

LICENSEE EVENT REPORT

CONTROL BLOCK: _____ (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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

CON'T
0 1 | L | 6 | 0 | 5 | 0 | 0 | 0 | 2 | 8 | 2 | 7 | 0 | 9 | 0 | 6 | 8 | 2 | 8 | 1 | 0 | 0 | 6 | 8 | 2 | 9
7 8 REPORT SOURCE 80 81 DOCKET NUMBER 88 89 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | _____
Following a reactor trip, a spike occurred in RCS activity up to 1.38 μ Ci/gm
0 3 | _____
Dose Equivalent I-131. See Attachment.
0 4 | _____
0 5 | _____
0 6 | _____
0 7 | _____
0 8 | _____

0 9 | Z | Z | 11 | X | 12 | Z | 13 | Z | Z | Z | Z | Z | Z | 14 | Z | 15 | Z | 16 |
9 10 11 12 13 18 19 20
17 | LER/RO REPORT NUMBER | 8 | 2 | 21 22 | _____ | 23 | 0 | 1 | 6 | 24 26 | _____ | 27 | 0 | 3 | 28 29 | L | 30 | _____ | 31 | 0 | 32
18 | X | 18 | X | 19 | Z | 20 | Z | 21 | 0 | 0 | 0 | 0 | 22 | Y | 23 | N | 24 | Z | 25 | Z | 26 | 27 | 28 | 29 | 30 | 31 | 32
33 34 35 36 37 40 41 42 43 44 45 46 47 48 49 50
ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NPRD-4 FORM SUB PRIME COMP. SUPPLIER COMPONENT MANUFACTURER

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | _____
Reactor trip and subsequent washout of fission products on the subsequent
1 1 | _____
power escalation. See Attachment.
1 2 | _____
1 3 | _____
1 4 | _____

1 5 | C | 28 | 0 | 3 | 0 | 29 | NA | 30 | A | 31 | Routine sampling | 32
7 8 9 FACILITY STATUS 10 % POWER 11 OTHER STATUS 12 13 44 45 46 METHOD OF DISCOVERY 47 48 49 50 DISCOVERY DESCRIPTION 51 52

1 6 | Z | 33 | Z | 34 | NA | 35 | NA | 36
7 8 9 ACTIVITY RELEASED 10 CONTENT OF RELEASE 11 AMOUNT OF ACTIVITY 12 13 44 45 46 LOCATION OF RELEASE 47 48 49 50

1 7 | 0 | 0 | 0 | 37 | Z | 38 | NA | 39
7 8 9 PERSONNEL EXPOSURES 10 NUMBER 11 TYPE 12 DESCRIPTION 13 44 45 46 47 48 49 50

1 8 | 0 | 0 | 0 | 40 | NA | 41
7 8 9 PERSONNEL INJURIES 10 NUMBER 11 DESCRIPTION 12 13 44 45 46 47 48 49 50

1 9 | Z | 42 | NA | 43
7 8 9 LOSS OF OR DAMAGE TO FACILITY 10 TYPE 11 DESCRIPTION 12 13 44 45 46 47 48 49 50

2 0 | N | 44 | NA | 45
7 8 9 ISSUED 10 DESCRIPTION 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
PUBLICITY NRC USE ONLY
NAME OF PREPARER A. A. Hunstad PHONE 612-388-1121

October 6, 1982
Attachment (Page 1 of 5)

NORTHERN STATES POWER COMPANY
PRAIRIE ISLAND NUCLEAR GENERATING PLANT

Docket No. 50-284

LER 82-016/03L-0

Event Description

The Unit 1 equilibrium primary coolant specific activity⁻³ prior to September 6, 1982 was approximately 3 to 5 x 10⁻³ µCi/gm DOSE EQUIVALENT I-131. At 11:39 on September 5 the Unit 1 reactor tripped on low Steam Generator level as a result of loss of air to 12 Feedwater Reg. Valve. Sampling of the primary coolant specific activity following the trip and recovery indicated that a spike occurred in the DOSE EQUIVALENT I-131 activity up to a maximum of 1.38 µCi/gm which was greater than the 1.0 µCi/gm limit given in T.S.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(µCi/gm)</u>
9-3-82	0755	3.71 x 10 ⁻³
9-4-82	0430	7.90 x 10 ⁻³
9-5-82	0730	7.02 x 10 ⁻³
	1153	1.35 x 10 ⁻²
	1447	0.229
	1520	0.294
	1707	0.322
	1846	0.397
	2102	0.649
	2200	0.731
	2315	0.817
9-6-82	0015	0.917
	0318	1.38

	0513	1.33
	0715	1.08
	0726	1.04
	0815	0.885
	1015	0.721
	1350	0.503
	1804	0.221
	2202	0.127
9-7-82	0203	4.52×10^{-2}
	0556	6.48×10^{-2}
	0750	6.06×10^{-2}
9-8-82	0730	2.13×10^{-2}
9-9-82	0530	1.07×10^{-2}
9-10-82	0827	7.99×10^{-3}
9-11-82	0313	7.65×10^{-3}
9-12-82	0755	6.46×10^{-3}

- b. Reactor power history starting 48 hours prior to the first sample in 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(MWD/MTU)*</u>
6	1	37260
7	40	34943
8	40	23135
9	40	10441

*(At 11:39 on September 5, 1982)

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

See Figure 2

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

No de-gassing 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 I-131:

Less than 8 hours.

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

Cause Description and Corrective Action

Unit 1 has been operating since early in Cycle 7 with known fuel defects (estimated 5 to 20 leaking rods). These defects are believed to be located in newest region of fuel (Region 9). The spike in primary coolant specific activity occurred as a result of the reactor trip and subsequent "washout" of fission products from the existing defects on the subsequent power escalation. There is no evidence of new defects being formed as a result of this transient.

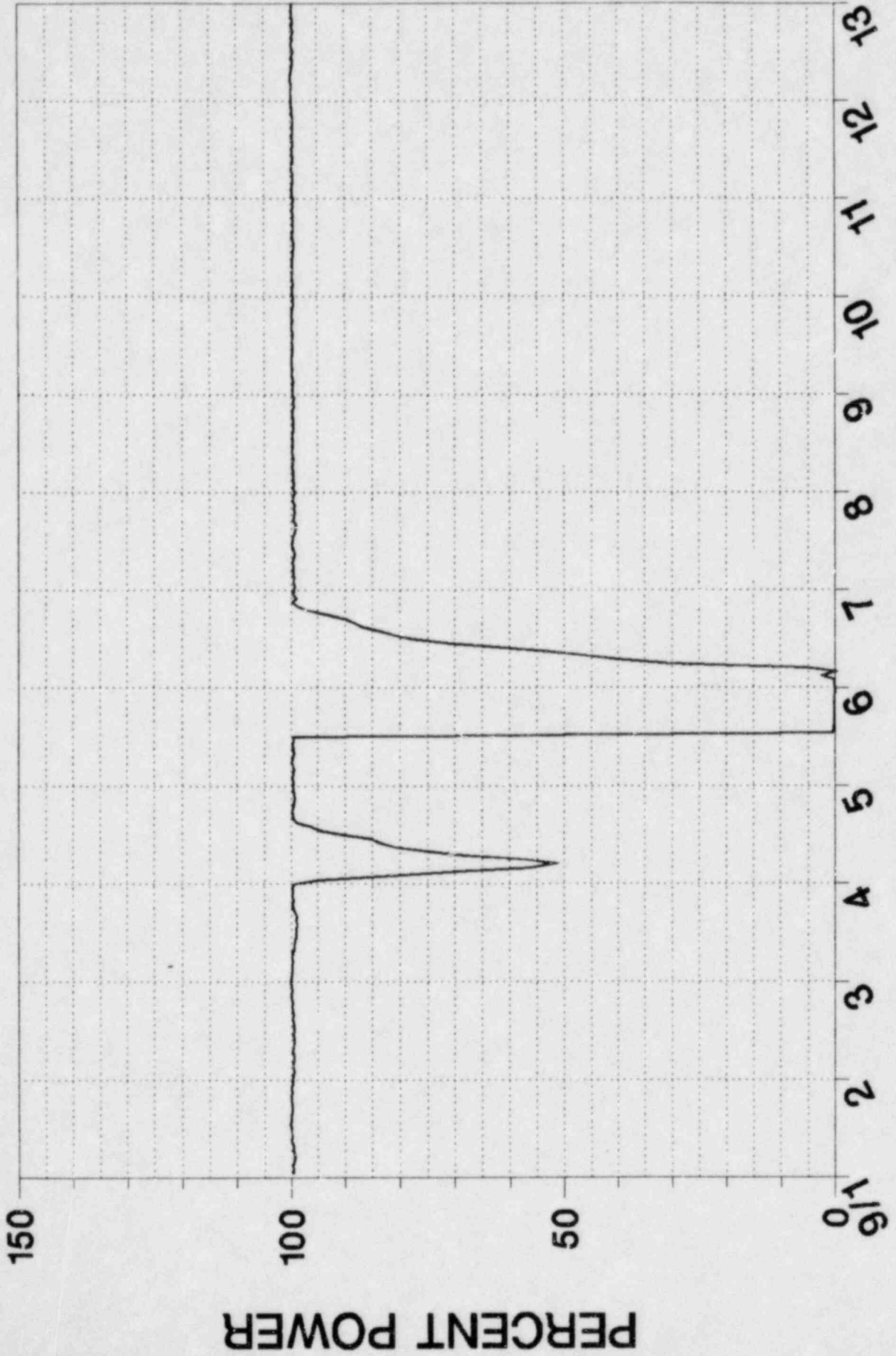
Cleanup flow was increased to 80 gpm until the activity had decreased below the limit.

Current planning is to remove the suspected region 9 fuel from the core during the cycle 7-8 refueling outage starting in November for repair.

FIGURE 1

PRAIRIE ISLAND UNIT #1 POWER HISTORY

LER 82-016/03L-0
October 6, 1982
Page 4 of 5



SEPT. 1 TO 13, 1982

FIGURE 2

PI 1 CYC 7 DEI 9/1 TO 9/13

