

LICENSEE EVENT REPORT

CONTROL BLOCK:

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 (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

8	9	M	N	P	I	N	2	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				

UN'T

REPORT SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

7 8 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

0 1 L 6 0 5 0 0 0 3 0 6 7 0 4 1 6 8 3 8 0 5 1 6 8 3 9

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | Following a reactor shutdown, a spike occurred in RCS activity up to

03 | 3.26 $\mu\text{Ci/gm}$ Dose Equivalent I-131. Recent similar event was RO 82-16.

04 | See attachment.

0 5 _____

06 _____

07 _____

08 _____

7 8

SYSTEM CODE
Z Z (11)

CAUSE CODE
X (12)

CAUSE SUBCODE
Z (13)

COMPONENT CODE
Z Z Z Z Z Z (14)

COMP SUBCODE
Z (15)

VALVE SUBCODE
Z (16)

(17) LER/RO REPORT NUMBER [EVENT YEAR
 8 3
 21 22
 23
 SEQUENTIAL REPORT NO. 0 0 9
 24 25 26
 27
 OCCURRENCE CODE 0 3
 28 29
 REPORT TYPE L
 30
 31
 REVISION NO. 0
 32

ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS				ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER				
X		X		Z		Z		0	0	0	0	Y		N		Z		Z	9	9	9	
33	18	34	19	35	20	36	21	37			40	41	23	42	24	43	25	44			47	26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1	0	Washout of fission products from existing fuel pin defects following reactor
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1 1 | shutdown and RCS cooldown and depressurization. See attachment.

1 2 _____

1 3

1	4	
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7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

FACILITY STATUS (1) 5 (28) G % POWER (29) 0 0 0 OTHER STATUS (30) NA METHOD OF DISCOVERY (31) B DISCOVERY DESCRIPTION (32) Routine sampling

ACTIVITY CONTENT
RELEASED OF RELEASE

1 6 Z 33 Z 34 NA

7 8 9 10 11 44

AMOUNT OF ACTIVITY (35)

NA

45 46 80

LOCATION OF RELEASE (36)

PERSONNEL EXPOSURES									
NUMBER			TYPE	DESCRIPTION					
1	7	0	0	0	(37)	Z	(38)	NA	(39)

PERSONNEL INJURIES		NUMBER		DESCRIPTION	
1	8	0	0	0	40 NA

1		2		3		4		5		6		7		8		9		10		11		12	
LOSS OF OR DAMAGE TO FACILITY																							
TYPE		DESCRIPTION																					
1	9	Z	42	NA																			
7	8	9	10																				

8305240153 830516
PDR ADOCK 05000306

ISSUED		DESCRIPTION		PDR		NRC USE ONLY	
2	0	N	44 NA				

NAME OF PREPARER A. A. Hunstad

PHONE: 612-388-1121

May 12, 1983
Attachment (Page 1 of 5)

NORTHERN STATES POWER COMPANY
PRAIRIE ISLAND NUCLEAR GENERATING PLANT

Docket No. 50-306

LER 83-009/03L-0

Event Description

The Unit 2 primary coolant specific activity prior to April 16, 1983 was at an equilibrium value of approximately 3×10^{-2} $\mu\text{Ci/gm}$ DOSE EQUIVALENT IODINE-131. At about 2000 hours on April 15, 1983 the reactor was taken off-line and a cooldown commenced to reduce the steam line temperature and pressure for maintenance purposes. While the reactor was still critical and at Hot Standby a sample of the RCS primary coolant activity indicated that an activity increase to 3.26 $\mu\text{Ci/gm}$ DOSE EQUIVALENT IODINE-131 had occurred. This exceeded the Tech. Spec. limit of 1.0 $\mu\text{Ci/gm}$ given in Tech. Spec. 3.1.D.1.a.

In accordance with Tech. Spec. 3.1.D.4(a) the following information is provided:

a. Results of the specific activity analysis:

<u>DATE</u>	<u>TIME</u>	<u>DOSE EQUIVALENT IODINE-131 ($\mu\text{Ci/gm}$)</u>
4-9-83	1102	2.50×10^{-2}
4-10-83	0110	2.55×10^{-2}
	1758	3.14×10^{-2}
4-11-83	0729	2.88×10^{-2}
4-12-83	0730	3.14×10^{-2}
4-13-83	0729	3.22×10^{-2}
4-14-83	0801	2.89×10^{-2}
4-15-83	0808	3.21×10^{-2}
4-15-83	2045	2.81×10^{-2}
4-16-83	0153	3.26
	0230	2.84
	0810	1.74
	1603	1.14
	1958	1.10
4-17-83	0029	6.84×10^{-1}
	0500	6.37×10^{-1}
	0823	4.38×10^{-1}
	1312	3.15×10^{-1}
	1955	3.23×10^{-1}
4-18-83	0400	1.42×10^{-1}

- b. Reactor Power History starting 48 hours prior to the first sample with which the limit was exceeded:

See Figure 1

- c. Fuel Burnup by Core Region:

<u>Fuel Region Number</u>	<u>Number of Assemblies</u>	<u>Burnup ($\frac{\text{MWD}}{\text{MTU}}$)*</u>
6	1	38403
7	40	34838
8	36	22785
8L	4	20836
9	40	9058
CYCLE TOTAL	121	9021

*(at 0153 on April 16, 1983)

- d. Cleanup flow history starting 48 hours prior to the first sample with which the limit was exceeded:

See Figure 2

- e. History of degassing operations, if any, starting 48 hours prior to the first sample with which the limit was exceeded:

No degassing operations were performed during this time period.

- f. The time duration when the specific activity of the primary coolant exceeded 1.0 $\mu\text{Ci/gm}$ DOSE EQUIVALENT IODINE-131:

A total time of less than 27 hours and 44 minutes.

This event had no effect on the health and safety of the general public. Equilibrium specific activity has returned to pre-shutdown levels.

Cause Description and Corrective Action

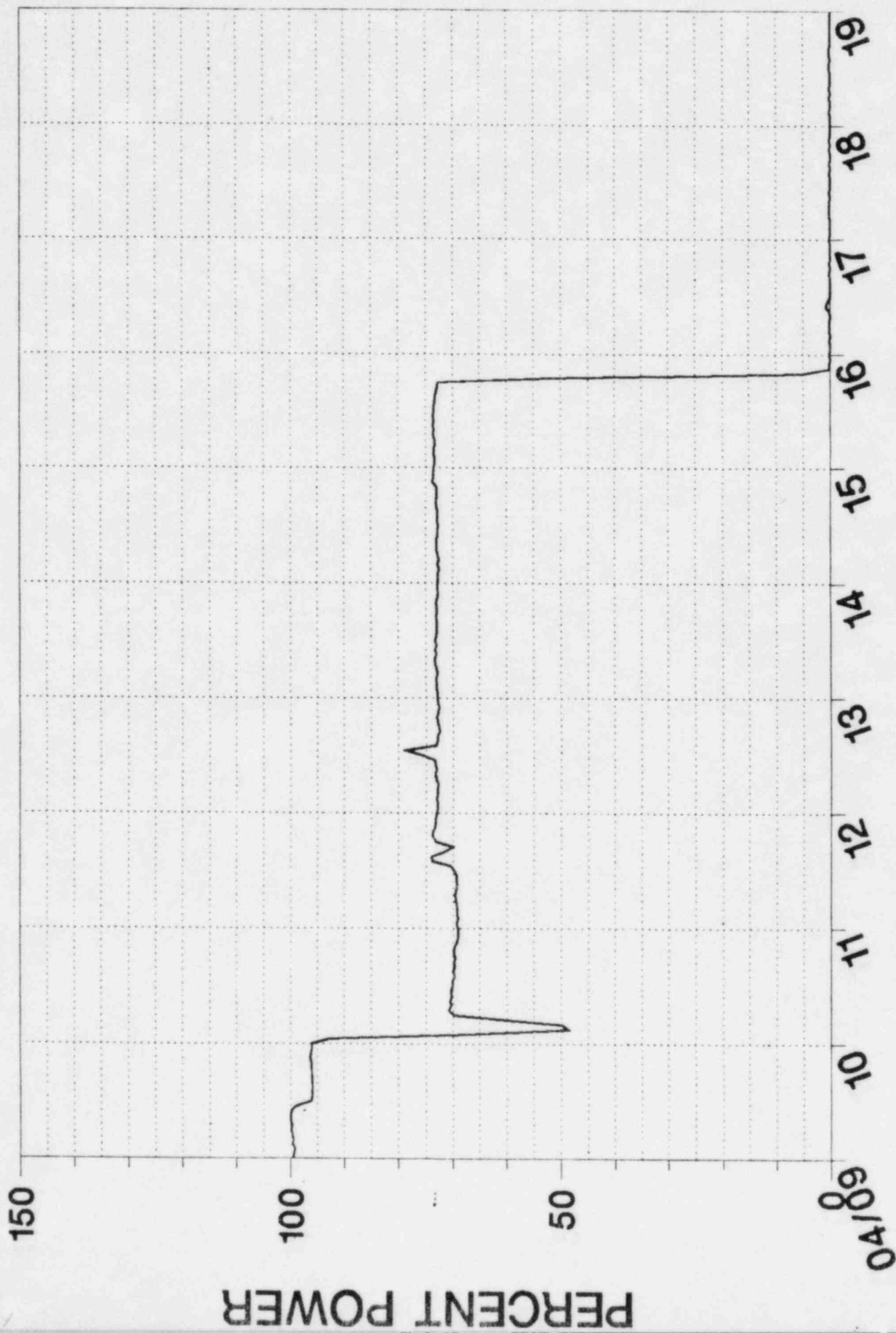
Unit 2 had been operating since mid-March, 1983 with known fuel defects (estimated to be only 1 leaking fuel pin). The activity increase is believed to be caused by "washout" of fission products from the existing defects following the reactor shutdown and the RCS cooldown and depressurization. There is no evidence of new defects being formed as a result of this transient.

Cleanup flow was increased to 80 gpm until the activity had decreased to below the Tech. Spec. limit.

Current planning is to limit load follow operations on the unit to reduce the iodine spiking, and to inspect the fuel next outage in an attempt to find and remove the leaking fuel pin.

PRAIRIE ISLAND UNIT #2 POWER HISTORY

LER 83-009/03L-0
May 12, 1983
Page 4 of 5

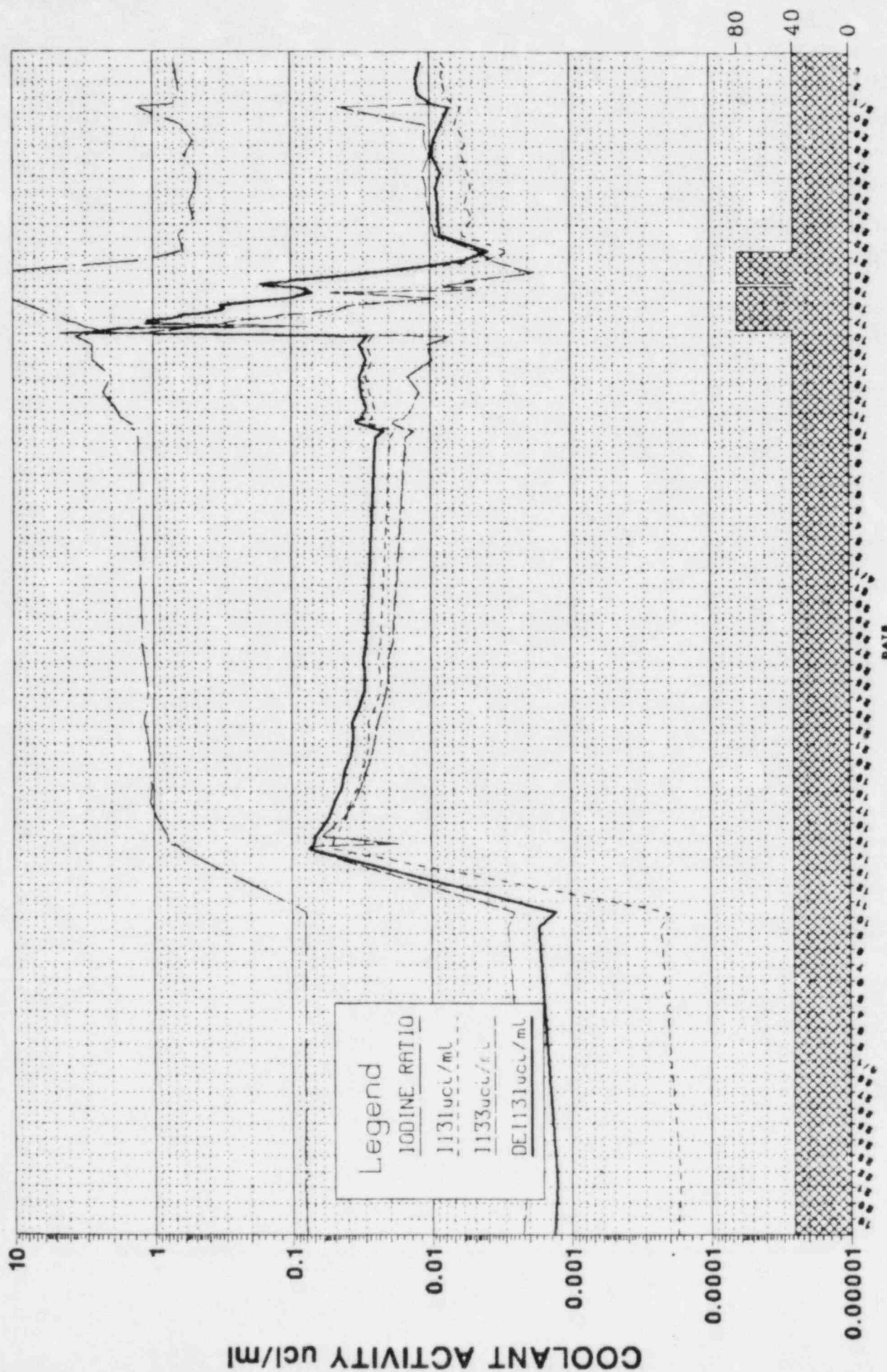


APRIL 1983

FIGURE 2

PRAIRIE ISLAND UNIT 2

COOLANT ACTIVITY VS. TIME



DMB



Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401
Telephone (612) 330-5500

May 16, 1983

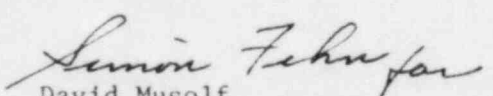
Regional Administrator
Region III
U S Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket No. 50-306 License No. DPR-60

RCS Iodine Spike after Shutdown

The License Event Report for this occurrence is attached.

This event is reported in compliance with Technical Specification
6.7.B.2.b since it represents operation in a degraded mode permitted
by a limiting condition for operation.


David Musolf
Manager - Nuclear Support Services

DMM/SAF/js

cc: NRC Document Control Desk (1)
NRC Resident Inspector
MPCA
Attn: J W Ferman

Attachment

MAY 18 1983

JEJ