

CONTROL BLOCK:

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 (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	N	E	C	P	R	I	2	0	0	-	0	0	0	0	-	0	0	3	4	1	1	1	1	4			5
7	8	9					14	15										25	26					30	57	CAT	58	
		LICENSEE CODE						LICENSE NUMBER												LICENSE TYPE								

CON'T

0 1 7 8

REPORT SOURCE 1 6 0 5 0 0 0 2 9 8 7 0 7 1 0 8 3 8 0 7 2 0 8 3 9

60 61 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

[0] [2] [In preparation for ultrasonic examination (UT), weld crowns were being ground off of ten
[0] [3] [inch Core Spray piping. During such grinding, welds CSA-BJ-5 and 6 (ref. CNS ISI Dwg.
[0] [4] [1 & 2) were reported to be leaking. Subsequent liquid penetrant exams on these welds
[0] [5] [were negative. UT examination was performed and (IGSCC) crack indications were sized at
[0] [6] [50% through wall and near through wall in welds BJ-6 and 5, respectively. Also, re-
[0] [7] [jectable IGSCC indications were found in welds CSA-BJ-2, 9, 10, 12; CSB-BJ-2, 3, 4, 5,
[0] [8] [6, 9, 10 & 12. There were no adverse effects on public health and safety.

SYSTEM CODE [0] [9] 7 8		CAUSE CODE [S] [F] (11) 9 10		CAUSE SUBCODE [B] (12) 11 12		COMPONENT CODE [P] [I] [P] [E] [X] [X] (14) 13 14 15 16 17 18				COMP. SUBCODE [C] (15) 19 20		VALVE SUBCODE [Z] (16) 21 22	
(17) LER/RO REPORT NUMBER [8] [3] 23 24		EVENT YEAR [8] [3] 25 26		SEQUENTIAL REPORT NO. [0] [1] [1] 27 28 29		OCCURRENCE CODE [0] [1] 30 31		REPORT TYPE [T] 32 33		REVISION NO. [0] 34 35			
ACTION TAKEN [D] (18) 36 37		FUTURE ACTION [C] (19) 38 39		EFFECT ON PLANT [C] (20) 40 41		SHUTDOWN METHOD [Z] (21) 42 43		HOURS (22) [0] [0] [0] [0] 44 45 46 47		ATTACHMENT SUBMITTED [Y] (23) 48 49		NPRO-4 FORM SUB [Y] (24) 50 51	
PRIME COMP. SUPPLIER [A] (25) 52 53		COMPONENT MANUFACTURER [A] [5] [1] [0] (26) 54 55 56 57											

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 All rejectable indications found in subject 10" CS piping are due to Intergranular

1 1 Stress Corrosion Cracking (IGSCC). Affected welds will be repaired by weld overlay

1 2 methods. Piping will be replaced in conjunction with recirculation and reactor water

1 3 cleanup piping replacement.

7 8 9

FACILITY STATUS			% POWER			OTHER STATUS			METHOD OF DISCOVERY			DISCOVERY DESCRIPTION		
1	5	H	28	0	0	0	29	NA	C	31	Volumetric Examination			
7	8	9		10	11	12	13	14	15	16	17	18	19	

ACTIVITY CONTENT
RELEASED OF RELEASE AMOUNT OF ACTIVITY (35) LOCATION OF RELEASE (36)

1 6 Z 33 Z 34 NA NA

7 8 9 10 11 44 45 46 80

PERSONNEL EXPOSURES									
NUMBER			TYPE	DESCRIPTION					
1	7	000	(37) Z	(38) NA					

PERSONNEL INJURIES										80		
NUMBER				DESCRIPTION								
1	2	3	4	5	6	7	8	9	10	11	12	
		0	0	0	40	NA						

		LOSS OF OR DAMAGE TO FACILITY		
		TYPE	DESCRIPTION	(43)
I	9	Z	(47) NA	
		8308010381 830720		

IE29

PUBLICITY
 PUBLISHED DESCRIPTION (45) NA
 2 0 N 44
 H 3 10

8308010391 830720
PDR ADCK 05000298
S PDR

NRC USE ONLY

NAME OF PREPARER..... Scott S. Freborg

PHONE 402-825-3811

017-226

GENERAL ELECTRIC

DATE: 2-4-76	DESIGNED BY: H. P.
TITLE: CORE SPRAY LOOP - B	APPROVED BY: C
REFERENCE: JELCO ISO: 2501-1	REVISION NUMBER:

•

Weld

⌈

Circumferential Weld

⌈

Long Seam Weld

○

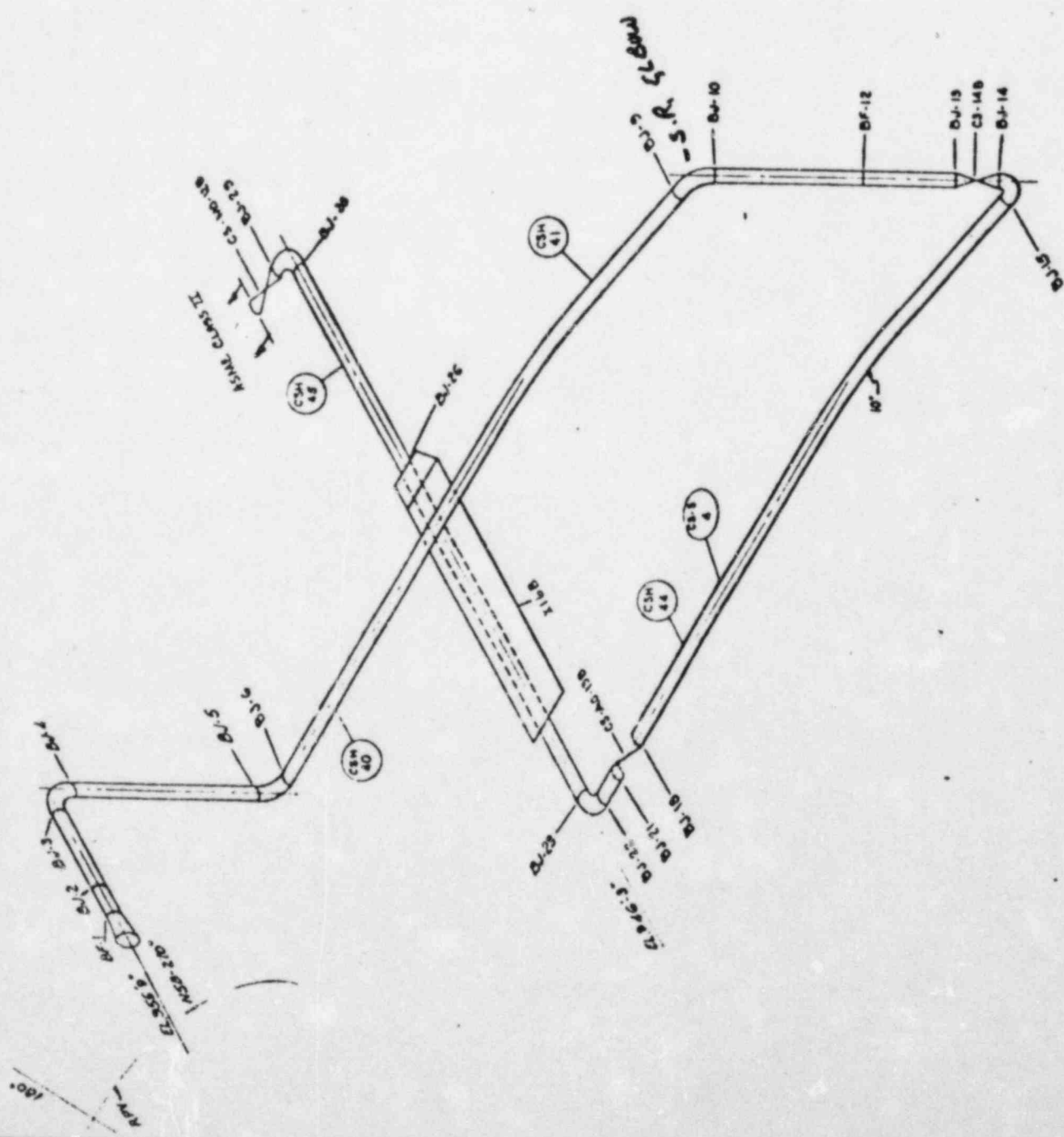
Hanger Location and Number (B&Z Category)

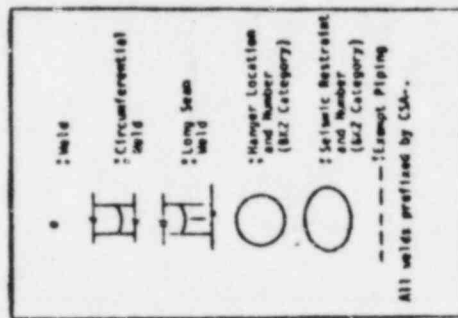
○

Seismic Restraint and Number (B&Z Category)

Isomax Piping

All welds prefilled by CSB.





GENERAL ELECTRIC		APPROVED BY: <i>116</i>		DESIGNED BY: J. D.
MODEL: NONE		DATE: 4-5-78		APPROVED: C
TITLES				
CORE SPRAY LOOP-A				
COOPER NUCLEAR STATION				
REFERENCES				
JELCO #001: 2501-1				
JELCO #002: 2502-1				



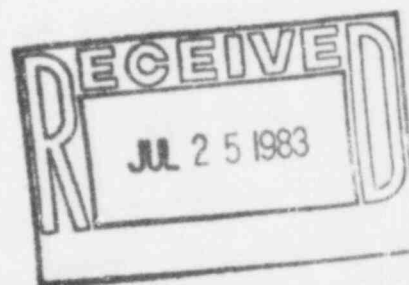
Nebraska Public Power District

COOPER NUCLEAR STATION
P.O. BOX 98, BROWNVILLE, NEBRASKA 68321
TELEPHONE (402) 825-3811

CNSS830452

July 20, 1983

Mr. John T. Collins, Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76011



Dear Sir:

This report is submitted in accordance with Section 6.5.2.A of the Technical Specifications for Cooper Nuclear Station and discusses a reportable occurrence that was discovered and promptly reported on July 10, 1983. This letter provides follow-up information to the written notification which was submitted on July 11, 1983. A licensee event report form is also enclosed.

Report No.: 50-298-83-11
Report Date: July 20, 1983
Occurrence Date: July 10, 1983
Facility: Cooper Nuclear Station
Brownville, Nebraska 68321

Identification of Occurrence:

A condition was discovered which indicated an abnormal degradation of the Class IN Core Spray (CS) system pressure boundary inside primary containment.

Conditions Prior to Occurrence:

The reactor was in the refueling mode of operation.

Description of Occurrence:

Ultrasonic testing (UT) of welds in the ten inch Type 304 stainless steel CS piping for potential Intergranular Stress Corrosion Cracking (IGSCC) was conducted following the discovery of extensive IGSCC in Reactor Water Cleanup piping at Cooper Nuclear Station (reference Report 50-298-83-09). As a result of the UT performed, rejectable indications were found in welds CSA-BJ-2, 5, 6, 9, 10, 12; CSB-BJ-2, 3, 4, 5, 6, 9, 10, 12 (reference CNS ISI Dwgs. 1 & 2). Welds CSA-BJ-5 and 6 were initially reported to be leaking.

Designation of Apparent Cause of Occurrence:

The mode of failure in welds CSA-BJ-2, 5, 6, 9, 10, 12; CSB-BJ-2, 3, 4, 5, 6, 9, 10 and 12 is IGSCC.

IE-29

Analysis of Occurrence:

The function of the Core Spray system is to provide a redundant means for the removal of decay heat from the core following a loss of coolant accident. This system also operates in conjunction with the Low Pressure Coolant Injection system.

All examinations were conducted with a UT procedure qualified at the Electric Power Research Institute (EPRI) Non-Destructive Examination (NDE) Center in Charlotte, NC in accordance with IEB 83-02. All examiners and equipment were qualified either at the EPRI NDE Center or at Cooper Nuclear Station with Nine Mile Point recirculation piping specimens exhibiting IGSCC.

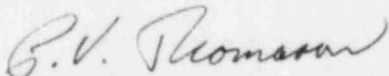
The subject ten inch CS welds were scheduled for examination after finding IGSCC in RWCU piping. Welds CSA-BJ-5 and 6 were visually observed to be leaking by maintenance personnel who were grinding the weld crowns off in preparation for UT inspection. However, the subsequent UT inspection showed that the cracks were 50% through wall and near through wall in welds CSA-BJ-6 and 5, respectively. These UT results were verified by two independent UT inspection teams. Subsequent liquid penetrant exams of each weld failed to reveal the presence of cracks. It is recognized that the grinding performed on the BJ-5 weld crown could have sealed an existing through wall crack. It is questionable, however, whether or not weld BJ-6 was actually leaking. For stress and weld overlay analysis purposes, the actual as found UT data will be used.

The reactor was in the refueling mode of operation when this event occurred. This occurrence presented no adverse consequences concerning public health and safety.

Corrective Action:

All welds with rejectable indications are currently being prepared for weld overlay repair. Core Spray piping will be replaced in conjunction with Reactor Recirculation and Reactor Water Cleanup piping replacement, during a future outage.

Sincerely,



P. V. Thomason
Division Manager of
Nuclear Operations
Cooper Nuclear Station

PVT:SSF:lb
Attach.