October 30, 2000

Mr. Valeri Tolstykh
Regulatory Activities Unit
Safety Assessment Section
Division of Nuclear Installation Safety
International Atomic Energy Agency
Wagramer Strasse 5
P.O. Box 100, A-1400
Vienna, Austria

Dear Mr. Tolstykh:

Enclosed is the following IRS report:

- CRACK IN WELD AREA OF REACTOR COOLANT SYSTEM HOT LEG PIPING AT V. C. SUMMER (NRC Information Notice 2000-17).

The report is being submitted in the following two media: (1) a hard copy of the input file for the AIRS database; and (2) a 3.5-inch HD diskette containing the input file for the AIRS database in Microsoft Word 6.0 format.

If you have any questions regarding these reports, please call Eric J. Benner of my staff. He can be reached at (301) 415-1171.

Sincerely,

/RA/
Ledyard B. Marsh, Chief
Events Assessment, Generic Communications
and Non-Power Reactors Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Enclosures: As stated

cc w/enclosures 1 and 2:
Mr. Lennart Carlsson
Nuclear Safety Division
Nuclear Energy Agency
Organization for Economic
Cooperation and Development
Le Seine Saint Germain
12, Boulevard des Iles
92130, Issy-les-Moulineaux, France

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INCIDENT REPORTING SYSTEM

IRS NO.	EVENT DATE	DATE RECEIVED
	2000/10/18	

EVENT TITLE

CRACK IN WELD AREA OF REACTOR COOLANT SYSTEM HOT LEG PIPING AT V. C. SUMMER (NRC Information Notice 2000-17,ML003760993)

COUNTRY	PLANT AND UNIT	REACTOR TYPE
USA	Generic	(BWR or PWR)

INITIAL STATUS	RATED POWER (MWe NET)
N/A	N/A

DESIGNER	1st COMMERCIAL OPERATION
(WEST)	N/A

ABSTRACT

This IRS report discusses 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. 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.

CRACK IN WELD AREA OF REACTOR COOLANT SYSTEM HOT LEG PIPING AT V. C. SUMMER (NRC Information Notice 2000-17)

Please refer to the dictionary of codes corresponding to each of the sections below and to the coding guidelines manual.

1.	**Reporting Categories:**	**1.2.2**		
2.	**Plant Status Prior to the Event:**	**2.3**		
3.	**Failed/Affected Systems:**	**3.AE**		
4.	**Failed/Affected Components:**	**4.2.6**		
5.	**Cause of the Event:**	**5.1.0**		
6.	**Effects on Operation:**	**6.0**		
7.	**Characteristics of the Incident:**	**7.2**		
8.	**Nature of Failure or Error:**	**8.3**		
9.	**Nature of Recovery Actions:**	**9.0**		

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 ⅓-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.

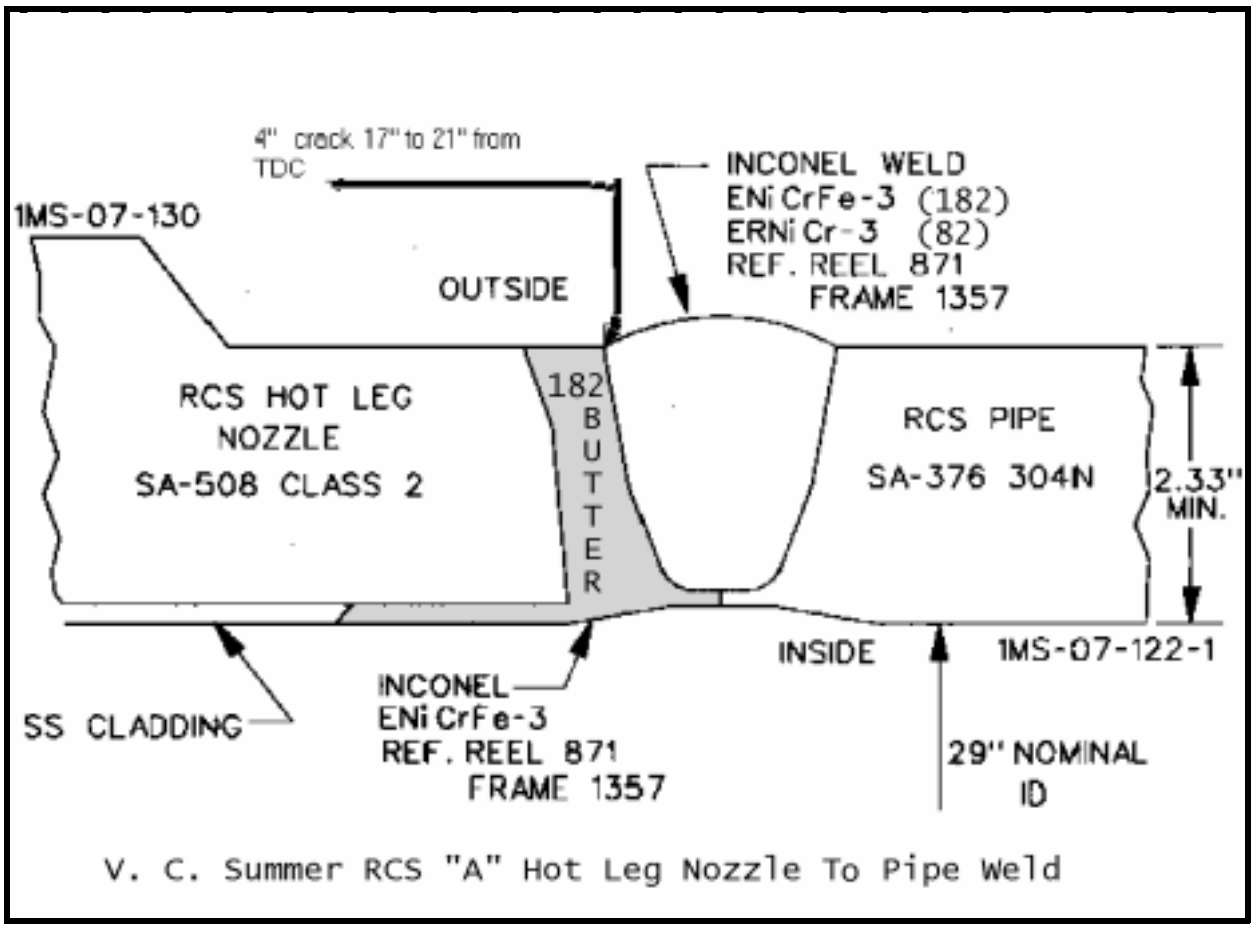
/RA by Charles Petrone Acting For/
Ledyard B. Marsh, Chief
Events Assessment, Generic Communications
and Non-Power Reactors Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Technical contacts: Jack Foster, NRR
301-415-3647
E-mail: jwf@nrc.gov

Billy Crowley, Region II
404-562-4612
E-mail: brc@nrc.gov

William Koo, NRR
301-415-2706
E-mail: whk@nrc.gov

Attachments:
1. Sketch of RCS Hot Leg Nozzle to Pipe Weld



V. C. Summer RCS "A" Hot Leg Nozzle To Pipe Weld