



Carolina Power & Light Company

ROBINSON NUCLEAR PROJECT DEPARTMENT
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FEB. 29 1989

Robinson File No: 11720

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

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
1987 ANNUAL REPORT - PRIMARY COOLANT IODINE SPIKES

Dear Sir:

As required by Plant Technical Specification 6.9.1.6.2 this submittal provides the results of specific analyses in which the primary coolant exceeded 1.0 $\mu\text{Ci}/\text{gram}$ dose equivalent I-131. This occurred on one occasion during 1987 on March 17, immediately following a plant shutdown. On that occasion dose equivalent iodine rose to 1.04 E 00 $\mu\text{Ci}/\text{gram}$ but was below the limit of 1.0 $\mu\text{Ci}/\text{gram}$ on the sample collected just 1 hour 38 minutes later. The following information is included:

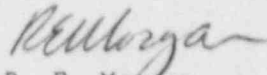
- (a) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded (in graphic and tabular format). Enclosures 1 and 2
- (b) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than limit, including the dates and times of sampling and the radioiodine concentrations. Enclosure 3
- (c) Regarding clean-up flow history starting 48 hours prior to the first sample in which the limit was exceeded, Reactor Coolant System (RCS) Letdown remained a constant 45 gpm for the period. This flow was directed through demineralizers (Chemical and Volume Control System) the entire period.
- (d) Graphs of the I-131, I-133 and dose equivalent iodine concentrations ($\mu\text{Ci}/\text{gm}$) as a function of time for the duration of the specific activity above the steady-state level. Enclosures 4, 5, 6

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- (e) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit. Enclosure 3

If you have any questions regarding this submittal, please contact my staff.

Very truly yours,



R. E. Morgan
General Manager

H. B. Robinson S. E. Plant

DAS/lko

Enclosures

cc: Dr. J. N. Grace
Mr. L. W. Garner

ENCLOSURE 1

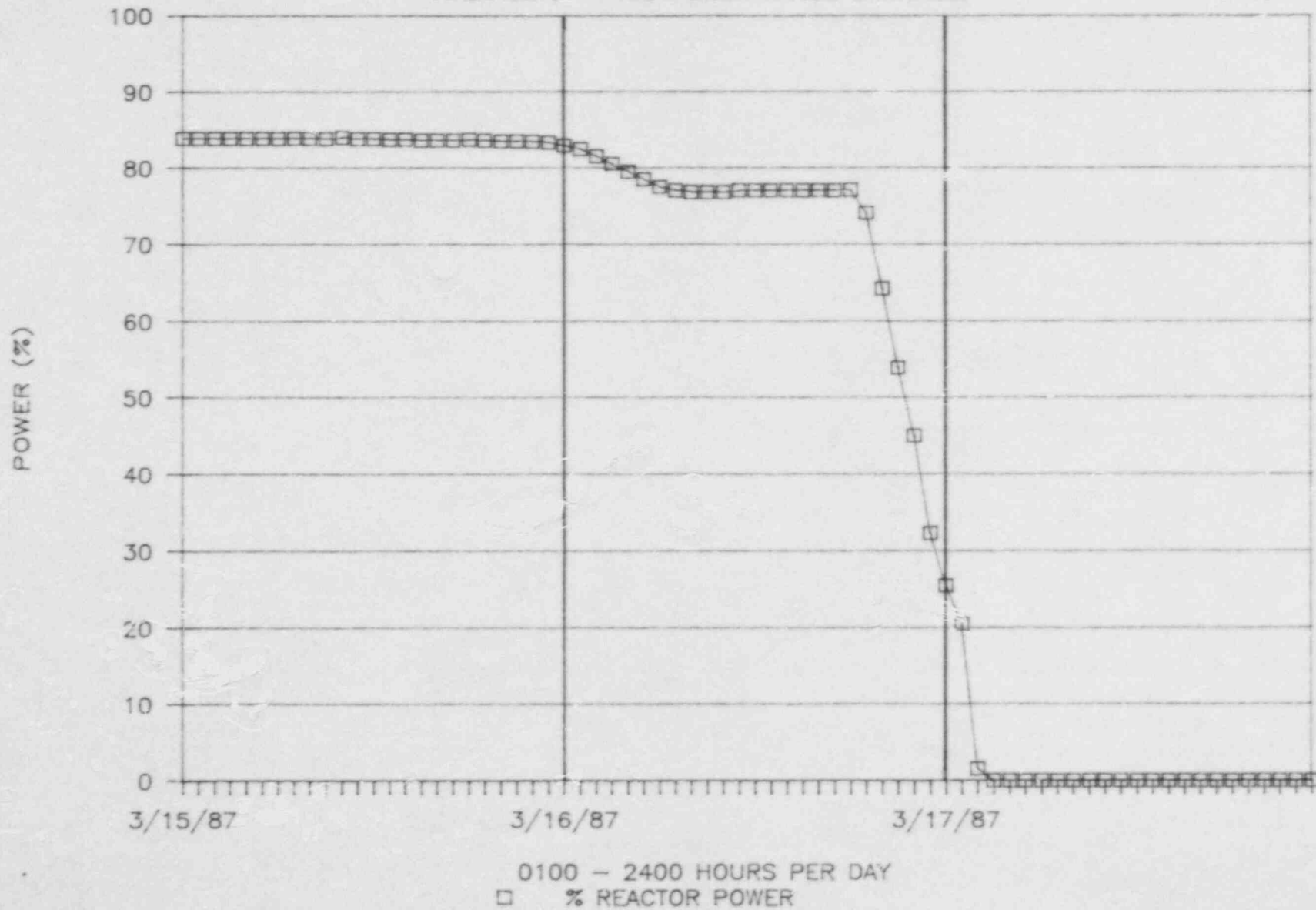
REACTOR POWER HISTORY (48 hours prior to sample)

(Average of 4 NIS Power Range Channels - % Power)

<u>Hour</u>	<u>March 15</u>	<u>March 16</u>	<u>March 17</u>
0100	83.9	82.9	25.5
0200	83.9	82.5	20.5
0300	83.9	81.5	1.5
0400	83.9	80.5	0.0
0500	83.9	79.5	0.0
0600	83.9	78.5	0.0
0700	83.9	77.5	0.0
0800	83.9	77.0	0.0
0900	83.9	76.8	0.0
1000	83.8	76.8	0.0
1100	84.0	76.8	0.0
1200	83.8	77.0	0.0
1300	83.8	77.0	0.0
1400	83.7	77.0	0.0
1500	83.7	77.0	0.0
1600	83.6	77.0	0.0
1700	83.6	77.0	0.0
1800	83.6	77.0	0.0
1900	83.7	77.1	0.0
2000	83.6	74.1	0.0
2100	83.5	64.2	0.0
2200	83.5	53.9	0.0
2300	83.4	45.0	0.0
2400	83.3	32.3	0.0

REACTOR POWER HISTORY

AVERAGE OF 4 NIS POWER RANGE CHANNELS

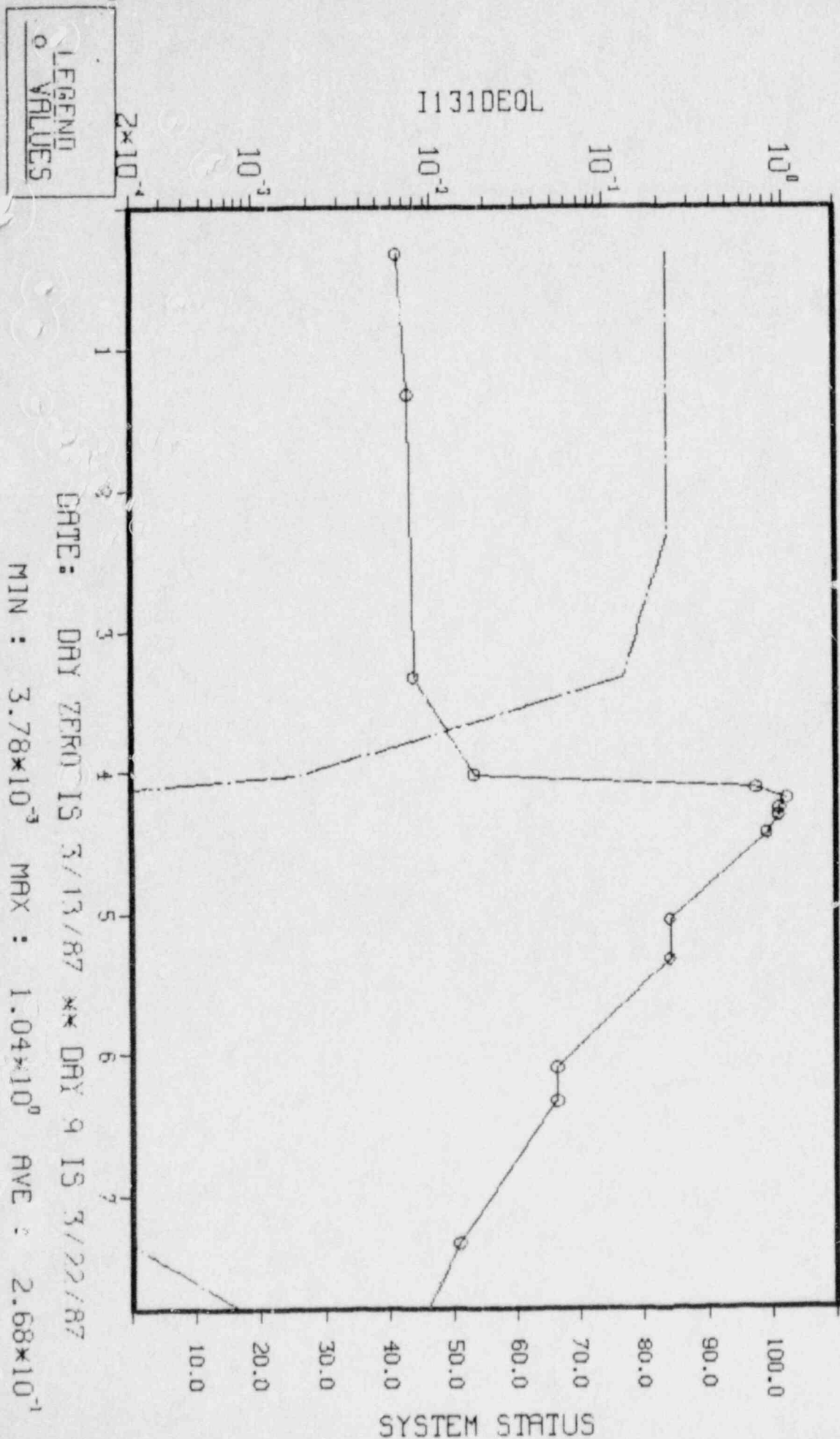


ENCLOSURE 3RCS IODINE SUMMARY MARCH 1987

<u>DATE</u>	<u>SAMPLE TIME</u>	<u>REACTOR POWER(%)</u>	<u>IODINE 131</u>	<u>IODINE 133</u>	<u>IODINE 131 DE</u>
03/13/87	1005	84	3.85E-03	6.09E-03	6.37E-03
03/14/87	0418	84	4.80E-03	6.11E-03	7.34E-03
03/15/87	1146	84	4.29E-03	6.53E-03	7.03E-03
03/16/87	0821	71	5.11E-03	7.08E-03	7.86E-03
03/17/87	0031	26	1.31E-02	1.13E-02	1.73E-02
03/17/87	0252	0	5.47E-01	4.52E-01	7.00E-01
03/17/87	0442	0	8.32E-01	6.63E-01	1.04E 00*
03/17/87	0620	0	7.70E-01	5.82E-01	9.55E-01*
03/17/87	0732	0	7.68E-01	5.68E-01	9.77E-01
03/17/87	1035	0	6.67E-01	4.46E-01	8.04E-01
03/18/87	0120	0	2.02E-01	8.62E-02	2.29E-01
03/19/87	0220	0	4.74E-02	9.77E-03	5.26E-02
03/20/87	0250	0	1.21E-02	1.32E-03	1.42E-02
03/21/87	0304	29	6.23E-03	5.82E-04	7.02E-03
03/21/87	0802	31.5	5.53E-03	2.67E-03	8.29E-03
03/22/87	0240	49	2.58E-03	2.77E-03	3.87E-03

*The time duration when the specific activity of the primary coolant exceeded the radioiodine limit was less than 98 minutes.

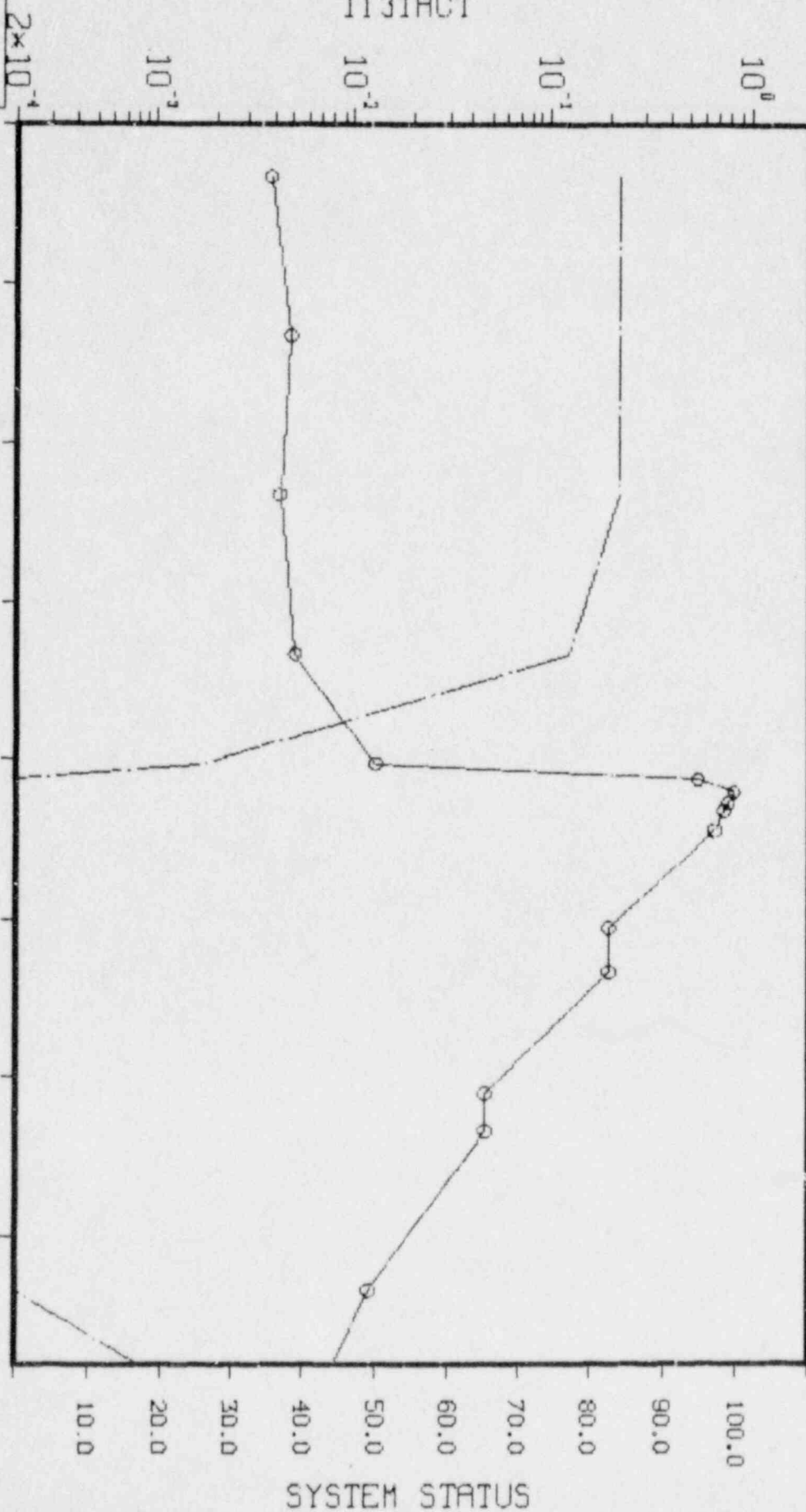
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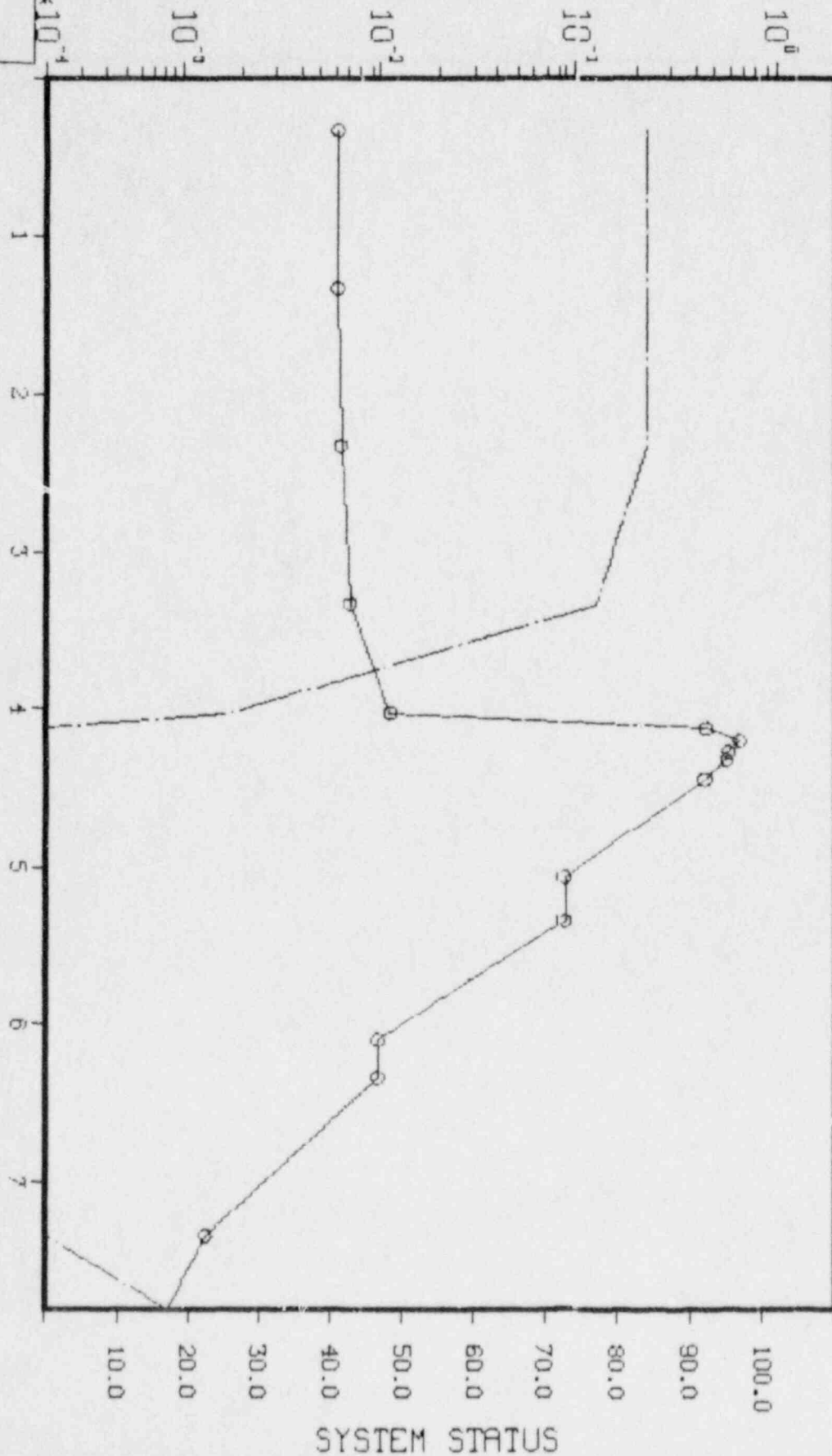
DATE: DAY 7.FRO IS 3/13/87 ** DAY 9 IS 3/22/87

MIN : 2.58×10^{-1} MAX : 8.32×10^{-1} AVE : 2.06×10^{-1}

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DATE: DRY ZERO IS 3/13/87 ** DRY 9 IS 3/22/87

MIN : 5.82×10^{-4} MAX : 6.63×10^{-1} AVE : 1.48×10^{-1}