(7-77)

LER 78-19/03L-0

LICENSEE EVENT REPORT

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

01 | M A Y K R 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | (5)

LICENSEE CODE | LICENSE NUMBER | LICENSE TYPE | CAT

CON'T

01 | REPORT SOURCE L (6) | 0 5 0 0 0 0 2 9 (7) | 0 8 0 4 7 8 (8) | 0 9 0 1 7 8 (9)

DOCKET NUMBER | EVENT DATE | REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 See attached narrative.

03

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SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
Z Z (11)	X (12)	Z (13)	Z Z Z Z Z Z (14)	Z (15)	Z (16)

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
7 8	—	0 1 9	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
X (18)	Z (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	Z (25)	Z 9 9 9 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 See attached narrative.

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	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
15	X (28)	0 0 0 (29)	Plant Startup	Z (31)	Routine Sample

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
16	Z (33)	Z (34)	N/A	N/A

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
17	0 0 0 (37)	Z (38)	N/A

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
18	0 0 0 (40)	N/A

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
19	Z (42)	N/A

PUBLICITY

	ISSUED	DESCRIPTION (45)
20	Z (44)	N/A

NRC USE ONLY

7809110023

NAME OF PREPARER R. L. Boutwell PHONE: 413-625-6140

LER 78-19/03L-0
Yankee Atomic Electric Company
Yankee - Rowe
050-029

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES

During an approximate seven hour unscheduled shutdown, the dose equivalent Iodine-131 concentration of the primary coolant system exceeded 1.0 μCi/gram Dose Equivalent I-131.

The reactor was operating at approximately 100% power 48 hours prior to the shutdown. Normal cleanup flow through the primary coolant purification demineralizer was about 25 gpm. There were no degassing operations prior to or during the shutdown.

The dose equivalent iodine concentration exceed 1.0 μCi/gram for one continuous interval of eight hours. The maximum concentration measured was 1.4 μCi/gram D.E. I-131 approximately 5 hours after shutdown. The attached table summarizes the primary coolant specific activities during the period.

During the event, all plant systems functioned normally. There was no reduction in the integrity of the systems which contained the fission products. Thus, there was no adverse affect on the public health and safety.

This LER is essentially identical to that described in LER 78-03/03L-0.

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS

The root cause of the problem is assumed to be a cladding defect in a single fuel rod from a second cycle Exxon Nuclear Company fuel assembly.

This possible defect was suspected and evaluated during the 1977 Core XII refueling outage. It is suspected that the cause of the defect is the failure of the welded end cap of one fuel rod. The possibility of a cladding defect, and the consequences during subsequent power operation were evaluated by Yankee and by Exxon Nuclear Company. Their report, XN-NF-77-33, predicted fission product concentration in the primary coolant as a result of a single gross cladding defect. Their predictions agreed with those of Yankee's, and, in general, with the measured fission product concentrations in the primary coolant during the first eleven months of operation.

So called spikes are a well known phenomenon associated with rapid changes in reactor thermal power. In order to minimize reoccurrence of the problem during Core XIII, reactor power will be adjusted gradually.

It is believed that the suspected defective fuel rod is contained in a second cycle assembly and will be removed during the Core XIII, XIV refueling, scheduled for October 1978.

This event was reviewed by the Plant Operational Review Committee at Meeting No. 78-56 on August 18, 1978, with no additional comments or recommendations.

DATE/TIME/CONDITIONS			I-131 µCi/gram	I-133 µCi/gram	D.E. I-131 µCi/gram	Xe-133 µCi/gram
8/3/78	0800	100% RTP	0.05	0.06	0.07	0.03
8/4/78	0300	Plant Scram				
8/4/78	0500	0% RTP	0.6	0.7	0.7	0.9
8/4/78	0800	0% RTP	1.05	1.0	1.4	2.2
8/4/78	1000	Startup	0.9	0.9	1.2	1.5
8/4/78	1200	26% RTP	0.9	0.8	1.1	2.1
8/4/78	1500	26% RTP	0.7	0.6	0.8	2.8
8/4/78	1800	41% RTP	0.6	0.4	0.7	1.0
8/5/78	1300	100% RTP	0.2	0.1	0.25	2.5
8/7/78	0900	100% RTP	0.1	0.1	0.1	1.1

FUEL BURN UP

First Cycle Fuel 10,346 MWD/MTU

Second Cycle Fuel 25,225 MWD/MTU

YANKEE ATOMIC ELECTRIC COMPANY

Rowe, Massachusetts 01367

September 7, 1978

Mr. B. H. Grier, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Subject: Reportable Occurrence 50-29/78-21/03L-0
Primary Vent Stack Radiation Monitor-Iodine
Channel Failure

Dear Mr. Grier:

In accordance with Technical Specifications, Section 6.9.4.b, the attached Licensee Event Report is hereby submitted.

Very truly yours,

Herbert A. Autio

Herbert A. Autio
Plant Superintendent

RLB/mid

Enclosure:

cc: [30] Director, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

[3] Director, Office of Management Information & Program Control
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RT: 17-R-04-013
IMS: D-06-01-01
I-05-01-01

Dupe

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