B 04/1[illegible]/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL 50-315

REC: KEPPLER J G
NRC

ORG: SHALLER D V
IN & MI PWR

DOCDATE: 04/04/78
DATE RCVD: 04/10/7

DOCTYPE: LETTER NOTARIZED: NO

COPIES RECEIVED
LTR 1 ENCL 1

SUBJECT:
LICENSEE EVENT REPT (RO 50-315/78-000) ON 01/07/78 CONCERNING REACTOR PWR ON UNIT 1 REDUCED SLOWLY TO 8% PWR AND THE REACTOR TRIPPED FROM 8%...W/ATT SUPPORTING INFO.

PLANT NAME: COOK - UNIT 1

REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL: wl

********** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS **********

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: BR CHIEF SCHWENCER**W/4 ENCL

INTERNAL:
REG FILE**W/ENCL
I & E**W/2 ENCL
SCHROEDER/IPPOLITO**W/ENCL
NOVAK/CHECK**W/ENCL
KNIGHT**W/ENCL
HANAUER**W/ENCL
EISENHUT**W/ENCL
SHAO**W/ENCL
KREGER/J. COLLINS**W/ENCL
K SEYFRIT/IE**W/ENCL
NRC PDR**W/ENCL
MIPC**W/3 ENCL
HOUSTON**W/ENCL
GRIMES**W/ENCL
BUTLER**W/ENCL
TEDESCO**W/ENCL
BAER**W/ENCL
VOLLMER/BUNCH**W/ENCL
ROSA**W/ENCL

EXTERNAL:
LPDR'S
ST. JOSEPH, MI**W/ENCL
TIC**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

COPIES NOT SUBMITTED PER
REGULATORY GUIDE 10.1

DISTRIBUTION: LTR 45 ENCL 45
SIZE: 2P+1P+9P

CONTROL NBR: 781010047

A004
6D

********** THE END **********

American Electric Power System
INDIANA & MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106
(616) 465-5901

REGULATORY DOCKET FILE COPY

April 4, 1978

Operating License DPR-58
Docket # 50-315

US NRC DISTRIBUTION SERVICES BRANCH
1978 APR 10 PM 4 39
RECEIVED DISTRIBUTION SERVICES UNIT

Mr. J. G. Keppler, Regional Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Ill. 60137

Dear Mr. Keppler:

This report is submitted persuant to the requirement of Appendix A Technical Specifications 3.4.8 and 6.9.1. On January 7, 1978 the dose equivalent iodine-131 activity was found out of specification.

At 1400 on January 7, 1978 reactor power on Unit 1 was reduced slowly to 8% power and the reactor tripped from 8%. Power reduction was done for a scheduled repair/investigation outage.

Routine surveillance at 2100 January 7, 1978 showed that the dose equivalent iodine-131 had spiked with a maximum value noted of 1.1 μ Ci/gram.*

Reactor power had been varied considerably the previous week with no evidence of iodine spiking noted. During power reduction CVCS purification flow through the mixed bed demineralizer was approximately 75 gpm, as it had been for the majority of the week. No degassing operations were associated with this occurrence.

Analysis of the reactor coolant prior to this excursion had shown dose equivalent iodine-131 to range from 9.12×10^{-3} μ Ci/g to 2.80×10^{-2} μ Ci/g during the period of numerous power changes. Analysis at 0500 on 1-8-78 showed the iodine-131 had decreased to 0.539 μCi/g with dose equivalent iodine-131 at 0.675 μCi/g. This activity continued to decrease even during power ascension on 1-9-78. Once stable at 100% dose equivalent iodine-131 remained constant at approximately 2.3×10^{-2} μCi/g.

Iodine release at this time period is consistant with data reported in Westinghouse Electric Corporation WCAP-8637 "Iodine Behavior under transient conditions in the Pressurized Water Reactor". Dose equivalent iodine-131 values were in the "Acceptable Operation" portion of Technical

781010047

A002 S 1/1

Specification Figure 3.4.1 at all times during the transient. Fuel burnup by core region is indicated in the attached table.

This report does not meet the 30 day Technical Specification reporting requirement. This is presently under investigation and a Licensee Event Report will be submitted describing the findings and resolutions.

* Coolant samples are brought to ambient conditions before counting; therefore, units of μCi/gram and μCi/cc are interchangeable.

Very truly yours,

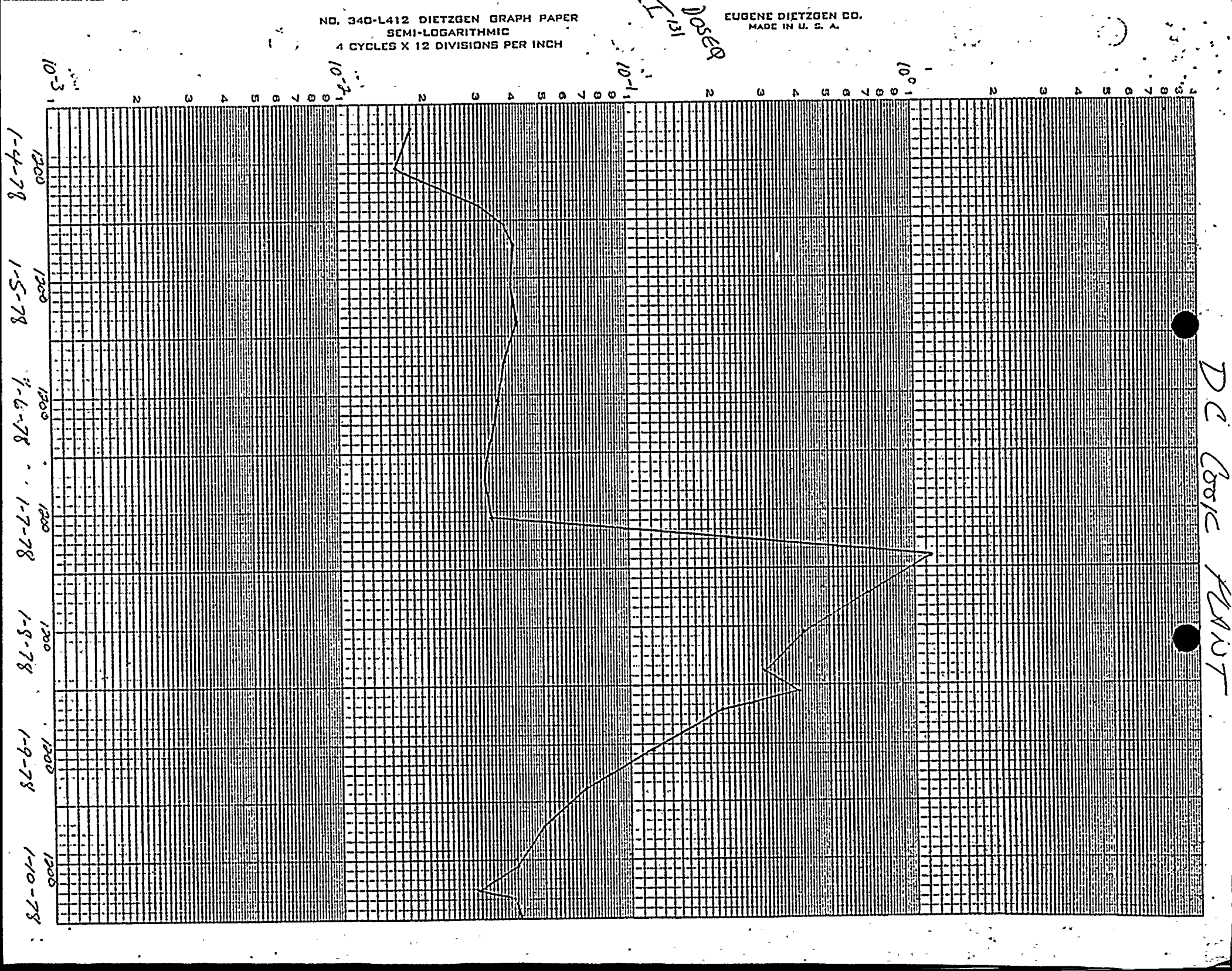
D. V. Shaller
Plant Manager

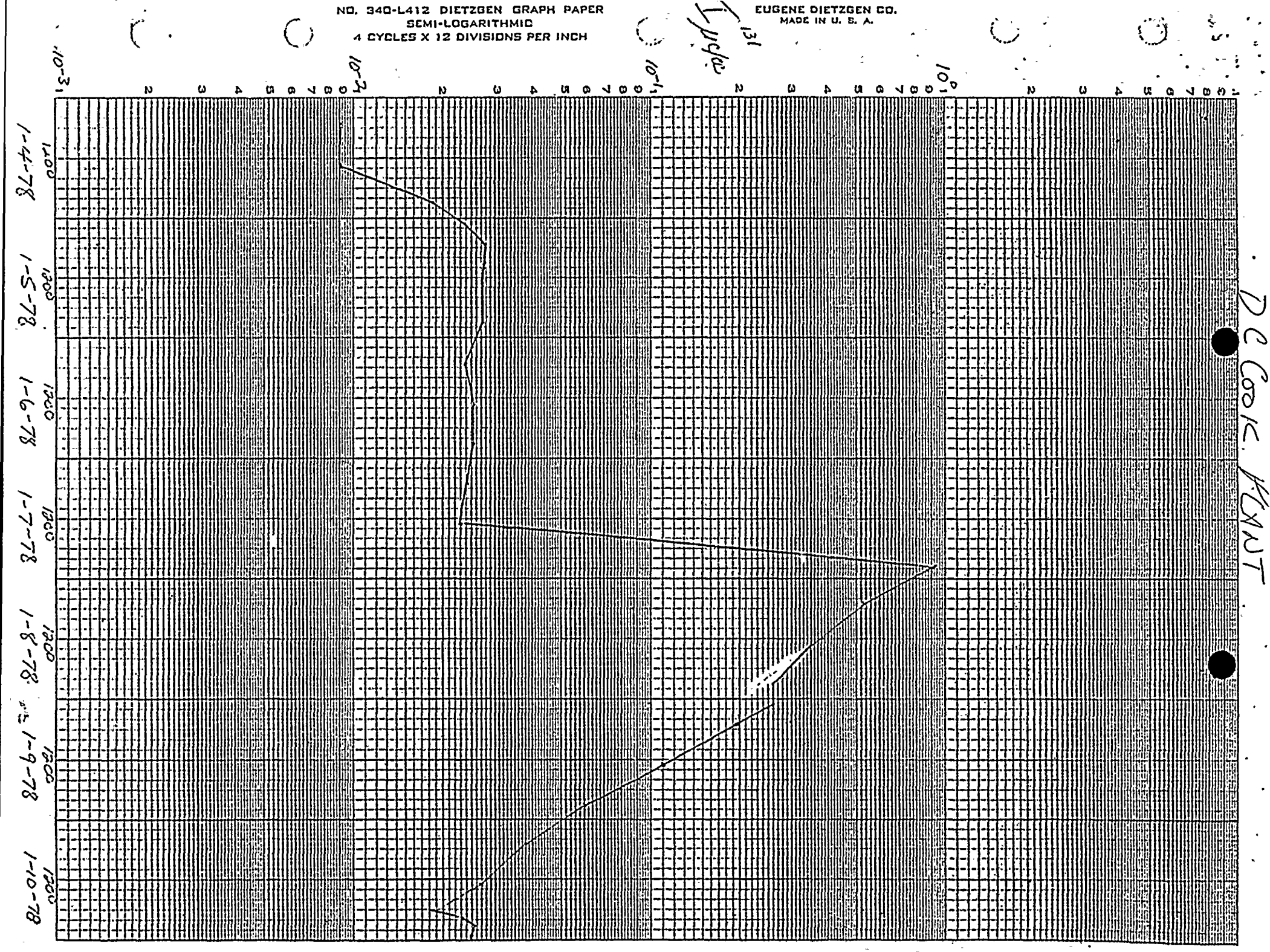
ms

attachments

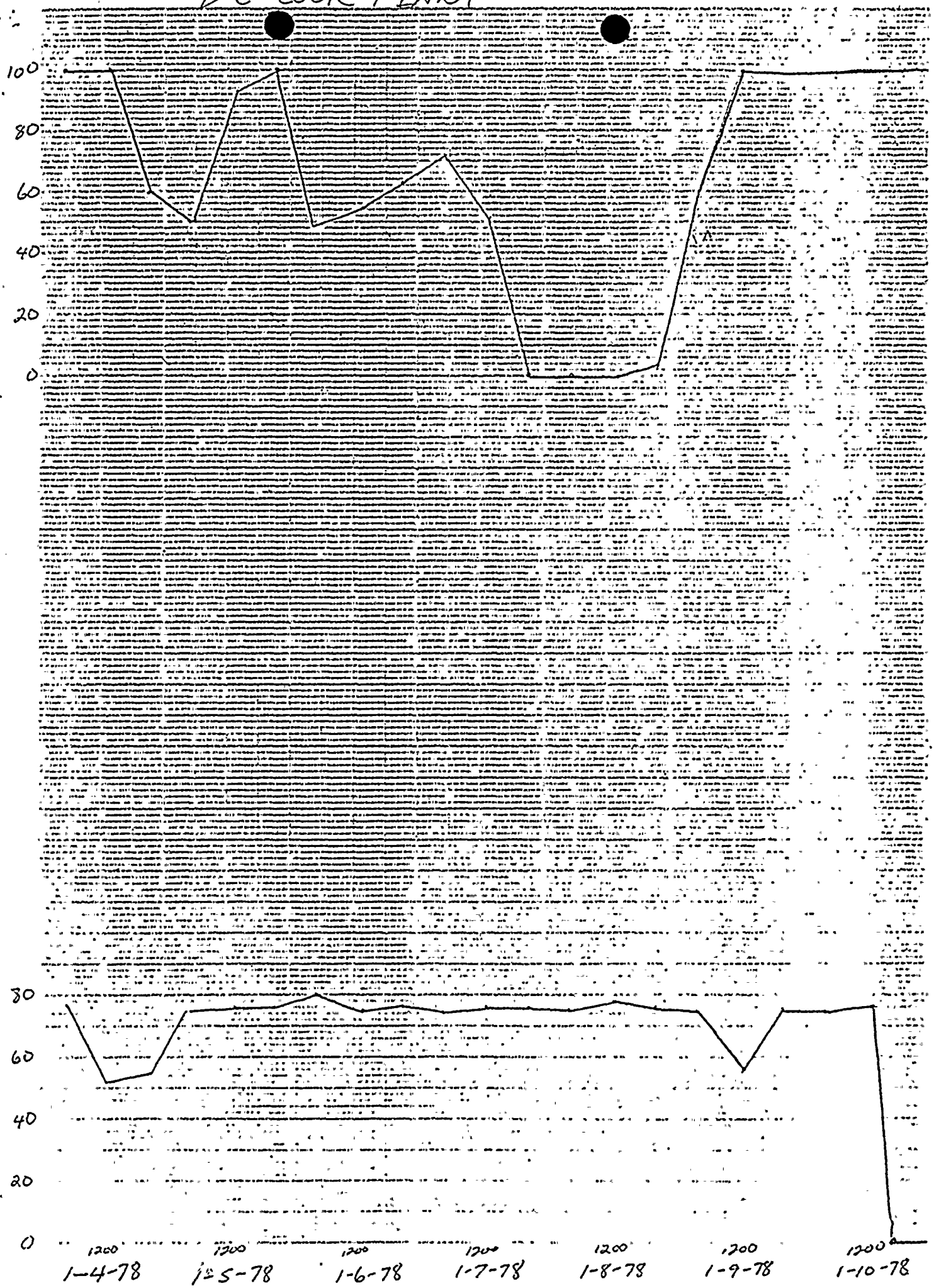
cc: R. W. Jurgensen
J. E. Dolan
R. Kilburn
R. F. Kroeger
R. J. Vollen, BPI
K. R. Baker, RO:III
P. W. Steketee, Esq.
R. C. Callan
R. Walsh, Esq.
G. Olson
J. Stietzel
PNSRC File
G. Charnoff, Esq.
J. M. Hennigan
Dir, IE (20 copies)
Dir, MIPC (2 copies)

CORE REGION	BURNUP FOR PERIOD (MWD/MTU) 10-1-77 to 1-18-78
4 (D)	0.7672×10^4
2 (B)	0.2622×10^5
3 (C)	0.2192×10^5


NO. 340-L412 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 12 DIVISIONS PER INCH
EUGENE DIETZGEN CO.
MADE IN U. S. A.
DOSEQ
I 131
DC Cook PLANT
1-4-78
1-5-78
1-6-78
1-7-78
1-8-78
1-9-78
1-10-78
1200
1200
1200
1200
1200
1200
1200


NO. 340-L412 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 12 DIVISIONS PER INCH
EUGENE DIETZGEN CO.
MADE IN U. S. A.
131
1 μc/cc
DC COOK PLANT
1-4-78
1-5-78
1-6-78
1-7-78
1-8-78
1-9-78
1-10-78
1200

DC COOK PLANT



DONALD C. COOK NUCLEAR PLANT CONDITION REPORT

(1) CAR No. 1-1-78-13
(2) Date 1-9-78 Time 1200
(3) Category A B (C) D E
(4) Classified By BES
(5) AO/AEO No. Special Report

TO: Plant Manager LER DUE BY 1/30/78

(6) Item Reported On Dose Equivalent J-131 in the Unit 1 R.C.S. out of specification

(7) Plant Conditions
Unit #1 Mode 2 Testing ( )Yes (✓)No
Unit #2 Mode _____ Testing ( )Yes ( )No

(8) Description of Condition At 2100 on 1-7-78, the dose equivalent J-131 on the reactor coolant system was found to be 1.14 μCi/cc. This was following unit 1 trip from ~8% power at 1426

( ) Additional Pages Reported By James Wojcik

(9) Corrective Action Taken

By _____

(10) Off-Site Notification Made By X (Complete Telephone Records & Attach)
( ) AEPSC ( ) I & M ( ) NRC ( ) Michigan (X) Not Applicable

(11) Investigation Assigned To E. A. SMARRELLA

(12) Investigation Report Attached report on the dose equivalent J-131 closes out the investigation

( ) Additional Pages Completed By James Wojcik

(13) Preventive Action Taken
SEE ATTACHED.

( ) Additional Pages Dept. Head Approval E A Smarrella

(14) PNSRC Review: Date _____
Comments:

(15) Distribution:
Plant Mgr., Asst. Plant Mgr., QA Supv., PNSRC Secretary, AEPSC Manager Q.A. Dept. Head of Orig. Dept.

Form No. DMP 7030 RPT 001-1

INDIANA AND MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT

Iodine Spike Following Power Transient - January 7, 1978

This report is submitted persuant to the requirement of Appendix A Technical Specifications 3.4.8 and 6.9.1. On January 7, 1978 the dose equivalent iodine-131 activity was found out of specification.

At 1400 on January 7, 1978 reactor power on Unit 1 was reduced slowly to 8% power and the reactor tripped from 8%. Power reduction was done for a scheduled repair/investigation outage.

Routine surveillance at 2100 on January 7, 1978 showed that the dose equivalent iodine-131 had spiked with a maximum value noted of 1.1 μ Ci/gram.*

Reactor power had been varied considerably the previous week with no evidence of iodine spiking noted. During power reduction CVCS purification flow through the mixed bed demineralizer was approximately 75 gpm, as it had been for the majority of the week. No degassing operations were associated with this occurrence.

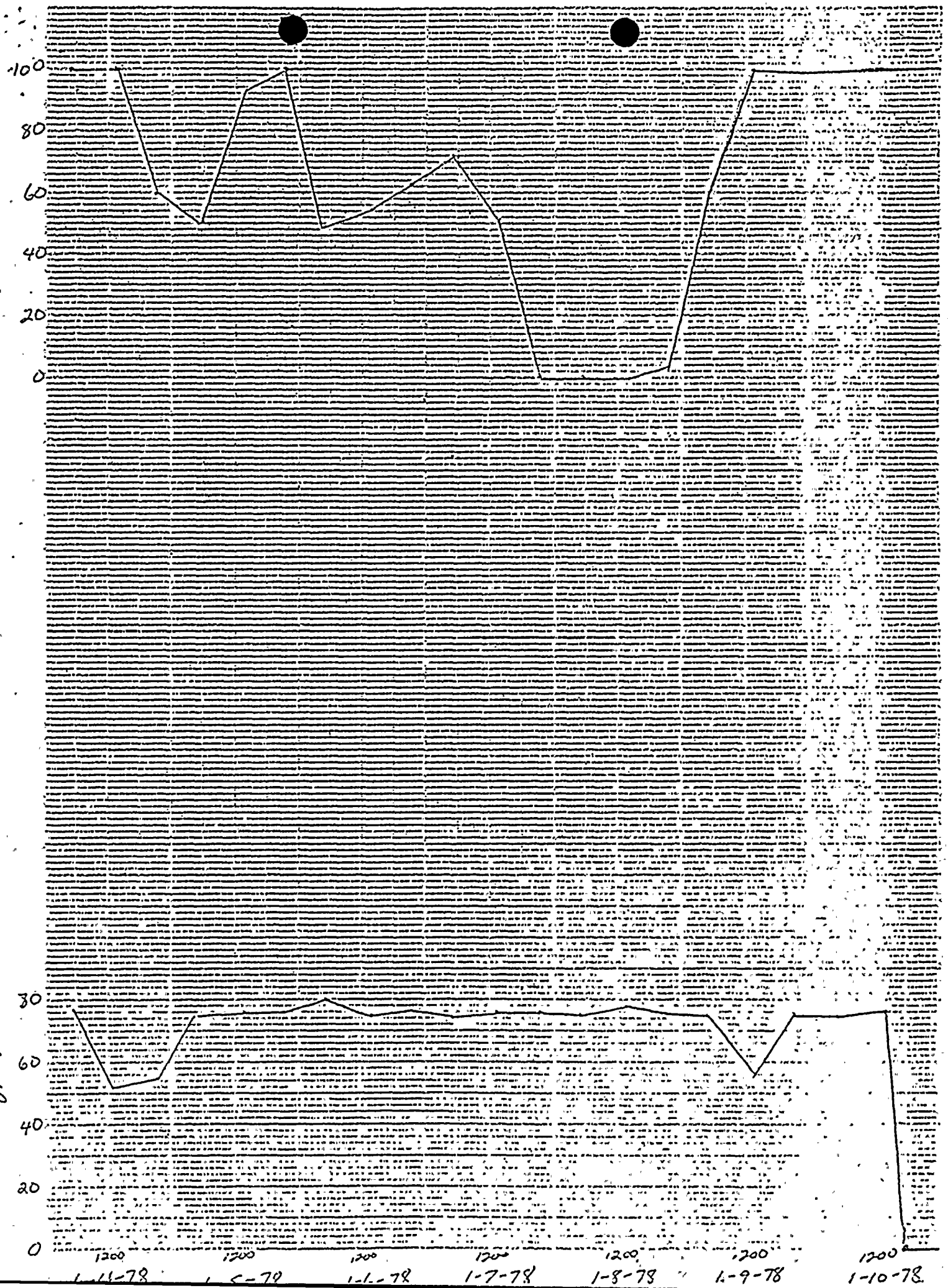
Analysis of the reactor coolant prior to this excursion had shown dose equivalent iodine-131 to range from 9.12×10^{-3} μCi/g to 2.80×10^{-2} μ Ci/g during the period of numerous power changes. Analysis at 0500 on 1-8-78 showed the iodine-131 had decreased to 0.539 μCi/g with dose equivalent iodine-131 at 0.675 μCi/g. This activity continued to decrease even during power ascension on 1-9-78. Once stable at 100% dose equivalent iodine-131 remained constant at approximately 2.3×10^{-2} μCi/g.

Iodine release at this time period is consistant with data reported in Westinghouse Electric Corporation WCAP-8637 "Iodine Behavior under transient conditions in the Pressurized Water Reactor". Dose equivalent iodine-131 values were in the "Acceptable Operation" portion of Technical Specification Figure 3.4.1 at all times during the transient. Fuel burnup by core region is indicated in the attached table.

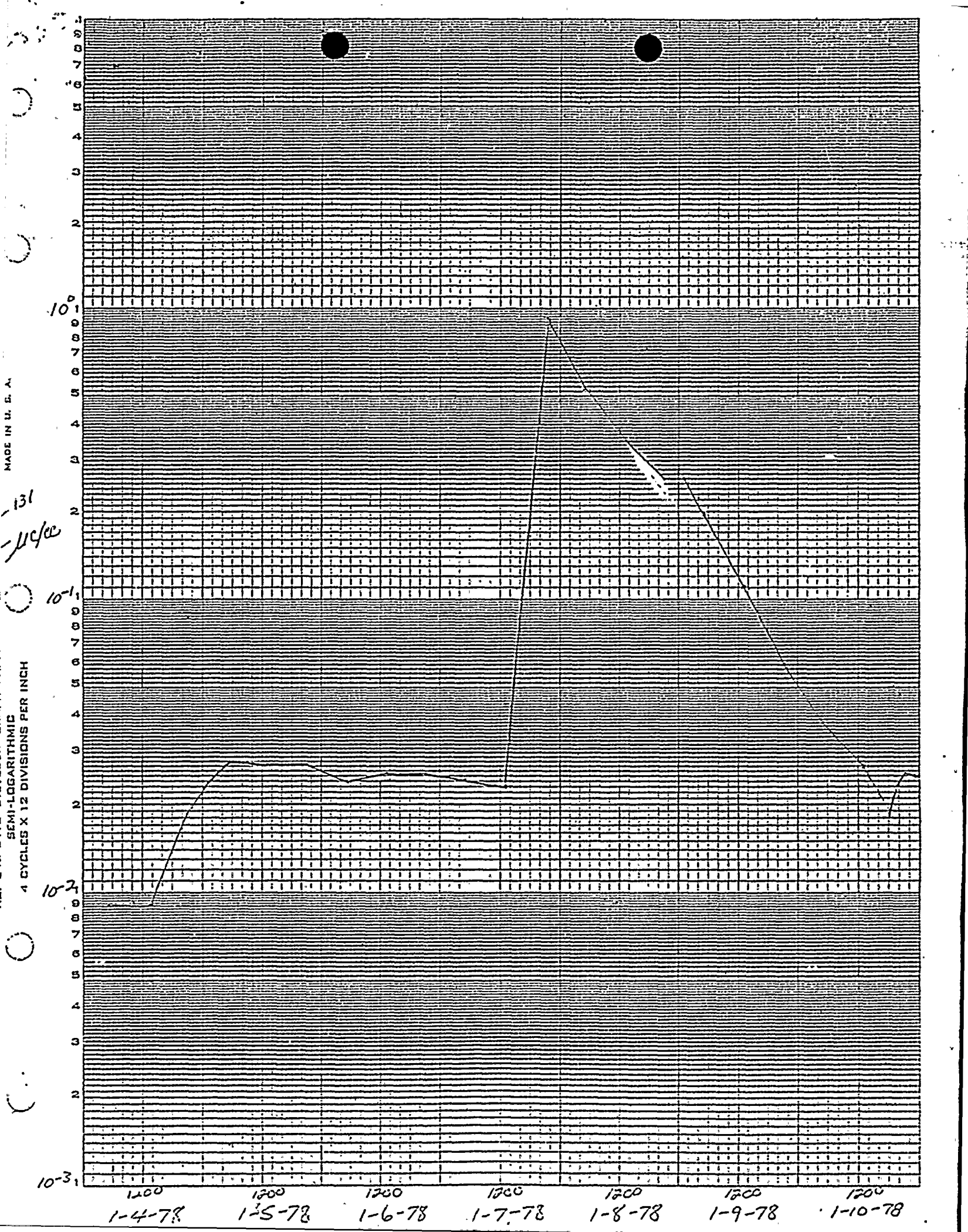
---

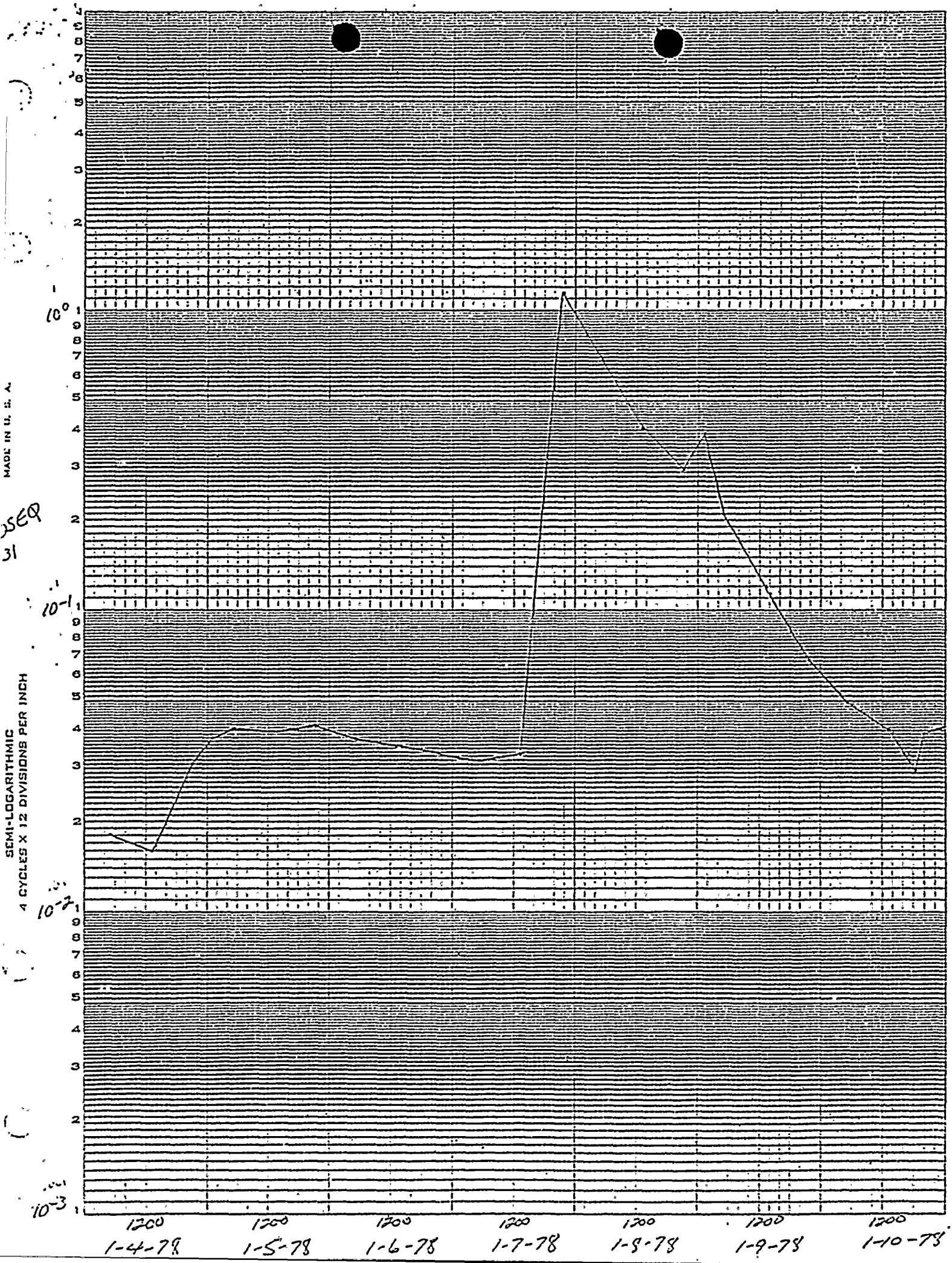
* Coolant samples are brought to ambient conditions before counting; therefore, units of μCi/gram and μCi/cc are interchangeable.

CORE REGION	BURNUP FOR PERIOD (MWD/MTU) 10-1-77 to 1-18-78
4 (D)	0.7672×10^4
2 (B)	0.2622×10^5
3 (C)	0.2192×10^5



100
80
60
40
20
0
80
60
40
20
0
Letdown Flow (gpm)
1200
1200
1200
1200
1200
1200
1200
1-7-78
1-8-78
1-9-78
1-10-78


MADE IN U. S. A.
SEMI-LOGARITHMIC
4 CYCLES X 12 DIVISIONS PER INCH
131
μc/cc
10^{0}
10^{-1}
10^{-2}
10^{-3}
1200
1-4-78
1-5-78
1-6-78
1-7-78
1-8-78
1-9-78
1-10-78


SEMI-LOGARITHMIC
4 CYCLES X 12 DIVISIONS PER INCH
MADE IN U. S. A.
10^0
10^{-1}
10^{-2}
10^{-3}
1200
1-4-78
1-5-78
1-6-78
1-7-78
1-8-78
1-9-78
1-10-78