

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Browns Ferry - Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 9 6	PAGE (3) 1 OF 0 2
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TITLE (4)
Jet Pump Instrument Nozzle Cracking

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																																																																																															
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)																																																																																													
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LICENSEE CONTACT FOR THIS LER (12)

NAME David L. Smith	TELEPHONE NUMBER AREA CODE 2 0 5 7 2 9 1 - 0 8 6 5
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

Based on information received from a Nuclear Regulatory Commission (NRC) publication "Inside NRC," the Tennessee Valley Authority (TVA) inspected 10 additional welds on the jet pump instrument nozzles. Of these, two welds were determined to need repair. These welds will be repaired by the weld overlay procedure to be completed prior to unit startup. TVA has an inspection plan which is carried out during refueling outages for identifying defective welds. These additional welds will be examined in upcoming units 1 and 2 refueling outages.

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IE/QASIP/VPB
RM/DDAMI/MB

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

During normal operation unit 1 was operating at 95 percent, unit 2 at 59 percent, and unit 3 was in a refueling outage. Only unit 3 was affected by this event.

Additional welds were inspected on the jet pump instrument nozzles (NZL) based on information received via a Nuclear Regulatory Commission (NRC) publication "Inside NRC." Ten welds were examined and two were determined to need weld repair. "Weld overlay" repairs on both nozzles will be complete prior to returning the unit to operating status. These two 4-inch reducer "safe-end" welds had axial indications up to 82 percent through wall in the base metal. One of the "safe ends" has two indications visible from the outside. These two welds are suspected to be a product of intergranular stress corrosion cracking due to the "safe ends" being moderately sensitized.

TVA is presently in an inspection program to ultrasonically test all twelve recirculation reactor vessel (RPV) penetrations (PEN) for indications of intergranular stress corrosion cracking. Metallography (acid etching) will be done on two out of the ten recirculation discharge reactor vessel penetrations and on both of the inlet penetrations. The jet pump instrument nozzle welds will be inspected during the upcoming units 1 and 2 refueling outages (unit 2 refueling outage - September 1984), and depending on the results of the unit 3 ultrasonic test inspection program, a decision will be made on the extent of units 1 and 2 ultrasonic test inspections that will be needed. If an opportunity of a short outage presents itself prior to the next refueling outage, unit 1 will be checked out at that time.

A contributing factor in this issue may be that units 2 and 3 were procured from Ishikawajima-Harima Heavy Industry Company, Ltd., a Japanese vendor, while unit 1 was bought from Coulter Steel and Forging Co. The certified material test reports from the units 2 and 3 vessel penetrations show a higher carbon content than those of unit 1; thus also pointing to more susceptibility for sensitization areas.

If the cracked welds had failed during normal operation, a minimum of reactor coolant would be lost because these welds were on a 4-inch reducer to the jet pump instrument nozzle "safe-end" and the penetration has twelve 1-inch instrument lines inside it. These instrument lines have .004 tolerance between themselves and the 4-inch penetration. Therefore, a minimum flow would have been released with the drywell sump pumps unidentified leakage alerting the licensed unit operator to the line break. Since the unit is analyzed for a loss of coolant accident for a 24-inch line, these two jet pump instrument nozzle breaks would be negligible.

The above mentioned inspections were performed on units 1 and 3 and no new indications were found. Unit 2 will be examined to the same extent as units 1 and 3.

This event is deemed Part 21 reportable. The jet pump instrument nozzles were furnished by Ishikawajima-Harima Heavy Industry Company, Ltd.

Previous similar events - BFRO-50-259/83-23; -260/82-40; -296/79-19

Responsible Plant Section - N/A

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

Browns Ferry Nuclear Plant
P. O. Box 2000
Decatur, Alabama 35602

August 17, 1984

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 3 - DOCKET
NO. 50-296 - FACILITY OPERATING LICENSE DPR-68 - REPORTABLE OCCURRENCE
REPORT BFRO-50-296/84006 R2

The enclosed updated report provides followup information concerning jet
pump instrument nozzle cracking. This report was previously reported in
accordance with 10 CFR 50.73(a)(2)(ii).

Very truly yours,

TENNESSEE VALLEY AUTHORITY



G. T. Jones
Plant Manager
Browns Ferry Nuclear Plant

Enclosure

cc (Enclosure):
Regional Administrator
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
101 Marietta Street, Suite 2900
Atlanta, GA 30303

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, GA 30339

NRC Resident Inspector, BFN

ADD: IE/DEAR/SECY
IE/PQAAP/CUSPS
IE/OQAAP/VPB
RM/DDMI/MEB

IE22
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