NRC FORM 366 (7-77)

U.S. NUCLEAR REGULATORY COMMISSION

LER 79-008/03X-1 Update Report - Previous Report Date 5/7/79

LICENSEE EVENT REPORT

(CAR 1218)

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

Line	Field	Value
01	Licensee Code (2)	N Y R E G 1
01	License Number (3)	0 0 - 0 0 0 0 0 - 0 0
01	License Type (4)	4 1 1 1 1
01	CAT (5)	
CON'T 01	Report Source (6)	L
01	Docket Number (7)	0 5 0 0 0 2 4 4
01	Event Date (8)	0 4 0 6 7 9
01	Report Date (9)	0 8 2 1 7 9

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 During maintenance on boric acid flow control valve leaks were noted on valve outlet
03 1" nipple. (T.S. 6.9.2.b.(4)). Two flow paths from boric acid tanks to RCS were
04 verified. Nipple was replaced with sch 40 nipple. Later, nipples, check valve and
05 coupling from control valve to coupling were replaced.
06
07
08

System Code (11)	Cause Code (12)	Cause Subcode (13)	Component Code (14)	Comp. Subcode (15)	Valve Subcode (16)
P C	E	C	P I P E X X	A	Z

LER/RO REPORT NUMBER (17)

Event Year		Sequential Report No.		Occurrence Code	Report Type		Revision No.
7 9	—	0 0 8	/	0 3	X	—	1

Action Taken (18)	Future Action (19)	Effect on Plant (20)	Shutdown Method (21)	Hours (22)	Attachment Submitted (23)	NPRD-4 Form Sub. (24)	Prime Comp. Supplier (25)	Component Manufacturer (26)
C	C	Z	Z	0 0 0 0	Y	N	N	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 Severe external caustic pitting probably started process causing leaks. Metallurgical
11 analysis identified this combined with throughwall chloride stress corrosion cracking.
12 The 1" nipple is 3½" long sch 10 SS, heat traced, normal operating pressure 100 psig.
13 Other heat traced piping areas involving similar conditions examined; no problems
14 found. Actions to minimize caustics and chlorides on pipe due to insulation, heat trace and other materials are being taken.

Line	Facility Status (28)	% Power (29)	Other Status (30)	Method of Discovery (31)	Discovery Description (32)
15	E	0 9 2	NA	A	Noticed during maintenance on adjacent valve

Line	Activity Released (33)	Content of Release (34)	Amount of Activity (35)	Location of Release (36)
16	Z	Z	NA	NA

PERSONNEL EXPOSURES

Line	Number (37)	Type (38)	Description (39)
17	0 0 0	Z	NA

PERSONNEL INJURIES

Line	Number (40)	Description (41)
18	0 0 0	NA

LOSS OF OR DAMAGE TO FACILITY (43)

Line	Type (42)	Description
19	Z	NA

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PUBLICITY

Line	Issued (44)	Description (45)	NRC Use Only
20	N	NA	

NAME OF PREPARER S. Spector PHONE: 716/546-2700, ext. 291-215

917-926

Attachment to LER 79-008/03X-1
Rochester Gas and Electric Corporation
R. E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

While performing maintenance on boric acid flow control valve FCV-110A, a leak was noted on the adjacent piping. Two flow paths from the boric acid tanks to the Reactor Coolant System were verified.

The leaking pipe section was a $3\frac{1}{2}$" long 1" schedule 10 stainless steel. It is heat traced and normal operating pressure is 100 psig. The external surface exhibited numerous deep pitting holes. The nipple was replaced, and later the nipple, adjacent check valve, nipple and coupling were replaced.

Metallurgical analysis has identified the mechanism causing the leaks to be severe caustic pitting combined with throughwall chloride stress corrosion cracking. Seventeen sections of heat traced stainless steel piping, containing varying concentrations of boric acid, have been randomly selected for external visual inspection to determine the extent of the problem. Particular interest was given to areas of high stress and areas that may have had numerous wetting/drying cycles due to accidental spills or leaking valves. These inspections revealed that all the piping was in excellent condition, with no signs of this phenomenon.

These findings indicate that local external causes probably initiated this process, and the replacement of piping, valve and fittings in this area should resolve the problem. Actions to further minimize chloride and caustics on the piping due to insulation, heat tracing and other materials are being taken.