. NRC 10 CFR Part 50 and Part 72 licensees, and Part 72 Certificate of Compliance holders
2000-10	Recent Events Resulting in Extremity Exposures Exceeding Regulatory Limits	7/18/2000	All material licensees who prepare or use unsealed radioactive materials, radio-pharmaceuticals, or sealed sources for medical use or for research and development
95-03, Supp 2	Loss of Reactor Coolant Inventory and Potential Loss of Emergency Mitigation Functions While in a Shutdown Condition	7/03/2000	All holders of OL for nuclear power reactors except those who have ceased operations and have certified that fuel has been permanently removed from the reactor vessel