UNITS 1, 2, and 3

SEMI-ANNUAL REPORT

JULY 1, 1975 - DECEMBER 31, 1975

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DRESDEN NUCLEAR POWER STATION

COMMONWEALTH EDISON COMPANY

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont'd)

DRESDEN NUCLEAR POWER STATION
SEMI-ANNUAL REPORT
JULY 1, 1975 THROUGH DECEMBER 31, 1975
SECTION I: DRESDEN UNIT 1

I. Unit 1

A. Operations Summary

1. Changes in Plant Design described in section E of this report
2. Performance characteristics
   a. Equipment performance is shown in the chronological history that follows

UNIT ONE CHRONOLOGICAL HISTORY

July 1 through July 15

Unit one entered the reporting period with "B" secondary steam generator out of service and the load held steady at approximately 150 MWe.

July 16 through July 25

Load was cut to approximately 143 MWe when leaks were discovered in B, C, D and E secondary heaters.

July 25 through Aug 30

"B" Secondary Steam Generator was returned to service and load was increased to approximately 160 MWe. The unit remained on line with a power level of between 150 MWe and 160 MWe due to the bypassed secondary heaters and fuel depletion.

Aug 31

Load was reduced to 124 MWe due to fuel depletion and "B" secondary steam generator being removed from service.

Sept 1

The reactor was shutdown at 1313 hrs due to a steam leak on B cleanup demin return line to the reactor. It was decided at this time to go into the scheduled refueling outage approximately two weeks early.

Sept 2 through Dec 31

The unit was in a refueling outage until the end of the reporting period. Major work performed during the outage included repair of the 6" unloader line, partial refueling of this reactor, Inservice inspection, the rebuilding of 16. control rod drives, installation of a blowdown line from the reactor to the main condenser and replacement of the turbine corssunder piping.

A.2.b Dresden Unit 1 Fuel Performance

Unit 1 began its ninth fuel cycle at 1950 hours on July 3, 1974. Problems with uncoupled control rods caused shutdown prematurely at 2330 hours on August 31, 1974. An outage was scheduled to take advantage of the required head removal, creating the cycles 9A and 9B. Cycle 9B began at 0630 hours on October 15, 1974, and concluded at 1520 hours on September 1, 1975.

A summary by month of hours critical and number of shutdowns and depressurizations appears in Fig. 10.

During the outage following Cycle 9A, 36 highexposure fuel assemblies were discharged. In addition, four control rods were found to be uncoupled from their drives and stuck in the fully inserted position. These were repaired.

During the outage following Cycle 9B, a complete out-of-core sipping program identified 27 failed fuel assemblies.

I. General

A. Fuel vendors by type

1. III-B: General Electric
2. III-B-I: General Electric
3. III-F-Pu: General Electric
4. III-F: General Electric
5. V: General Electric
6. 6-I thru 10-I: General Atomic
7. 6-Pu: General Atomic
8. 6 thru 10: General Atomic

B. Fuel loading data

1. Fuel assembly types and designations: See I.A.
2. Core map for Cycle 9A: See Fig. 1

   Core map for Cycle 9B: See Fig. 2.
3. Fuel rod map for each fuel type: available from vendor
4. Goal burnup map for EOC 9A: See Fig. 3
   Goal burnup map for EOC 9B: See Fig. 4

C. Fuel design data by type: See Fig. 5

D. Fuel fabrication data: Available at vendor's facilities.

II. Operating Data

A. Core radial power factors at BOC 9A: See Fig. 6.
Core radial power factors at BOC 9B: See Fig. 7.

B. Core radial power factors at EOC 9A: See Fig 8
Core radial power fa-tors at EOC 9B: See Fig 9

C. Control rod movements during cycles: Records available at the station

D. Number and magnitude of power cycles during cycle 9: complete log available at the station.
Requires extensive data search

E. Number of shutdowns during Cycle 9: See Fig. 10

F. Number of depressurizations during Cycle 9: See Fig. 10

III. Performance Data

A. Fuel Cycle data

1. Calculated assembly exposures at BOC-9A: See Fig. 11.
Calculated assembly exposures at BOC-9B: See Fig. 12.

2. Calculated assembly exposures at EOC-9A: See Fig 13.
Calculated assembly exposures at EOC-9B: See Fig. 14

3. Maximum instantaneous assembly power: the station's data collection and analysis capability does not include this information.

4. Maximum instantaneous fuel pin power: the station's data collection and analysis capability does not include this information

B. Fuel assembly inspections

1. Total number discharged and reasons: See Fig. 15.

2. Core locations for each cycle of exposure: See Fig. 15

3. Maximum instantaneous assembly power during exposure history: The station's data collection and analysis capability does not include this information

4. Number and type of interim inspections: this information is available at the station and requires an extensive data search

5. Rod removal and replacement plan: No rod replacements had been conducted on discharged bundles

C. Fuel rod basin examinations: None were conducted.

D. Performance data for each suspect or failed rod: the station's data collection and analysis capability does not include this information

E. Examinations in hot cells: None were conducted.

Appendix A contains figures referred to in this section.

A.3 Procedures

New Unit One procedures and procedure changes are listed below.

1. 1 DFP 800-1 thru 27 Rev. 0

Refueling Operations

These procedures have been reformatted and updated.

These procedures are in no way indicative of a degradation of operation and do not make us more vulnerable to accidents, equipment failures or violations of the Tech Specs.

2. 1 DGA-12 Rev. 1

Loss of Turbine Generator

This procedure was not revised but merely redistributed. An error in the original dissemination eliminated a page.

There is no degradation of operation and no consequent increased vulnerability to accidents, equipment malfunction and violations of Technical Specifications.

3. 1 DGA-14 Rev. 1

High Airborne Activity

This procedure change tracks a change to the Technical Specifications.

This procedure in no way increases our vulnerability to accidents, equipment malfunctions or violations of the Technical Specifications.

4. 1 33-800-0-IV Rev 0

Hotwell Low Level Alarm and Condensate Pump Trip Operability Test and Calibration

This is a new procedure to test and calibrate existing instrumentation.

This procedure makes us less vulnerable to accidents, equipment malfunctions and violations of the Technical Specifications.

5 1 33-700-0-X

In Core Instrument Response Time

This is a new procedure to verify the calibration of existing instrumentation.

This procedure makes us less vulnerable to accidents, equipment malfunctions and violations of the Technical Specifications.

6 1 UGA-1 Rev. 1

Loss of Coolant (Fast Leak)

Procedure was revised to include more specific instructions to the operators regarding what steps have to be taken immediately.

This procedure does not make us more vulnerable to accidents, equipment malfunction or violations of the Technical Specifications.

7 1 33-800-0-X Rev. 0

Electromatic Relief Controller Calibration (Refuel)

This is a new procedure to calibrate existing instrumentation.

This procedure increases our ability to maintain control during accidents and equipment malfunctions and minimize potential Technical Specification violations.

8 1 300-S-XI Rev. 2

Control Rod Blade Pull Test

Procedure was revised to include use of a dynamometer scale and increase the maximum force from 200 lbs to 250 lbs.

This procedure in no way increases our vulnerability to accidents, equipment malfunction or violations of the Technical Specifications.

9 1 33-800-0-XIV Rev. 0

Scram Valve Instrument Air High/Low Pressure Alarm (Refuel)

New procedure clarifies the setpoint of existing instrumentation of the CRD scram system.

This procedure in no way increases our vulnerability to accidents, equipment malfunction or violations of the Technical Specifications.

10 1 33-800-0-XI Rev. 0

Off Gas Monitor Calibration with Source

New procedure to calibrate instrumentation already installed in the plant.

This procedure in no way increases our vulnerability to accidents, equipment malfunction or violations of the Technical Specifications.

11 1 3200-S-II Rev. 2

Emergency Feed Pump Operability Test

This procedure was simply reformatted to meet ANSI requirements.

This procedure in no way increases our vulnerability to accidents, equipment malfunction or violations of the Technical Specifications.

12 1 DTS-8202 Rev. 0

Determination of Compliance with the Maximum Average Planaer Linear Heat Generation Rate (MAPLHGR) Technical Specification Limit

This new procedure provides a method for determining that the MAPLHGR is within the ECCS Technical Specification Limit

This procedure definies a calculational method and poses no interference with operation. There is no increased vulnerability to accidents, equipment malfunction or violations of the Technical Specifications.

13 1 DOA 300-7 Rev. 0

Weekly CRD Abnormality Record

This procedure was inadvertantly deleted in a reorganization effort. It returns administrative controls for documenting the operational history of the Control Rod Drives.

This procedure in no way increases our vulnerability to accidents, equipment malfunction or violations of the Technical Specifications.

14 1 200-S-IX Rev. 0

Primary Steam Bypass Valve and Bypass Line Warming Valve Exercising

This procedure provides a means of testing the operability of the bypass valves and the bypass line warming valve during operation.

This new procedure provides us with greater assurance of our ability to maintain control during an accident or equipment malfunction and makes us less vulnerable to violations of the Technical Specifications.

15 1 DOP 240-2 Rev. 3

Returning A Steam Generator to Service with Reactor Operating

The procedure was revised to prevent water spill-over into the secondary steam piping during pressurization of the shell side to 1000 psig $\pm$20 psig.

This operational procedure change is within the design limitations of the equipment and provides no increased vulnerability to accidents, equipment malfunction or violations to the Technical Specifications.

16 1 DTS-8201 Rev. 1

Unit 1 Incore Calibration

This procedure change provides an alternate to manual calculations of incore readings.

By providing an alternate calculational method of determining acceptable calibrations we diminish our vulnerability to accidents, equipment malfunction and violations of the Technical Specifications.

17 1 33-800-0-V Rev. 0

Control Rod Drive Scram Accumulator Alarms Calibration

This new procedure is to verify calibration and operability of instruments already existing in the plant.

This procedure increases our ability to avoid accidents, equipment malfunction and violations of the Technical Specifications.

18 1 16-0-S-II Rev. 1

Verification of Containment Integrity

Procedure revision adds a sign-off for the operator performing the check and the shift supervisor.

This requirement for additional information in no way increases the vulnerability of the station to accidents, equipment malfunction or violation of our Technical Specifications.

19 1 1500-S-II Rev. 2
Post Incident Cooling Pump Operability Check

This procedure was reformatted to meet ANSI requirements

By updating the format of this procedure we have in no way made ourselves more vulnerable to accidents, equipment malfunction or violation of the Technical Specifications.

20 1 1500-S-I Rev. 2

Motor Operated Valve Operability Check

This procedure was reformatted to meet ANSI requirements.

By updating the format of this procedure we have in no way made ourselves more vulnerable to accidents, equipment malfunction or violation of the Tech Specs.

21 1 33-800-0-XIII Rev 0

High Pressure Poison Tank Low Level Alarm (Refuel)

This is a new procedure to check calibration and operability of existing equipment.

This procedure in no way makes us more vulnerable to accidents, equipment malfunction or Technical Specification violation.

22 1 DOA (Dresden Operating Abnormals) Rev. 0

All Dresden 1 System Abnormals

In one major effort all existing procedures for operations with equipment or systems functioning at less than optimal conditions were reformatted.

This clerical task of reformatting does not degrade operations, safety evaluations of equipment design, nor lessen our ability to operate within the bounds specified by the technical specifications.

23 1 DGP-3-1 Rev. 0

Power Operations

This procedure was written to provide guidelines for operation and maximize our ability to maintain fuel cladding integrity.

This procedure will reduce the possibilities of an accident and increase the margin of safety by lessening the chances of fuel clad failure.

24 1 DOP 240-2 Rev. 2

Returning a Steam Generator Loop to Service with Reactor Operating

This revision specifies that a secondary steam generator will be pressurized on both the shell and primary sides to ±20 psig of reactor pressure during heat up.

The SSG is designed for pressure on both sides of the tubes to limit stress. The evaluation in the HSR and margin of safety in the bases for the Technical Specifications remain unaltered.

25 1 3300-S-II Rev. 1

Emergency Feed Pump Test

The change to this procedure provides an additional requirement to record the start and finish time each time this surveillance is conducted.

The additional information required by this procedure change is no way presents any additional vulnerability to accidents, malfunction or violation of Technical Specifications.

26 1 1500-S-III Rev. 1

Post Incident Cooling Pump Operability Check

The change to this procedure provides an additional requirement to record the start and finish time each time this surveillance is conducted.

This procedure change did not increase the possibility or consequences of any safety equipment as described in the PHSR. The potential for an accident not evaluated in the HSR was not increased. The margin of safety, described in the bases of the Technical Specifications is not decreased.

27 1 DOP 201-4 & 5 Rev. 0

201-4 Filling and Maintaining Level in Reactor Vessel During Refueling
201-5 Filling the Canal for Refueling

These procedures are reformatted and moved into the 201 section during the procedure reorganization

There are no changes to these procedures and no consequent increased vulnerability to accidents, equipment malfunctions or violations of the Technical Specifications.

28 1 DTS-8103 Rev. 0

Startup Range Monitors (SRM) Operability Check

This is a new procedure to assure operability of the SRM's.

This procedure makes us less vulnerable to accidents, equipment malfunctions and violations of the Technical Specifications.

29 1 DOA 9P11 Rev. 0

Dresden Operating Abnormals (Panel 9P11)

These are new procedures organized to aid the operator responding to Control Room Panel annunciators on panel 9P11.

There is no degradation of the systems or operations attributable to these procedures.

30 1 DOA 9P4 Rev. 0

Dresden Operating Abnormals (Panel 9P4)

These are new procedures organized to aid the operator responding to Control Room Panel annunciators on panel 9P4.

There is no degradation of the systems on operations attributable to these procedures.

31 1 DOA 9P3 Rev. 0

Dresden Operating Abnormals (Control Room Panel Annunciators)

These are new procedures organized to aid the operator in responding to Control Room Panel Annunciators.

There is no degradation to the systems or operations attributable to these procedures.

32 1 DOA 9P13 Rev. 0

Dresden Operating Abnormals (Control Room Panel Annunciators)

These are new procedures organized to aid the operator in responding to Control Room Panel Annunciators.

There is no degradation of the systems or operation attributable to these proc.

33. 1 33-1600-0-IV Rev. 0

Auto Isolation Valve Closure Due to Low Reactor Water Level

This is a new procedure to perform a functional test of the auto isolation valve.

This procedure assures us of our ability to maintain control during accidents, equipment malfunctions and diminishes the potential of Technical Specification violations.

34. 1 300-S-XI Rev. 3

Control Rod Blade Pull Test

This revision removes the requirement to valve out each Control Rod Drive for the Pull Test. The revision should reduce unnecessary personnel exposure to radiation.

This change will not make us more vulnerable to accidents, equipment malfunctions or violations of the Technical Specifications.

35. 1 DOP 240-4 Rev. 0

Secondary Steam Generator Blowdown

This is a new procedure for blowdown of the secondary steam generators. It presents no unreviewed vulnerability to accidents or equipment malfunctions.

36. 1 DTS-8105 Rev. 0

Shutdown Margin Demonstration

This is a reformat of another procedure. There are no changes that would make us more vulnerable to accidents, equipment malfunctions or violations of the Tech Specs.

37. 1 DOP 240-3 Rev. 0

Hydrostatically Testing the Secondary Steam Generators for Tube Leaks

This is a new procedure to check for tube leaks before making a secondary steam generator operational.

This procedure does not make us more vulnerable to accidents, equipment malfunctions or violations of the Tech Specs.

38. 1 DGP 3-1 Rev. 1

Power Operation

This procedure change assures that natural circulation is maintained after all pumps have tripped.

We are in no way more vulnerable to accidents, equipment malfunctions or violations of the tech specs with this procedure.

39. 1 DGP 1-1 Rev. 1

Normal Unit Startup

This procedure change specifies a minimum of 100 cpn before startup.

This procedure meets Tech Spec requirements and poses no threat to safe operation.

40. 1 DGP 3-3 Rev. 0

Maintaining Spinning Reserve

This is a new procedure for maintaining a reserve on the generator.

Spinning reserve has absolutely no safety implications and is not addressed in the Tech Specs.

A.4 Unit 1 Surveillance Testing

Dresden 1 surveillance testing was conducted during the reporting period in accordance with the Technical Specifications. The test results were satisfactory with the exception of the discrepancies listed below:

1. Failure of Core Spray Valve MO-CS33 to operate on July 23, 1975 (Rpt. #50-10/75-11)

2. 2/3 Diesel Fire Pump tripped on August 29, 1975 (Rpt #50-10/75-13)

3. Primary containment ventilation exhaust valves AO-503 and AO-504 failed local leak-rate testing on September 25, 1975 (Rpt 50-10/75-14)

4. Level instrumentation on "B" waste holdup tank failed on December 11, 1975 (Rpt #50-10/75-16)

A.5 Results of Periodic Containment Leak Rate Tests

Table 1E lists the results of periodic containment leak rate tests performed during the reporting period excluding the tests conducted during the refueling.

A.6 Changes, Tests and Experiments Requiring Authorization from the Commission

No changes, tests or experiments requiring commission authorization were performed during the reporting period.

A.7 Key Changes in Plant Operating Organization

The following changes were made in the reporting period.

Individual	From	To
N. Scott	Shift Engineer, Dresden	Operating Engineer Dresden
A. Abrell	Operating Engineer, Dresden	BWR Licensing Administrator
J. Abel	BWR Licensing Administrator	Admin. Assistant Dresden
L. Butterfield	Admin Assistant, Dresden	Nuclear Fuel Services

B. Power Generation

Power generation during the reporting period is summarized in Table 1A. Figures 1A through 1F are monthly histograms of thermal power vs time.

C. Shutdowns

Table 1B lists all reactor shutdowns encountered during the reporting period.

D. Maintenance

Corrective maintenance performed on safety related components is listed in Table 1C. This table gives a discription of the maintenance performed, including the cause and effect on safe reactor operation.

E. Changes, Tests & Experiments

No changes, tests, or experiments carried out without prior commission approval and requiring safety evaluations were completed this period.

F. Primary Coolant Chemistry

Chemistry data is presented on Table 1F of this section.

TABLE 1A

Dresden Unit 1 Power Generation Summary July - December 1975

Month	Gross Thermal Power (MWHt)	Gross Electrical Power (MWHe)	Reserve Shutdown Hours	Hours Reactor Critical	Hours Generator on Line
July	363288	107,660.19	0	744	744
August	401568	113,050.00	0	744	744
September	3076	1580.11	0	15:20	13:13
October	0	.22	0	0	0
November	0	.46	0	0	0
December	0	.85	0	0	0

Maximum Dependable Capacity MWe

Gross	Net
210	200

TABLE 1B

UNIT 1 REACTOR SHUTDOWNS

Shutdown Number	Date & Time	Cause	Duration (HRS)	Method of Shutdown	Plant Status During Shutdown	Corrective Action (If applicable)
1	9/1/75 @1313	Crack in 6" unloading heat exchanger returned line & early refueling outage	2915:47	Manual	Refuel	6" line was replaced

TABLE 1C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactor
July 11	Neutron monitoring sys/ in-cores	In-cores 104-A, 104-B, 105-A, 105-B, 105-C, 105-D, 108-A, 108-B, 108-D, 109-A, 111-B & 115-B were not reading 0% with all rods in	Out of calibration	Calibrated in-core monitor amplifier	None
July 29	Neutron monitoring sys/micro micro-ammeter, channel #4	Received ½ scram	Meter failure	Replaced meter	None, fail safe
Aug 28	Neutron monitoring system/in-core wire guns	None	Repaired & replaced as necessary all wire guns before outage	Repaired necessary wire guns	None

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactc
Sept. 3	Neutron Monitoring System/Channel 10	Erratic Reading	Bad Tube	Replaced Tube	None, Reactor in run; startup channels not required
Sept. 3	Neutron Monitoring System/Channel 9	Erratic Meter Reading	2 bad Tubes	Replaced Tubes	None
Sept. 3	Neutron Monitoring System/Micro Micro Ammeter #4	Received ½ Scram	Faulty Meter	Replaced Meter With a Calibrated Spare	None
Sept. 10	Neutron Monitoring System/In-Core	A Jump in 103-A Reading	Out of Calibration	Calibrated In-core 103-A	None
Sept. 10	Neutron Monitoring System/Incore Flux Amp Ser 5, 325, 688 (Spare)	None	Relay K5 Needed Repair	Repaired Relay	None
Sept. 10	Neutron Monitoring System/Incore Flux amp Ser 5, 325, 722 (Spare)	Recorder Output Low	Defective R-42	Replaced R-42	None
Sept. 11	Neutron Monitoring System/Channel 1	Channel 1 will not stay reset	Defective tubes and zener diode	Replaced defective parts and calibrated channell	None
Sept. 11	Nuetron Monitoring System/Incore 114-C	Reading drifting between 50 and 70	Zero Calibration out of adjustment	Readjusted Zero	None
Oct. 2	Neutron Monitoring System/Micro Micro Ammeter Channel 3	Could not range below 280KW or unit will cause a Scram	Unit out of calibration	Replaced channel #3 with a spare	None, Reactor down

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactc
Oct. 22	Neutron Monitoring System/ Channel #7 Power Cord.	None	Power Cord in need of replacement	Replaced power cord	None, Reactor was down
Oct. 31	Neutron Monitoring System/ Channel 3 Micro Micro Ammeter	Tripped at 75% indicated reading and will not reset	Trip point out of calibration	Adjusted trip point	None
Dec. 8	Neutron Monitoring System/ Channel #3 Micro Micro Ammeter	Reading Low	Heat Treated Resistor	Replaced with Spare Power Supply	None, Unit down
Dec. 23	Nuetron Monitoring System/ Start-up Channel #8	Period Meter Reading 73 Sec Period	Bad Tubes	Replaced Tubes	None
Dec. 30	Nuetron Monitoring System/ Fuel Loading Chamber X9	Channel Erratic	Damaged Duel High Voltage Power Sup.	Repaired Power Supplies	None
Dec. 31	Neutron Monitoring System/ Channel #5 Micro Micro Ammeter	Trip Signal Could not be reset	Water on Connector	Replaced with spare power supply and cleaned connec	None
Dec. 31	Neutron Monitoring System/ Channel 3 Micro Micro Ammeter q	Shorted Cable	Wet Cable	Dried out cable connector	None, Reactor down
Dec. 19	Tools and servicing Equip. Fuel grapple	None	Grapple has no east west movement	Replaced tubes	None
Dec. 24	Tools and Servicing Equipment/Fuel grapple	None	Fuel grapple has an air leak	Tightened up fitting at hook	None

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactor
Dec. 24	Tools and Servicing Equip. Fuel Grapple	None	Fuel Grappling hook is hanging up	Loosen clamp on lower air hose	None
Dec. 24	Tools and Servicing Equipment/Fuel Grapple #1 Fuel Building	None	No up or down movement	Adjusted limit switch operating arm to closer tolerances	None
Oct. 22	Reactor Poison System/ Unit 1 MO-300	None	Loose bolts on Valve body flanges	Tightened loose bolts	None
Nov. 4	Reactor Poison System/High Pressure Poison Tank Low Level Alarm	Giving Low Alarm, will not clear	Float not operating	Pulled level switch and checked operation	None
Nov. 11	Reactor Poison System/ B Poison Pump	None	Packing is Leaking	Adjusted Packing on Both B and A pumps	None, Reactor is down
Dec. 5	Reactor Poison System/ Poision Tank	N^2 Low Pressure Alarm	Set Alarm to 500 pounds during outage	Adjusted Switch to 500 PSI	None
Dec. 12	Reactor Poison System/ Relief Valve 300	Boron Leakage	Suspected Leakage pass valve	Broke Union and Inspected for Boron Leakage	None, Reactor in shutdown
Dec. 18	Reactor Poison System/ Nitrogen Manifold	None	North Valve on Nitrogen Manifold was defective	Replaced both North and South Valves on Manifold	None, Reactor is shutdown
July 25	Core Spray System/MO-33 Valve	Valve will not drive open	Valve Failure	Cleaned and greesed valve stem	None
Aug. 6	Core Spray System/CS-21,22, & 16Spray Valves	None	Routine Mantenance	Cleaned and lubricated stem and installed dust covers	None

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactor
Aug. 8	Core Spray System/Spray Valves	None	Preventive Maintenance	Installed Protective Covers to Protect Valve Stems	None
July 3	Pressure Suppression System/Emergency Personnel Air Lock	None	Needed Bracing to Perform local lean rate test	Installed Strong backs for Air Test and Removed After Test	None
Aug. 18	Pressure Suppression System / Personnel Door Interlock	Inside door equilizing valve is not opening	Linkage out of calibration	Reset linkage which corrected equalizing valve problem and lub. parts	None
Sept. 16	Pressure Suppression System/Sphere Personnel Lock	Door does not work from push button	Safety chain in need of repair	Safety chain was repaired guide dog had to be repositioned	None
Sept. 24	Pressure Suppression System/Sphere Equipment Locks	Inner door could not be operated electrically	Door motor would not shut off when door was full open or close	Adjusted limit switches	None, Sphere Integrity was not broken
Nov. 4	Pressure Suppression System/Sphere Vent Exhaust Valves	Valves Failed Local Leak Test	Leaked Pass Rubber Inserts	Replaced Rubber Inserts on Valves	None
Dec. 24	Pressure Suppression System/Sphere Personnel Lock	None	Door Linkage needs Adjustment	Adjusted chain and tightened bolts on bearing block	None, Reactor shutdown
Dec. 24	Pressure Suppression System/Sphere Personnel Door Interlock	Inner door will not close	door is leaning and safety chain is broken from door	Put chain back on bolt tightened set screws on hinge bushing	None, Reactor shutdown
July 11	Process Radiation Monitor/ Chimney Monitor	Log Recorder is Spiking Sporatically	Defective Motor and Amplifier	Replaced Amplifier and balancing motor in recorder	None

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactc
July 17	Process Radiation Monitor/ Off Gas Monitor	Error in readings betw. #1 and #2 Off Gas Monit.	ION chamber on #2 Monitor failed	Replaced ION chamber and moved detector to get maximum reading	None
Dec. 19	Area radiation and monitor/ Fuel Building alarm	Alarms continuously	Alarm set point setting to low	Raised alarm set point	None
Dec. 8	Extration Steam System/ Unloading HX Steam Supply Heater	Breech of Containment Integrity	Steam Leak on Line 6415	Replaced Bad Steam Pipe Nipple	None, Reactor Shutdown
Aug. 15	Fire Protection System/ Pump Discharge Line	Leak from discharge line to fire head	Coupling and union leaking	Replaced coupling and union	None
Sept. 20	D.C. System/125 volt Batteries	None	Dirty Batteries	Cleaned Batteries	None
Sept. 29	D.C. System/125V Battery	None	Routine Test	Preformed 125 volt Battery Discharge Test	None
Oct. 3	Reactor Vessel/Primary Steam	None	Routine Maintenance	Overhauled, inspected and adjusted as required the safety valve SS 9705	None, Reactor Shutdown
Oct. 3	Reactor Vessel/Primary Steam Drum	None	Routine Maintenance	Overhauled, Inspected and adjusted the lifting pressure set point for safety valve SS 9702	None
Oct 22	Reactor Vessel/Primary Steam Drum	None	Routine Maintenance	Overhauled, Inspected and Adjusted as required the lifting pressure set point on safety Valve SS 9703	None

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reacto
Oct. 22	Reactor Vessel/Primary Steam Drum	None	Routine Maintenance	Overhauled, Inspected and adjusted as required the lifting pressure set point on safety Valve SS 7917	None
Oct. 22	Reactor Vessel/Primary Steam Drum	None	Routine Maintenance	Removed and stored the safety valves SS 9704, 9706, 9707, 9708, and 7918	None, Reactor Shutdown
Oct. 22	Reactor Vessel/Mode Switch	None	Dirty Contacts on Reactor mode switch	Cleaned contacts with contact cleaner	None, Reactor Shutdown
Oct. 22	Reactor Vessel/Valve MO 168	Valve Leaking	Valve would not close fully	Cleaned and lubricated valve	None, Reactor in shutdown
Nov. 11	Reactor Vessel/North Steam Line	Valve Leaking	Valve MO-168 1 not close	Meggered and Bridged motor, cleaned and lub. valve	None, cold shutdown
Nov. 13	Reactor Vessel/MSIV Mo 170	Valve Operator moving to slow	Suspected defective operator	Inspection of valve and operator showed no problems	None, unit locked in refuel
Dec. 18	Reactor Vessel/Fuel Grapple	Grapple Hose Leaking	Faulty Packing	Tightenup on packing at grapple end	None
Dec 24	Reactor Vessel/BSSG discharge bypass MO 172	Will not operate electrically	Thermal Trip	Reset Thermal Overload and replaced control transformer	None
June 30	Secondary Steam Gen / Tube Side	Leak On Tube side	Worn Tubes	13 Tubes were plugged.	None: the Secondary Steam Generator was Isolated

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reacto
Aug. 9	Primary Steam System/ Safety Valves	None	Routine Inspection of Safety Valves	Valves were tested OK	None
Oct. 30	Primary Steam System/ Safety Valves	None	Routine Inspection of Safety Valves	Valves were inspected and found to be OK	None: The work was done while the reactor was shutdown
Dec. 10	Secondary Steam Gen/Motor Operated Blowdown Valve	Valve Open Indicator was out of calibration	Time and Wear	Motor Operated drive mech was recalibrated	None
Dec. 10	Secondary Steam Gen/Motor Operated Valve Position Indicator	Valve Open Indicator was out of calibration	Inspection showed position indicator was inaccurate	Motor operated valve was recalibrated	None
Dec. 10	Secondary Steam Gen/Motor operated blow down Valve	Valve Open indicator was out of calibration	Inspection showed position indicator was inaccurate	Motor Operated Valve was recalibrated	None
June 2	Control Rod Drive Accumulator #14	Malfunction Resulted in High Water Alarm Once per Shift	Faulty Accumulator	Faulty Accumulator was removed	None: Reactor System was not Degraded
June 3	Accumulator #14 Vent Valve	Inability to keep high water level cleared	Leaking Accumulator vent valve	The vent valve seat was lapped and cleaned	None: Reactor System was not degraded
July 1	Accumulator #11	Accumulator air is leaking around sparge plug for high water level	Worn gaskets	Worn gaskets and other necessary par' were replaced	None: Reactor System was not degraded
Nov. 11	Control Rod Drive System / Accumulator C2753B	None	During Routine inspection, piston and cylinder interior walls were found to be rusted pitted and dirty	Cylinder was replaced	None

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactc
Nov. 11	Control Rod Drive System Accumulator C2753A	None	Piston and Cylinder interior walls were found to be rusted pitted and dirty	Cylinder was replaced	None
Nov. 19	Reactor Protection System HFA Relay	None: Routine inspection to insure reliable operation of station HFA relays	Relays tested OK	No Action required	None: Reactor was shutdown all fuel and rods were removed from reactor and moved to fuel building
Nov. 22	Control rod drive system / accumulator C2779B	None	Worn Accumulator	Accumulator restored and overhauled	None
Nov 24	Control Rod Drive System / Accumulator C2779a	None	During routine maintenance the accumulator was selected for overhaul	Accumulator was overhauled	None
Dec. 4	Control Rod Drive	Leaking Control Rod Drives	Poor Seal on CRD's	The Torque setting for Unit 1 CRD's was tighten from 250 Ft # to 350 FT#	None: No fuel was in vessel and reactor was drained
Dec. 7	Control Rod Drive B-2	CRD B-2 has flange leak	Improper flange Seal	CRD pulled and "O" rings replaced	None
Dec. 10	Accumulator #8 on control Rod Drive System	Severe leakage unable to blow water out	Worn accumulator was pitted and scraped	Accumulator was overhauled	None: Reactor was shutdown and all fuel and CRD's were removed from reactor and vessel was drained

TABLE 1 C

Dresden Unit 1 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to preclude recurrence	Effect on safe operation of reactc
Dec. 10	Control Rod Drive System Accumulator C-2781A	None	During Routine Maintenance the accumulator was selected for overhaul	Accumulator was overhaul	None
Dec. 19	Control rod drive system CRD B-2	CRD B-2 has flange leak	Faulty "O" Ring	Replace "O" ring	None: no fuel or radioactive control blades in reactor or in fuel canal

TABLE 1D

DRESDEN 1 NONREPORTABLE DEVIATION REPORTS REQUIRING

CORRECTIVE MAINTENANCE

Date Of Occurrence	Number	Component Requiring Corrective Maintenance	Date Complete
10/17/75	D12-1-/5-44	Unloading heat exchanger steam supply header trap	11/1/75

TABLE IE

RESULTS OF PERIODIC CONTAINMENT LEAK RATE TESTS

PERFORMED DURING JULY, 1975 - DECEMBER , 1975

Component Tested	% Leakage Per Day	% of License Limits
Transfer Tube	.02	4.18
16' Equipment Cover	.0036	.755
Sphere Vent Supply Valves	.00845	1.76
Sphere Vent Exhaust Valves	.00002	.00833
Emergency Condenser Manhole (N)	0	0
" " " (S)	1.70×10^{-4}	.071
Core Spray Valve CS.16	0	0
" " " CS 17	9.19×10^{-5}	.0383
" " " CS 11 & 12	0	0
" " " CS 13 & 14	0	0
Escape Hatch	.00231	.482
Secondary Steam Generator Iso. Vlv. MO 159 & 160	1.842×10^{-4}	.0384
" MO 161 & 162	0	0
" MO 163 & 164	0	0
" MO 165 & 166	3.758×10^{-4}	.0783
Feedwater Return Isol. Vlvs MO-4	.0003	.125
" " " " MO-5	.0004	.17
" " " " MO-8	0	0
" " " " MO-9	0	0
Equipment Hatch	.01754	3.65
Primary Steam Line Isolation Valves MO-169 & 170	.0288	12
Primary Steam Line Drain Isolation Valves MO-167 & 168	.06304	26.6

TABLE IF
PRIMARY COOLANT CHEMISTRY
Dresden Unit 1

July to Dec., 1975

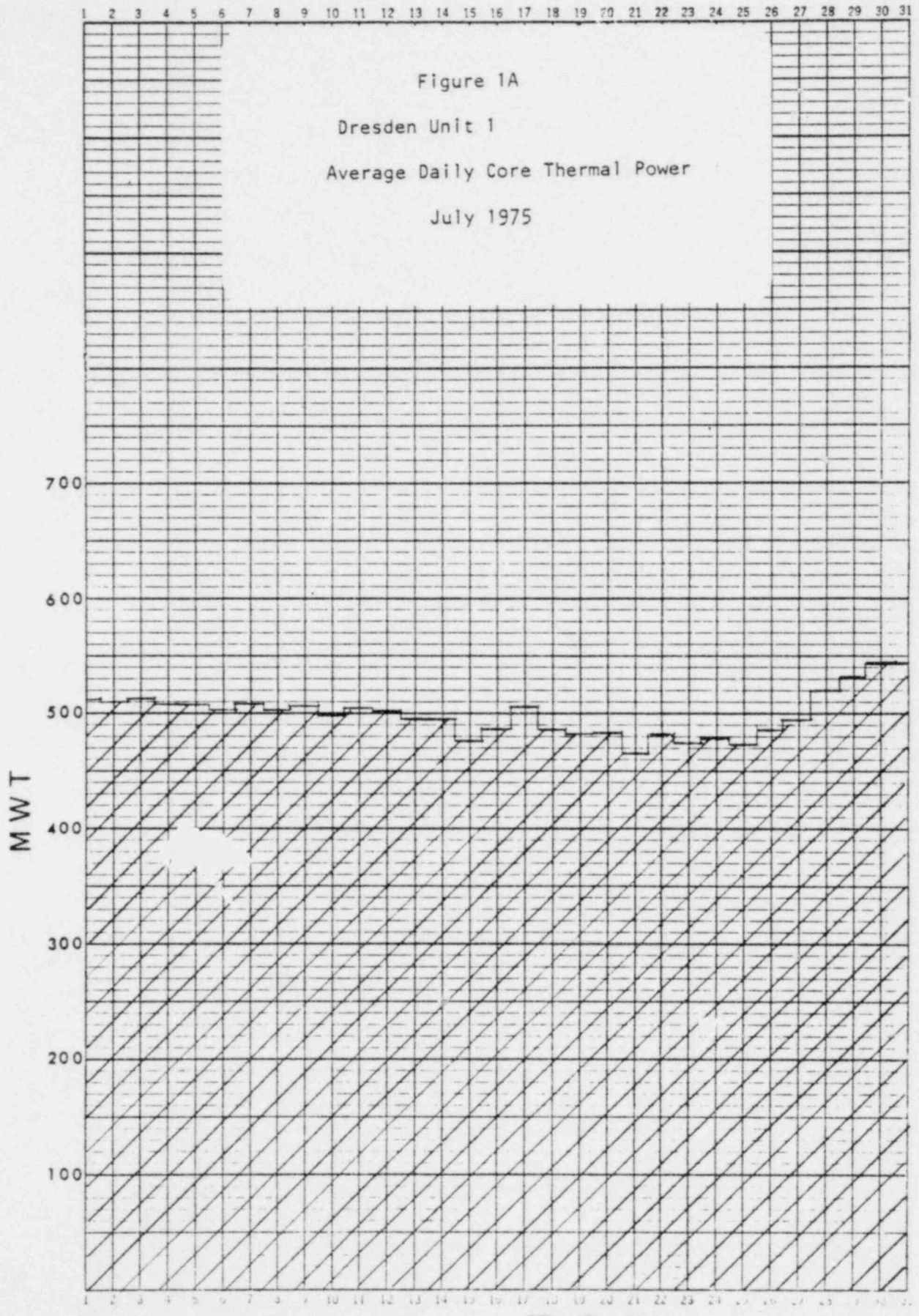
		Units	July	August	Sept.	Oct.	Nov.	Dec.
1.	Gross Radioactivity							
	a) Maximum	uCi/ml	7.7E 08	9.6E 08	9.3E 08	1.7E 08		1.3E 08
	b) Average	uCi/ml	4.7E 08	6.6E 08	9.5E 07	2.4E 07		1.1E 07
	c) Minimum	uCi/ml	1.9E 08	4.5E 08	1.6E 05	6.6E 05		1.6E 05
2.	Chloride							
	a) Maximum	ppm	.090	.052	0.102	0.168		0.097
	b) Average	ppm	.037	.036	0.038	0.056		0.047
	c) Minimum	ppm	< .030	< .030	< .030	< .030		< .030
3.	pH @ 25° C							
	a) Maximum	pH	8.0	8.3	7.8	7.7		8.4
	b) Average	pH	7.5	7.7	7.5	7.4		7.8
	c) Minimum	pH	6.4	6.9	6.6	7.2		7.3
4.	Iodine 131	uCi/ml	5.3E-03	5.7E-03	1.4E-03	ND		ND
5.	Iodine-131: Iodine-133	Ratio	.18	.18	---	---		---
6.	Gross Tritium	uCi/ml	9.1E-03	7.2E-03	6.3E-03	5.9E-03		3.7E-03

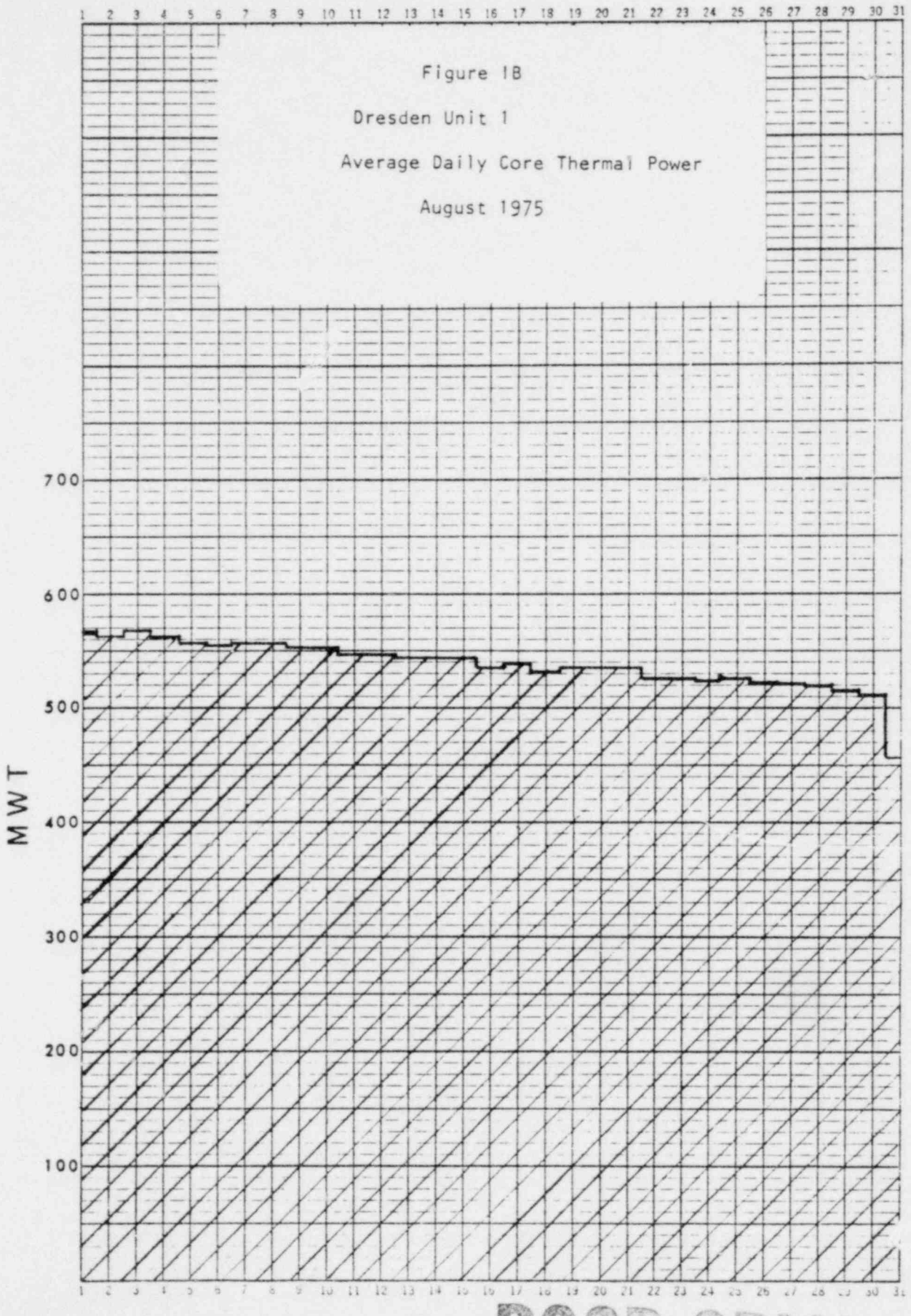
NO RESULTS ----- REACTOR DRAINED

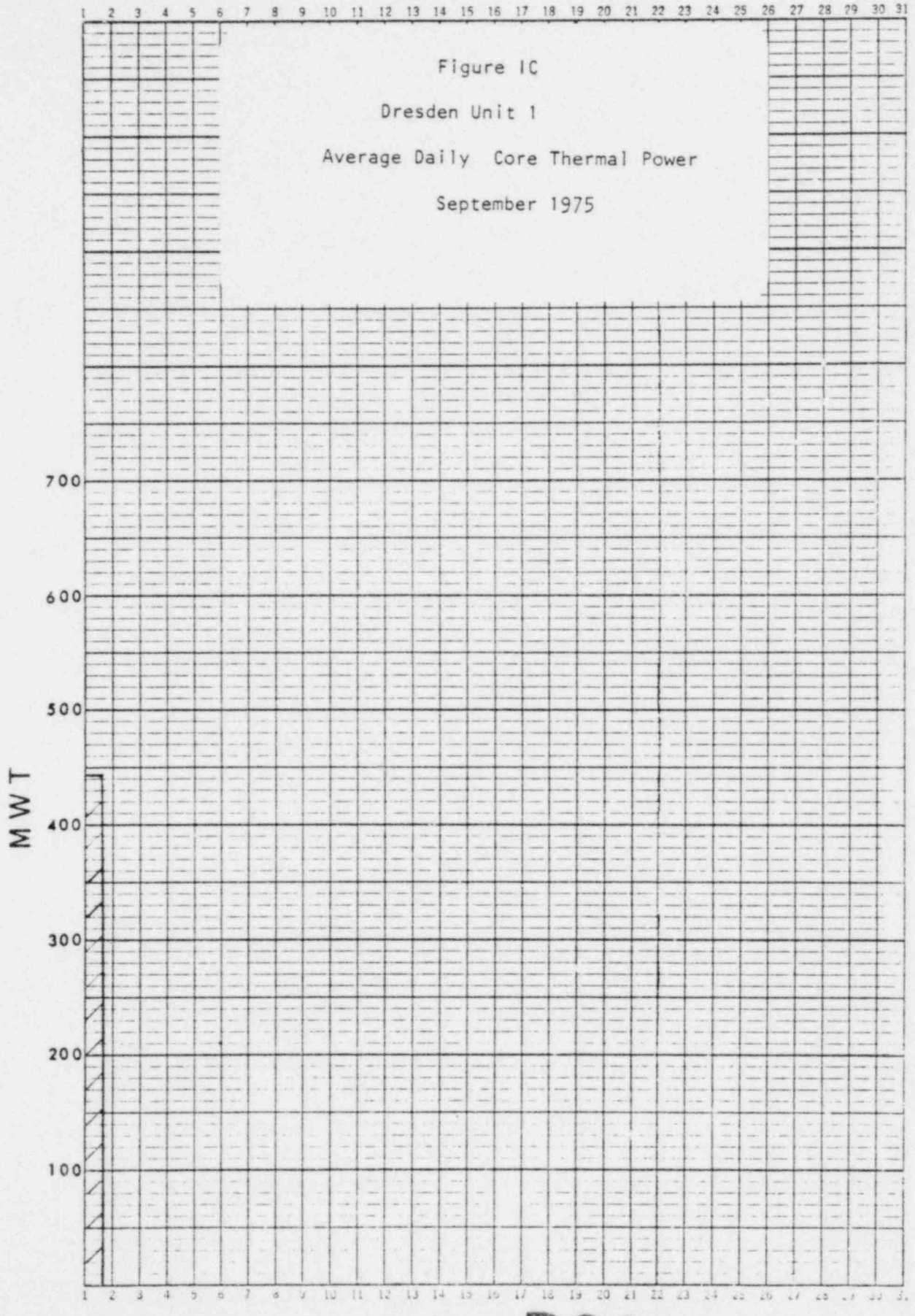
TABLE 1G

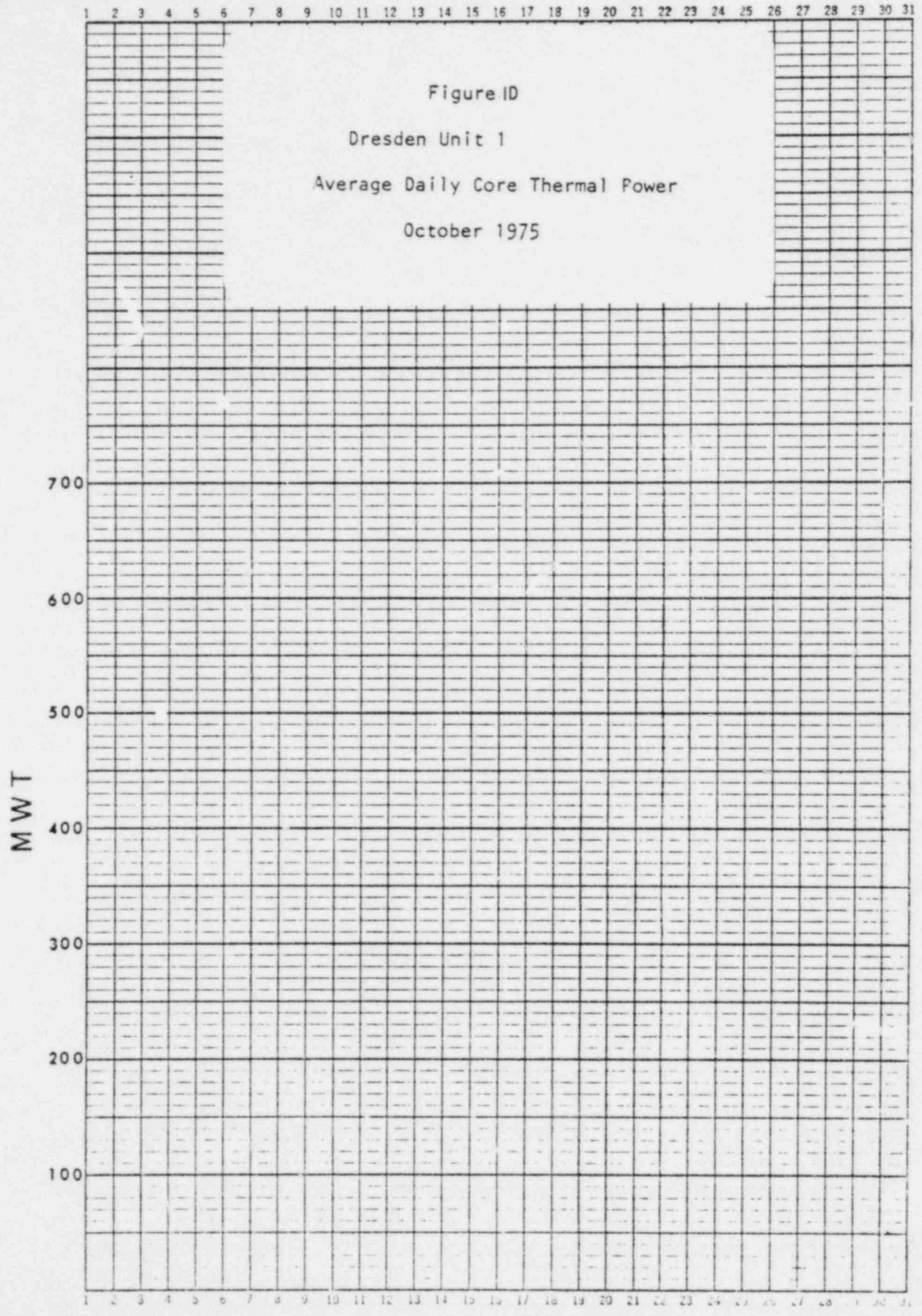
Main Steam Isolation Valve & Feedwater Power Operated Isolation Valves Closure Times.

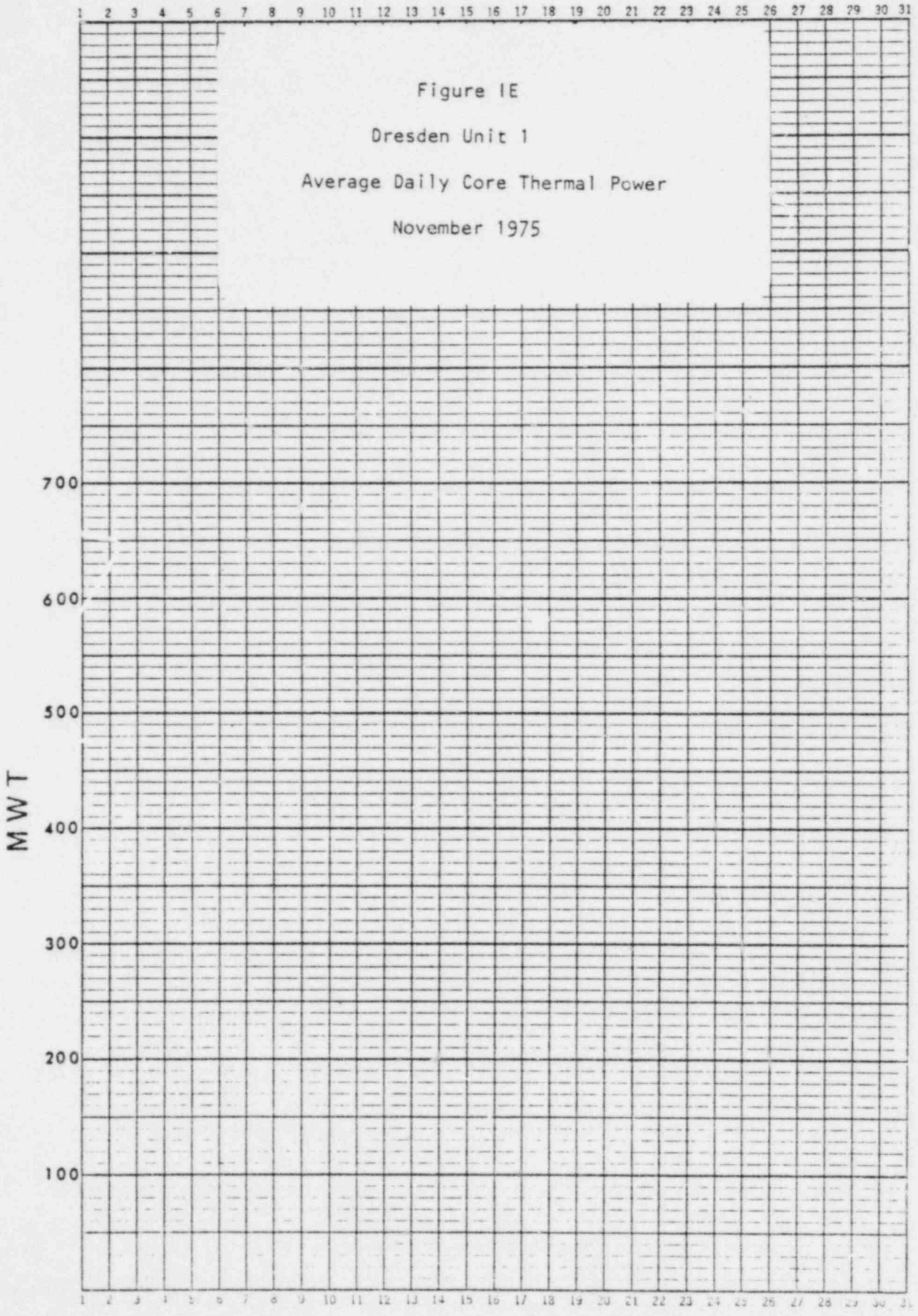
Valve	Closure Time (Seconds)
MO-169	66.5
MO-170	66.5
MO-5	47.3
MO-9	46.2



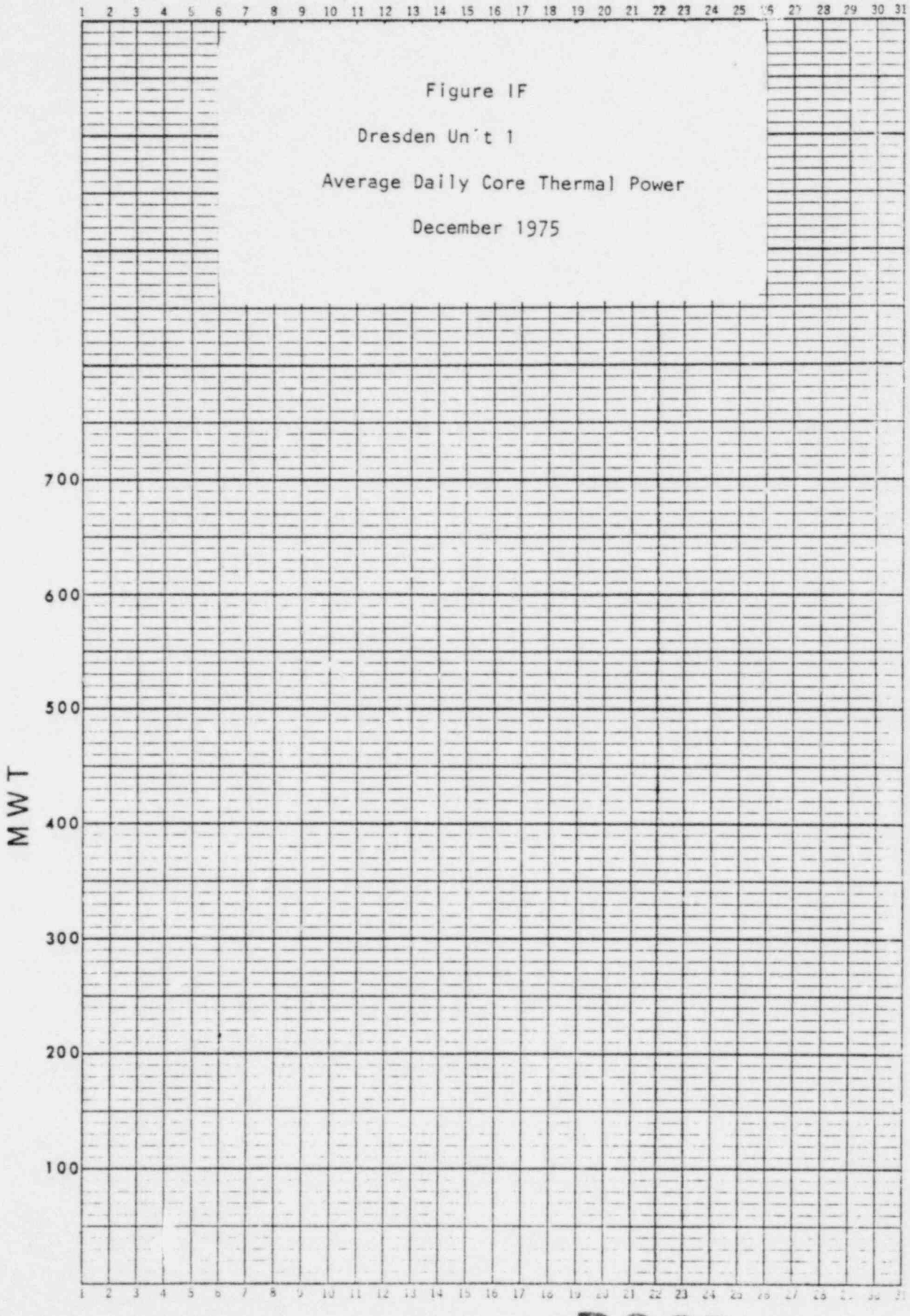








1 MONTH BY DAYS 46 2290
X 110 DIVISIONS
KEUFFEL & ESSER CO.



DRESDEN NUCLEAR POWER STATION
SEMI ANNUAL REPORT
SECTION II DRESDEN UNIT #2

A. Operations Summary

1. Change in Plant Design described in section E of this report

2. Performance characteristics
   a. Equipment performance is shown in the chronological history which follows

UNIT #2 CHRONOLOGICAL HISTORY

July 1 to July 7

The unit began this period operating at a steady load of 730 MWe dropping only for surveillance testing and fuel management guidelines.

July 8 to July 9

Unit scrammed several times during IM surveillance testing. Start up commenced and Unit was loaded for xenon equilibrium.

July 10

Holding for Xenon Equilibrium and flux shaping. Increased load at 3 MWe/hr for fuel preconditioning.

July 11 to July 14

Load was increased at 3 MWe/hr until maximum recirculation flow was reached. One reactor cleanup resin bed was discharged.

July 15 to July 17

Load was reduced for routine surveillance testing. Load was increased to the maximum valve of 780 MWe. High temperatures were experienced on the bus duct coolers.

July 18 to July 19

Held steady load at 772 MWe. Rechar system charcol beds cut in.

July 20

Held load at 750 MWe.

July 21 to July 22

All seven condensate demins were cut in due to high differential pressure. An oil leak developed on the low side bushing of T22. Service water Pp2B experienced high vibration. Operating with max recirc flow.

July 29

"A" cleanup Hx was cut in service and Regen Relief valve began blowing. Took back out of service for repair.

July 30 to July 31

Load held steady at 795 MWe with max recirc flow. 2A cleanup Hx relief valve repaired and Hx on the line. Substation construction department repaired #27 oil pump on transformer.

July 23 to July 24

Load drop was made for 10% MSIV surveillance. Completed regeneration of condensate demin bed. Cleanup demin bed transferred to condensate demin for rinsing. Increased load to 775 MWe and held steady.

July 25

It was necessary to cool isolated bus ducts with fire hose during hot part of day. Dropped load to 400 MWe for surveillance and rod pattern adjustment. Load was increased at 3 MWe/hr for fuel preconditiong after rod pattern change.

July 26

One condensate demin bed was sonic cleaned and one in progress. Increased load at 3 MWe/hr.

July 27 to July 28

Diesel generator taken OOS for 6 month inspection. Inspection completed satisfactorily and returned to service July 28. Increased load at 3 MWe/hr.

Aug 1 to August 7

Unit operated at a steady load of 765 MWe dropping load only for surveillances: 10% MSIV closure turbine stop valve scram, turbine load reject scram.

August 8 to August 22

Steady @ 813 MWe, tested EGC system for 50 MWe/hr load drop and dropped at 100 MWe/hr. System to be tuned further. Dropped load to 570 MWe and completed surveillances. Commenced load pick up to steady load of 800 MWe.

August 23 to September 5

Reduced load for 25 rod scram testing. Testing was completed satisfactorily and load was increased @ 50 MWe/hr. To a steady load of 805 MWE.

September 6 to September 11

Reduced load to 400 MWe for half core scram test. Test was completed satisfactorily and load was increased to 810 MWe and held steady.

September 12 to September 18

Reduced load for brush replacement on "B" recirc pump. While increasing load to 750 MWe #4 CIV started oscillating. Commenced load drop and problem disappeared. Load was restricted to 634 MWe due to #4 CIV oscillations.

September 19 to September 20

Unit off system @ 0445 hours for #4 control valve repairs.

September 21 to September 23

Started up and increased load to 450 MWe after #4 CV repairs. Made rod adjustments for flux shaping.

September 24 to September 27

Unit off system at 0819 hours 9/24/75. For maint. outage, TR 22 repairs, drywell blower motor replacement and drywell snubber inspection.

September 28 to September 29

Unit went on system @ 1645 hours 9/28/75 and loaded to approx 300 MWe. Unit scrammed @ 0524 hours 9/29/75 on high drywell pressure while inerting the drywell (inadvertent manual valve opening). Condensate demins service unit 2F blew gasket on resin transfer outlet. At 1100 hours 9/29/75, U-2 diesel generator received crankcase Hi-pressure alarm while running due to ECCS , high drywell pressure initiation signal. Drywell pressure reduction in progress.

September 30 to October 6

U2 D/G decleared operable @ 1305 hours and Rx made critical @ 1626 hours and sycnronized to system @ 0548 hours 10/1/75. Drywell inerting stopped at 5% O_2 due to low nitrogen tank. Increased load @ 3 MWe/hr.

October 7 to October 12

During leak rate test between pressure supression system valves 1601-21 & 1601-22 & 1601-56 found pipe cracked where nitrogen inerting line joins larger pipe. Unit off system 0034 hours, 10/8/75, to repair crack in drywell vent pipe and nitrogen inerting line.

October 13 to October 15

Unit on system 0657 hours, 10/13/75, and increased load to 408 MWe and held for xenon equilibrium. Load increased at 5 MWe/hr towards maximum load.

October 16 to October 24

Unit off system @ 0503 hours 10/16/75 to repair flange leak on turbine steamline. Unit back on system @ 2200 hours 10/17/75. Held load @ 464 MWe for xenon equilibrium and then increased @ 3 MWe/hr for fuel preconditioning.

October 25 to November 2

Unit in hot standby to repair EHC leak @ 0830 hours 10/25/75. Oil leaked repaired and unit back on system @ 0223 hours 10/26/75. Increased load at 3 MWe/hr for fuel preconditioning.

November 3 to November 14

Unit held steady load @ 794 MWe with max recirc flow thru this period.

November 15 to November 16

Unit outage to repair turbine EHC oil leak. Off system @ 0305 hrs, back on system @ 0311 11/16/75.

November 17 to November 21

Increased load at 5 MWe/hr to 740 MWe, then 3 MWe/hr. On November 18, began experiencing trouble with the #4 CV cycling load from 5 to 20 MW. On November 19, load was dropped to replace linkage on turbine control valve then began increasing at 10 MWe/hr.

November 22 to November 27

Unit was off system from 0331 hrs to 1351 hrs on 11/22 to repair #4 turbine control valve and add oil to B Rx recirc pump. Increased load @ 10 MWe/hr to 750 MWe.

November 28 to December 5

Unit off system at 0220 hrs 11/28/75 to repair leaking AO-220-44 valve diaphragm. Unit was back on system 0443 hrs, 11/29/75. Began 30 hr soak for Xenon equilibrium and then increased load to 780 MWe until 12-6-75.

December 6 to December 9

Unit dropped load to 481 MWe for weekly surveillance tests. Load was increased @ 10 MWe/hr & 3 MWe/hr to 825 MWe and held for 12h xenon equilibrium.

December 10 to December 11

Load dropped to 560 MWe for surveillance test. Increased load at 10 MWe/hr to 760 MWe then 3 MWe/hr to 811 MWe.

December 12 to December 19

Decreased load to 430 MWe for rod pattern change and weekly surveillances. Load was increased at 3 MWe/hr for fuel preconditioning on 12/15/75. The main transformer cooling was lost at 1210 hrs when a lead burned off of contactor in the control cabinet for coolers. Load was dropped to limit the transformer temp to 71°c (decreased from 585 to 315 MWe). Completed repairs and increased load @ 3 MWe. Holding steady @ 797 MWe with 1% spinning reserve 12/19/75.

December 20 to December 23

Decreased load to 425 MWe for half core scram testing. Test completed satisfactorily and load increased @ 50 MWe/hr to 765 MWe than @ 3 MWe/hr to 810 MWe.

December 24 to December 31

The unit ran at an average steady load of 726 MWe, decreasing load only for surveillance testing.

A.2.b Unit 2 Fuel Performance July-December 1975

The end-of-month approximate core average exposures for each month ofthe reporting period are given below.

Also given are the serial number, core location, and average end-of-month exposure for the bundle of highest exposure for each month.

1975	Core Ave. MWD/T	Lead bun. Set.no.	Lead bun location	Lead bun. MWD/T
July	8763	DN 992	27-48	12263
August	9252	DN 992	27-48	12869
September	9570	DN 992	27-48	13260
October	9902	DN 992	27-48	13558
November	10214	DN 992	27-48	13975
December	10634	DN 992	27-48	14473

A.3 Procedures

New Unit 2/3 and Unit 1/2/3 procedures and procedure changes are listed below:

1. 2/3 DGA-1 Rev. 1

Loss of Coolant (Fast Leak)

This procedure was revised to reference conservative new Tech Spec limitations. It decreases the possibilities for an accident or equipment malfunction.

2. 2/3 DOA 2303-3 Rev. 1

Main Steam Line System Leaks - Small Leaks, Without Emergency Core Cooling System Actuation

This procedure was revised to reference conservative new Tech Spec limitations. It decreases the possibilities of an accident or equipment malfunction.

3. 2/3 DGA-5 Rev. 1

Low Reactor Water Level

This procedure was revised to reference the conservative new Tech Spec limitation. It will decrease the possibilities of an accident and equipment malfunction.

4. 2/3 DGA Rev. 1

Major Steam Leak (Outside of Drywell)

This procedure was revised to include a reference to the conservative new Tech Spec limitations. It will decrease the potential for an accident or equipment malfunction.

5. 2/3 DGA-6 Rev. 1

Reactor High Pressure

Conservative new Tech Spec limits are incorporated into this emergency procedure.

6. 1/2/3 DAP 11 Rev. 0

Quality Program

These administrative guidelines contribute to our confidence in our operational capabilities. They in no way make us more vulnerable to accidents, equipment malfunctions or Tech Spec violations.

7. 1/2/3 DAP 6 Rev. 0

Office Administration

Organizational delegation of responsibilities and clerical references have no implications to safe plant operation.

8. 1/2/3 DAP 12 Rev. 0

Radiation Control Activities

New procedures define the Dresden Rad/CHem department and program. Simple administrative changes will have no detering force in safe plant operation.

9. 1/2/3 DAP 7 Rev. 0

Operations Activities

These are new procedures to apply administrative controls over the conduct of operating activities. Safety should be enhanced by increased administrative guidance.

10. 1/2/3 DAP 9 Rev. 0

Procedures

These procedures should decrease the potential for an accident, equipment malfunction and violations of the Tech Specs due to administrative upgrading of procedure controls.

11. 2/3 38-300-S-X Rev. 2

Control Rod Drive Scram Timing and Scram Valve Timing Test

This procedure revision outlines the steps for performing the scram tests when the computer is not available.

This procedure is to be used to assure our control during accidents, equipment malfunctions and allows as to collect data to verify we are within the limits of the Technical Specifications.

12. 2/3 38-300-S-III Rev. 3

Control Rod Drive Scram Testing and Scram Valve Timing Test

The scram test procedure was revised to reflect the new scram valve timing modification and the addition of scram test chedk sheets.

This procedure assures our ability to maintain control during accidents, equipment malfunctions and allows us to collect data to verify we are well with the limits of the Tech Specs.

13. 2/3 DGP 2-4 Rev. 1

Shutdown from Power Operation to Hot Standby

Outdated references are corrected in this revision.

Clerical updating of the procedure does not affect safe operation of the plant.

14. 2/3 DGP 1-3 Rev. 2

Unit Hot Standby to Power Operation

Outdated references are corrected in this revision.

Clerical updating of the procedure does not affect safe operation of the plant.

15. 2/3 DGP 1-2 Rev. 2

Unit Startup to Hot Standby

Outdated references are corrected in this procedure.

Clerical updating of the procedure does not affect safe operation of the plant.

16. 2/3 DGP 1-1 Rev. 2

Normal Unit Startup

Outdated references are corrected in this revision.

Clerical updating of the procedure does not affect safe operation of the plant.

17. 2/3 DFR 800-25 Rev. 0

Receiving, handling, storage and shipment of fuel loading chambers.

This procedure has no interface with operation of the units. Therefore it has no safety significance and does not threaten the bases of the Tech Specs.

18. 2/3 DFP 800-3 Rev.2

Nuclear Fuel Receiving Inspection and Core Preparation of Fuel Bundles

This change to the procedure added an Inspection Checklist required by the Quality Assurance Program.

This procedure revision is in a conservative direction and does not make us any more vulnerable to accidents, equipment malfunctions or violations of the Tech Specs.

19. 2/3 DOA 902(3) Rev. 0

Dresden (System) Operating Abnormals

These new procedures provide direct access for the operator to reference after seeming an alarm on Panel 3.

These procedures do not make us more vulnerable to accidents, equipment malfunction or violations of the Tech Specs.

20. 2/3 33-300-11 Rev. 0

Control Rod Drive Accumulator Low Pressure Switch Test

This is a new procedure for checking the operability of the CRD Accumulators low pressure switches.

This is a test procedure for equipment that is already installed. It poses no significant deterents to safe operation and is not referenced in the Tech Specs.

21. 2/3 DGA 9 Rev. 3

Loss of Flow-Both Pumps

Procedure change was initiated to track revision of the license. Operation is no longer permitted with a single pump in service.

We are in no way more vulnerable to accidents, equipment malfunctions or violations of the Tech Specs by making this change in a conservative direction.

22. 2/3 DOA 201-2 Rev. 1

Reactor Recirculating Pump High Vibration

The procedure is unchanged. A note was added to reference a recent revision to the Tech Specs.

We are in no way made more vulnerable to accidents, equipment malfunctions or violations of the Tech Specs.

23. 2/3 DOA 902(3)-54 Rev. 0

Dresden Operating Abnormals (Panel 54)

These are reformatted procedures that detail proper actions in response to annunciators on Control Room Panel 54.

By providing new and better organized procedures it should be easier to maintain safe plant performance within the Limiting Conditions for Operations.

24. 2/3 DOA 902(3)-7 Rev. 0

Dresden Operating Abnormals (Panel 7)

These are reformatted procedures that detail proper actions in response to annunciators on Control Room Panel 7.

By providing new and better organized procedures it should be easier to maintain safe plant performance within the Limiting Conditios for Operations.

25. 2/3 DOA 902-(3)-6 Rev 0

Dresden Operating Abnormals (Panel 6)

These are reformatted procedures that detail proper actions in response to annunciators on Control Room Panel 6.

By providing new and better procedures should make it easier to maintain safe plant performance within the Limiting Conditions for Operations.

26. 2/3 33-200-XXIV Rev. 0

Setting the Recirculation Pump Runout Limits

This is a new procedure to set limits on recirc pump runout by adjusting the mechanical stops on the scoop tube positioners.

When the upper mechanical stops on the scoop tube positioners are lowered the margin of safety for a given Critical Power Ratio is increased, due to a more limited possible recirculation pump runout.

27. 2/3 DGP 3-3 Rev. 0

Maintaining Spinning Reserve

This is a new procedure for maintaining a reserve on the generator.

Spinning reserve has absolutely no safety implications and is not addressed in the Technical Specifications.

28. 2/3 33-1400-1 Rev. 2

Core Spray Header Differential Pressure Detector Calibration

Procedure was reformatted to meet ANSI 18.7 requirements.

This procedure will not create an increased potential for accidents, equipment malfunctions or Tech Spec violations.

29. 1/2/3 DAP 2-8 Rev. 2

Electrical Jumper Log

Procedure change removes the requirement for the superintendent to review use of jumpers.

Sufficient administrative controls still exist without the superintendents review to assure safe operation and use of jumpers and lifted leads.

30. 2/3 DOA 3300-2 Rev. 0

Loss of Condenser Vacuum

This is a simple reformat of an older procedure.

This revision does not make us more vulnerable to accidents, equipment malfunctions or violationsof the Tech Specs.

31. 2/3 38-400-1 Rev. 0

Loading the Rod Worth Minimizer (RWM) Spare 16 K Core Memory Software Bootstrap

This is a new procedure for automatically loading the computer with the Rod Worth Minimizer program when using the spare core memory.

The function of the RWM has not been changed and poses no threat to safe operation. This procedure will allow the station to comply with the Tech Specs when the spare core memory is installed.

32. 2/3 2300-S-1 Rev. 7

High Pressure Coolant Injection(HPCI) MO Valves and Pumps Operability Test-Monthly

This change references recent revisions to the Tech Specs.

This procedure helps assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the bases of the Tech Specs, has not been reduced.

33. 2/3 DOP 2300-3 Rev. 1

High Pressure Coolant Injection (HPC) Manual Start

This change references recent revisions to the tech specs.

This procedure helps assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, has not been reduced.

34. 2/3 2300-S-111 Rev. 3

High Pressure Coolant Injection (HPCI) Flow Rate Test

This change references recent revisions to the Tech Specs.

This procedure helps assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, has not been reduced.

35. 2/3 200-S-1 Rev. 4

Automatic Blowdown System

This change references recent revisions to the tech specs.

This procedure helps assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, as defined in the bases of the tech specs, has not been reduced.

36. 2/3 DOA 1600-1 Rev. 1

Primary Containment - Group I Isolation

This change references recent revisions to the tech specs.

This procedure helps assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, has not been reduced.

37. 2/3 DOA 902 (3) 3 E-13 Rev. 1

Electromatic Relief Valve 2(3) D Open

This change references recent revisions to the tech specs.

This procedure helps assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, has not been reduced.

38. 2/3 DOA 902(3) 3 C-13 Rev. 1

Electromatic Relief Valve 2(3) B Open

This change references recent revisions to the tech specs.

This procedure helps assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, has not been reduced.

39. 2/3 DOA 902(3) 3 D-13 Rev. 1

Electromatic Relief Valve 2(3) C Open

This revision references recent changes to the tech specs.

This procedure change will help assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, has not been reduced.

40. 2/3 DOA 902(3) 3 D-9 Rev. 1

Target Rock Relief Valve 3A Open

This revision references recent changes to the Technical Specifications.

This procedure change will help assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the tech specs, has not been reudced.

41. 2/3 DOA 230-4 Rev. 1

Main Steam Tunnel and Drywell Steam Leak

This revision references recent changes to the technical specifications.

This procedure change will help assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases of the Tech Specs, has not been reduced.

42. 2/3 2300-S-11 Rev. 2

High Pressure Coolant Injection (HPCI) Overspeed Test

This revision references recent changes to the Technical Specifications.

The additional information included here will not increase any safety hazards, present any unevaluated malfunctions, nor make us more vulnerable to violations of the technical specifications.

43. 2/3 DOA 230-2 Rev. 1

Main Steam Line Leak - Large Leak with ECCS Actuation, Only Diesel Power Available

This revision references recent changes to the technical specifications.

This procedure change will help assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases for the Tech Specs, has not been reduced.

44. 2/3 DOA 230-1 Rev. 1

Main Steam Line Leaks - Large Leak with ECCS Actuation, Normal Power Available

This revision references the new tech spec limits.

This procedure change will help assure our ability to maintain control during accidents and equipment malfunctions. The margin of safety, as defined in the bases for the Tech Specs, has not been reduced.

45. 2/3 200-S-VII Rev. 1

Automatic Blowdown System

This change sites new technical specifications limits. It provides for monitoring torus water level and temperature every 5 minutes during the test.

These additions have not altered the procedure. There is no increased vulnerability to accidents, equipment malfunction or violations of the technical specifications.

A.4 Unit 2 Surveillance Tests

Dresden 2 surveillance testing was conducted during the reporting period in accordance with the Technical specifications. The test results were satisfactory with the exception of the following discrepancies listed below:

1. Unit 2/3 diesel generator cooling water pump tripped on August 29,1975 (Rpt. #50-237/75-42-43)

2. Unit 2 diesel generator failed to start on September 23, 1975 (Rpt #50-237/75-44)

3. Unit 2 HPCI turbine failed to trip at the designed reactor coolant level of ≥ + 48" on September 29, 1975 (Rpt. 50-237/75-45)

4. Unit 2 reactor scrammed on high drywell pressure during the drywell inerting process on September 29, 1975 (Rpt 50-237/75-46)

5. Failure of AO-1601-55 valve to pass local leak rate test on September 29, 1975 (Rpt #50-237/75-47)

6. Through-wall crack on Unit 2 drywell/torus nitrogen purge line 1604-18" on October 7, 1975 (Rpt #50-237/75-48)

7. LPCI loop selection logic circuitry failed on October 9, 1975 (Rpt 50-237/75-49)

8. Main steam line low pressure switch 261-30A was found with a setpoint below the technical specification limit of ≥855 psi on October 8, 1975 (Report #50-237/75-50)

9. Unit 2 torus water level exceeded the technical specification limit of - 1.5 inches on October 31, 1975 (RPT #50-237/75-51)

10. Main Steam Isolation Valve AO 2-203-1C closed in less than 3.0 seconds which is faster than the limit set forth in the Technical Specifications on November 20, 1975 (RPT #50-237/75-52)

In addition, the drywell to torus vacuum breaker 1 PSI leak testing was conducted during May, 1975 for unit #2.

The results were 4.20 inches of water in a 7 1/2 minute period. The results satisfy the tech spec requirements of the equivelant flow through a 1" orifice with a 1.0 PSI differential pressure.

A.5 Results of Periodic Containment Leak Rate Tests

Table II E lists the results of periodic containment leak rate tests performed during the reporting period excluding the tests conducted during the refueling.

A.6 Changes, Tests and Experiments Requiring Authorization from the Commission

No changes, tests or experiments requiring commission authorization were performed during the reporting period.

A.7 Key Changes in Plant Operating Organization

Personnel changes are described in paragraph A.7 of Section I

B. Power Generation

Power generation during the reporting period is summarized in Table IIA. Figures IIA through IIF are monthly histograms of thermal power vs time.

C. Shutdowns

Table IIB lists all reactor shutdowns encountered during the reporting period.

D. Maintenance

Corrective maintenance performed on safety related components is listed in Table IIC. This table gives a discription of the maintenance performed, including the cause and effect on safe reactor operation.

E. Changes, Tests and Experiments

A list of all changes, tests and experiments carried out without prior commission approval is presented below. A brief description and summary safety evaluation for each change is also given.

1. M12-2-72-37 Drywell

Install a one ton capacity monorail in the Unit 2 drywell to facilitate removal and installation of safety valves.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because:

Removal of safety valves was not analyzed in the FSAR because the unit is down while the valves are being removed.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because:

Removal of safety valves is done while the unit is down and is not covered in the FSAR.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because item unrelated to margin of safety.

2. M12-2-72-40 LPCI System

Replace existing type "A" micro switches with type "M" micro switches for instruments PS-263-111A, B, C & D because type "A" micro switches are not rated for 125 VDC and type "M" do have 125 VDC rating which is required.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the new type micro switches upgrade the system.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: The system operation is not altered by this modification.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: installing microswitches with the proper voltage rating will reduce instrument drift thereby helping to insure operation within technical specification limits.

3. M12-2-73-29 Neutron Monitoring System

Bypass the SRM Hi, Inop and Hi-Hi annunciator when the reactor is in the "Run" mode.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the circuit involved has no control function.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: The SRM detectors are withdrawn from the core during power range operation.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the SRM detectors are not used during "Run" mode operation.

4. M12-2-73-111 Isolation Condenser System

Make the isolation condenser dry pipe removeable as per vendor.

The probability of an occurrence or the consequence of an accident, or malfunction of Equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the dry pipe assembly will perform the same function in the same manner as previously, only the method of attachment is changed.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: All functions of the isolation condenser and dry pipe will be unchanged.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: All technical specification requirements and Isolation Condenser operations as described in the Tech. Spec bases will be unchanged.

5. M12-2-73-121 Core Spray, LPCI and Auto Blowdown Systems

Remove the test lights from the core spray, LPCI & auto blowdown systems to preclude a pin to pin short causing an initiation.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the removal of the test lights does not affect any system previously reviewed in the FSAR.

The possibility fo· an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the change has no affect on system operation.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the core spray, LPCI and auto blowdown systems are still tested as frequently as before, only in a different manner. The use of test lights to test initiating relays has been replaced with a direct visual inspection of the relays during a test.

6. M12-2-74-6 CRD System

Install vent and drain valves on line 0308-4 between valves 0301-98 & 99

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the vent and drain are being installed with documentation and testing conforming to the original piping specification.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the vent and drain do not alter the operation of the system.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the installation of the vent and drain will still provide piping to the second isolation valve of a quality comparable to the existing piping. Additionally, the vent & drain will provide for determining whether the plant conforms to the technical specifications.

7. M12-2-74-145 Reactor Recirculation System

Replaced the existing Barton Model 288 Indicating Switch (0-10 PSID indication) with a Barton Model 289A indication switch (0-4 PSID indication). The model 289A also has the capability for dampening undesired system oscillation, if utilized.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: replacement of the existing switch does not change the function of the switch. The capability to accomplish a more accurate adjustment of the alarm setpoint and the elimination of the oscillation of the system indication should decrease the probability of any occurrence.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: The function of the instrument being replaced has not been changed. The proposed 0-4 PSID indicating pressure range will replace the former 0-10 PSID pressure range thus enabling a far more accurate and sensitive instrument indication about the 1.0 PSID setpoint. Thus, the possibility for an accident of a different type has not been changed.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: System accuracy for alarm setpoint adjustment has been increased by the reduction of the scale range. Thus, the riser differential pressure switch can now provide the operator with much more reliable and error-free pressure indication.

8. M12-2-74-154 Nitrogen Inerting System

Install thermowell in bottom of line 2-8506-18" LX

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: relocation of the temperature sensor to the bottom of the pipe will only increase its ability to perform its intended function.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Anaylsis Report is not created because this thermowell will be installed in accordance with original design requirements and only corrects a construction oversight or error.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because this temperature switch performs an alarm function only and is not related to any technical specification.

9. M12-2-74-197 CRD System

Enlarge the scram discharge volume from 1.1 gal/drive to 3.34 gal/driver per GE-FDI 462/23205 (Dresden 2)

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: this modification does not alter the function of the CRD system. The protective instrumentation on the instrument volume is unaffected as the additional volume is being added above the existing switches and is sloped to drain completely.

The possibility for an accident or malfunction of a different type than any previoulsy evaluated in the Final Safety Analysis Report is not created because: the increase in the size of the discharge volume does not change operation or the system and does not alter the intent of the original design.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: This modification has no effect on the function of the instrument volume (u-loop) or its instrumentation. Further, this modification conservatively increases the volume available to accomodate the water discharged during a scram as described in the basis for paragraph 3.1 of the Tech Specs.

10. M12-2-75-39 Core Spray System

Replace stainless steel core spray piping and containment penetrations with carbon steel. Replace furnace sensitized stainless steel safe ends with non-sensitized stainless steel safe ends having a weld-clad inside diameter.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because:

a. The only way the probability of occurrence of an accident could be increased is to increase the probability of failure of the system itself. Since the system is designed to meet the same or equivalent code requirements as the original system, it is no more susceptible to failure than the original system. Thus, the probability of occurrence of an accident is not increased.

b. To increase the consequences of an accident, a failure of the system to function when needed would have to be the worst case accident. The worst case failure during a DBA LOCA is the failure of the LPCI injection valve. Failure of the core spray is less severe,therefore, consequences of an accident are not increased. Further, if the accident is a break in the core spray piping, the consequences of the accident are unchanged as the replacement piping is the same size and falls within the spectrum of analyzed breaks.

c. To increase the probability of a malfunction of safety equipment, the new system would have to introduce some new phenomena not present in the previous system. The only change in the new system compared to the old system is the use of carbon steel pipe in place of stainless steel pipe. The carbon steel will introduce corrosion products not present with the stainless steel; however, the corrosion products from the new core spray are of a negligible quantity compared to corrosion products from other sources in the reactor. Thus, the probability of malfunction is not increased due to installation of the carbon steel. Additionally, only passive components in the system have been modified.

d. As stated in (c) above, the only thing introduced by the new core spray system is corrosion products from the carbon steel. Since the corrosion products are negligible compared to those from other sources, and since they do not change the probability of occurrence of a malfunction, they would not increase the consequences of a malfunction.

The possibility for an accident or malfunction of different type than any previously evaluated in the Final Safety Analysis Report is not created because: Replacement of materials in an existing system will not introduce the possibility of a new accident. A new accident would only be introduced if a new system or function were added. Since this was a simple material replacement in an existing system, no new accidents will be introduced.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: to reduce the margin of safety as defined by any technical specification basis the change would have increased the consequences of the incident which establishes that margin. As stated above, the consequences of an accident are not changed by the incorporation of carbon steel in the core spray system.

11. M12-2-75-83 System: Neutron Monitoring

Install a 75 ohm, 25 watt variable resistor in series with the primary of each (Two Total) LPRM indicating light transformer.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: The LPRM indicating circuitry has been altered to extend the life of the indicating lamps and any resistor failure can only result in further continual bulb failures, which is the problem that presently exists.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the LPRM basic system operation has in no way been changed.

The margin of safety, as defined in the basis for any Technical Specification is not reduced. Instead, the lifetime expectancy of the indicating lamps has been extended, thus providing the operator with a more reliable indication of system performance and further reducing the frequency of maintenance.

F. Primary Coolant Chemistry

Chemistry data is presented on Table IIF of this section

TABLE IIA

DRESDEN UNIT 2 POWER GENERATION SUMMARY JULY-DECEMBER 1975

Month	Gross Thermal Power (MWHt)	Gross Electrical Power (MWHe)	Reserve Shutdown Hours	Hours Reactor Critical	Hours Generator on Line
July 1	1,546,382	492,279	0	734:40	728:27
August	1,727,799	555,435	0	744:00	733:48
September	1,149,177	369,080	0	611:45	554:25
October	974,238	312,186	0	610:42	564:34
November	1,349,489	437,618	0	686:18	654:52
December	1,609,601	530,942	0	744:00	744:00

Maximum Dependable Capacity (MWe)

Gross	Net
840	800

TABLE II B

Unit 2 Reactor Shutdowns

Shutdown Number	Date & Time	Cause	Duration (hours)	Method of Shutdown	Plant Status During Shutdown	Corrective Action (If applicable)
1	7/8/75 @2100	Rx high pres. scram, IM surv.	6:20	Automatic	Hot shutdown	N/A
2	9/20/75 @0815	Repair #4 control valve	20:00	Controlled shutdown	Cold shutdown	Repaired
3	9/25/75 @1226	Snubber insp. transformer 22 repair replace drywell blower motor	63:04	Controlled shutdown	Cold shutdown	
4	9/29/75 @1515	High drywell pressure scram during inerting	35:45	Automatic	Cold shutdown	Repaired
5	10/8/75 @0310	Cracked pipe in N_2 inerting line	113:05	Controlled shutdown	Cold shutdown	Repaired
6	10/16/75 @0503	Repair flange leak on turbine	21:13	Controlled shutdown	Cold shutdown	Repaired
7	11/15/75 @0646	Repair turbine EHC oil leak	13:44	Controlled shutdown	Hot shutdown	Repaired
8	11/22/75 @0646	Repair of #4 control vlv, also oil leak in "B" recirc pmp	4:17	Controlled shutdown	Cold shutdown	Repaired
9	11/28/75 @0534	Drywell pneumatic sys leakage	15:41	Controlled shutdown	Cold shutdown	Repaired leak

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 1	Control rod drive system/accumulator 42-11	Nitrogen valve leaking	Faulty packing	Replaced packing	None
July 1	Control rod drive system/rod position indication	No 42, 43, 46 or 47 indication	Faulty connector	Repaired connector	None
July 1	Control rod drive system/rod drive	No indication of rod position at positions 23, 27, & 29 on M-11	Faulty connector	Repaired connector	None
July 1	Control rod drive system/high water alarm	Alarm will not clear on CRD 34-27	Switch is sticking	Water on level probe which dried out	None, has no effect on ability to scram
July 1	Control rod drive system/accumulator 14-43	Nitrogen valve leaking	Faulting packing	Repacked packing	None
July 1	Control rod drive system/accumulator 22-07	Nitrogen valve leaking	Faulty packing	Repacked packing	None
July 1	Control rod drive system/rod drive	None	Routine maintenance	Overhauled and leak tested CRD serial #126	None, CRD continued to perform its intended function
July 1	Control rod drive system/rod drive	None	Routine maintenance	Overhauled & leak tested CRD serial #118	None
July 1	Control rod drive system/rod drive	None	Routine maintenance	Overhauled & leak tested CRD serial # 119	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 2	Control rod drive sys/rod position indication	No position indication at 10 & 12 on J-8	Defective probe	Replaced probe	None
July 2	Control rod drive system/rod drive	None	Routine maintenance	Overhauled & tested CRD serial #124	None, CRD continued to perform its intended function
July2	Control rod drive system/rod drive	None	Routine maintenance	Overhauled & leak tested CRD serial No 121	None, CRD continued to perform its intended function
July2	Control rod drive system/position indication	No indication on positions 10 thru 15 on drive J-10	pins pushed in on connector	replaced connector	None
July 2	Control rod drive system/rod drive	None	Routine maintenance	Overhauled & leak tested CRD serial #81	None
July 2	Control rod drive system/accumulator	Recieved 06-23 & 19-30 accumulator trouble lites but did not get a rod block right away	Received two accumulator lites	Overhauled accumulators	None
July 2	Control rod drive system/rod drive	None	Routine maintenance	Overhauled & leak tested CRD serial #84	None, CRD continued to perform its intended function

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 14	Control rod drive system/safety valve test boiler	None	Routine maintenance	Calibrated all test boiler pressure gauges	None
July 16	Control rod drive system/rod drive	None	Routine maintenance	Overhauled & leak tested CRD serial # 106	None, CRD continued to perform its intended function
July 16	Control rod drive system/rod drive	None	Routine maint.	overhauled & leak tested CRD serial #108	None, CRD continued to perform its intended function
July 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD Serial #107	None. CRD continued to perform its intended function
July 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #161	None, CRD continued to perform its intended function
July 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #82	None, CRD continued to perform its intended function
July 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #202 c	None
July 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #101	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #317C	None, CRD continued to perform its intended function
July 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #188	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #95	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #269	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #96	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #607C	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #710C	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #362C	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #577C	None, CRD continued to perform its intended function

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 21	control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #590C	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #79	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #93	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #153	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #254	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #259	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #258	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial # 641 C	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	overhauled & leak tested CRD serial #533C	None, CRD continued to perform its intended function

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	overhauled & leak tested CRD serial #19	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRDserial #390C	None, CRD continued to perform its intended function
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested Crd serial #72	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #292	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #252	None
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #120	None
July 22	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial # 271	None
July 21	Control rod drive system/rod drive	None	Routine maint.	overhauled & leak tested CRD serial #59	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial#66	None, CRD continued to perform its intended function. Overhaul was required by seal we wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial#333C	None CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	routine maint.	Overhauled & leak tested CRD serial #261	None, CRD continued to perform its intendec function. Overhaul was required by seal wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial # 39	None, CRD continued to perform its intended function overhaul was required by seal wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial # 270	None, CRD continued to perform its intended function. Overhaul was required by seal

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
					wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #718-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #724-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #733-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #65	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 21	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial#48	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 22	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #266	None
July 22	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #45	None
July 22	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #62	None
July 22	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #134	None
July 22	Control rod drive system /rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #283	None
July 23	Control rod drive system/accumulator 50-43	Nitrogen valve leaking	Faulty packing	Repacked valve	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 26	Control rod drive system/accumulator 30-27	Nitrogen valve leaking	Faulty packing	Replaced packing	None
July 26	Control rod drive system/accumulator 06-27	Nitrogen valve leaking	Faulty packing	Replaced packing	None
July 31	Control rod drive system/rod drive	None	routine maint.	Overhauled CRD serial #616C	None, CRD continued to perform its intended function
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #7	None, CRD continued to perform its intended function
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #2	None
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #21	None
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #700C	None, CRD continued to perform its intended function
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #46	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #588C	None
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #721-C	None, CRD continued to perform its intened function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #27	None, CRD Continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #608-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #516-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #717-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial # 553-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial # 43	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial No. 58	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Maifunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Cont[illegible]od drive syst[illegible]d drive	None	Routine maint.	Overhauled & leak tested CRD serial #756C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #570-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial#8	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #725C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#51	None, CRD continued to perform its intended function Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #594-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #2F	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #1	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #660-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial#61	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #568-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #13	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #720C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #587-C	None, CRD continued to perform its intended function Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #731-C	None, CRD continued to perform its intended function Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #600-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor.

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #673-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #679-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #728-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #735-C	None, CRD continued to perform its intended function, Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #557-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #648-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #642-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #688-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #32	None, CRD continued to perform its intended function. Overhaul was required by seal during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #580-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #613-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
July 31	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #631-C	None, CRD continued to perform its intended function.

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
					Overhaul was required by seal wear during operating time in the reactor
Aug 1	Control rod drive system/accumulator 50-19	Nitrogen vlv leaking	Faulty packing	Repacked valve	None
Aug 1	Control rod drive system/accumulator 22-23	Nitrogen valve leaking	Faulty packing	Repacked valve	None
Aug 1	Control rod drive system/accumulator 26-19	Nitrogen valve leaking	Faulty packing	Repacked valve	None
Aug 5	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #1024	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 5	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #493C	None, CRD continued to perform its intended function

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #938	None
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #54	None
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #946	None, CRD continued to perform its intended function
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #998	None
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #412C	None
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #752-C	None, CRD continued to perform its intended function

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #886-A	None
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #772-C	None
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #773-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #950	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #579-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #737-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	overhauled & leak tested CRD serial #275	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #753-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #1247	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #901	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial 738-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial # 1027	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #1201	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #454-C	None, CRD continued to perform its intended function. Overhaul was reqiured by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #1079	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #427-C	None, CRD continued to perform its tended function. erhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #1087	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak Tested CRD serial #893	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #762-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #537-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #498-C	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor.
Aug 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD Serial #096	None, CRD continued to perform its intended function
Aug 8	Control rod drive system/Accumulator 42-43	Nitrogen valve leaking	faulty packing	Replaced packing	None, reactor well within shutdown margin
Aug 27	Control rod drive system/accumulator 42-07	Nitrogen valve leaking	Faulty packing	Replaced packing	None, reactor shutdown margin is maintained
Aug 28	Control rod drive system/accumulator 30-59	Nitrogen valve leaking	Faulty packing	Replaced packing	None, drive will still scram
Aug 28	Control rod drive system/accumulator 50-39	Nitrogen valve leaking	Faulty packing	changed packing	None, shutdown margin is still met
Aug 28	Control rod drive system/accumulator 58-39	Nitrogen valve leaking	Faulty packing	Replaced packing	None, shutdown margin still met

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 28	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #708-C	None, CRD continued to perform its intended function Overhaul was required by seal wear during operating time in the reactor
Aug 28	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #28	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 28	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #53	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 28	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #1053	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor.

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 28	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #49	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Aug 29	Control rod drive system/accumulator 26-03	Nitrogen valve leaking	Faulty packing	Repacked valve	None, drive has ability to scram
Sept 12	Control rod drive system/accumulator 14-07	Nitrogen valve leaking	Faulty packing	Replaced packing	None, reactor able to scram
Sept 16	Control rod drive system/rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #99	None, CRD continued to perform its intended function. Overhaul was required by seal wear during operating time in the reactor
Oct 3	Control rod drive system/rod drive	None	Preventive maint.	Adjusted scram inlet valve CN2-0302-126 stem	None, reactor shutdown
Oct 6	Control rod drive system/accumulator	Nitrogen valve leaking	Faulty packing	replaced packing	None, reactor in cold shutdown

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 8	Control rod drive system/accumulator	None	Preventive maint.	Overhauled spare accumulator 2477	None
Oct 9	Control rod drive system/accumulator 34-51	Nitrogen valve leaking	Faulty packing	replaced packing	None, reactor in cold shutdown
Nov 3	Control rod drive system/rod position indication	No numbers 12, 14, 16, 24, 30 & 36 for F-10	Defective probe	replaced probe	None
Nov 10	Control rod drive system/accumulator 34-11	Nitrogen valve leaking	Faulty packing	repacked packing	None, drive will still scram
Nov 18	Control rod drive system/accumulator	Nitrogen valve leaking	Faulty packing	repacked packing	None
Nov 21	Control rod drive system/accumulator 14-19	Nitrogen valve leaking	Faulty packing	Replaced packing	None
Nov 21	Control rod drive system/accumulator 06-23	Nitrogen valve leaking	Faulty packing	Replaced packing	None
Dec 12	Control rod drive system/accumulator 58-23	Nitrogen valve leaking	Faulty packing	repacked packing	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 12	Control rod drive system/accumulator 22-23	Nitrogen leaking	Faulty fillcap	Replaced connector and EAP	None
Dec 14	Control rod drive system/accumulator 10-19	Nitrogen valve leaking	Fauity packing	replaced packing	None, shutdown margin meet
Dec 18	Control rod drive system/accumulator 42-27	Nitrogen leaking	Defective block fill cap	replaced connector and cap	None
Dec 18	Control rod drive system/accumulator 54-27	Nitorgen valve leaking	Faulty packing	Replaced packing	None, shutdown margin still maintained
July 28	Primary containment Cooling system/ drywell upper spray	Leaking drywell upper spray valve 1501-28B	Ring supply valves leaking through	Dissassembled & repaired	None
July 5	Pressure suppression system/reactor building door	inside door would not open	Dirty latch mechanism	Cleaned & lubricated latch mechanism	None
July 5	Pressure suppression system/interlock door	Cannot enter reactor building through interlock door at 517	Dirty latch mechanism	Cleaned & lubricated latch mechanism	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 14	Pressure suppression system/drywell torus pressure instrumentation	None	Installation of temporary equip. for torus vacuum breaker test	Installed digital manometer for drywell and torus pressure measurements	None, routine test installations
July 18	Pressure suppression system/electrical penetrations	Failure of leak rate test	There was leakage pass electrical penetrations X-202S, X-203B, X-204S, X-200A, X-202Q, & X-202BB	Resealed per General Electric sealing procedure	X-202S exhibited excessive leakage and in the event of a secondary failure, excessive primary containment. Leakage would result
July 28	Pressure suppression system/AO 2-1601-20A	Leakage in containment	Leakage on south flange at bottom, south 1/3 of circumference	Repaired leakage	A leakage could result in a compromiste of primary containment until corrected
July 30	Pressure suppression system/U-2-1601-20A bushing	None	Routine maint.	Fabricated a new brass bushing for the valve operator	None
Aug 5	Pressure suppression system/AO-2-1601-55	Valve leaking	Bonnett gasket failure	Separated flanges, cleaned and added gasket compound	Delayed start-up
Aug 28	Pressure supporession system/electrical penetration	Leaking valve	Defective 3/4" valve used for testing of penetration integrity	Upper valve was replaced and lower valve reassembled	No safety significance in the absence of another failure

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 28	Pressure suppression system/torus drain flange	Leakage pass torus drain flange (east)	Routine maint.	Tighten flange bolts to specifications	None
Aug 28	Pressure suppression system/drywell head gaskets	None	Routine maint.	Replaced head gaskets during outage	None, routine outage requirement
Sept 3	Pressure suppression system/torus snubbers	None	Routine maint.	Added oil to the snubbers and checked all fittings and nuts on snubbers	None
Sept 4	Pressure suppression system/reactor building interlock doors	Both doors to the reactor could be open at the same time	The interlock between the reactor doors is defective	Repaired interlock	Secondary containment is compromised in this condition
Sept 10	Pressure suppression system/torus level alarm	Alarms at a level to low	Alarm setpoint need adjustment	Adjusted Hi alarm and secured it to that position	None, did not effect the indication
Sept 12	Pressure suppression system/interlock doors	Both door could be open at the same time	Interlock between the door is defective	Repaired interlock	Secondary containment would be broken if both doors were opened at the same time
Sept 16	Pressure suppression system/torus snubbers 10, 12 and 13	None	Routine maint.	Inspected & filled with oil as required	None, the snubbers were not inoperable

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 3	Pressure suppression system/torus hatch	None	Routine Maint.	Inspected torus O'rings	None, Reactor was in cold shutdown
Oct 17	Pressure suppression system/snubbers	None	Routine maint.	Inspected all snubber & added oil as necessary	None, reactor in shutdown
Sept 28	Pressure suppression system/purge system AO 2-1601-22	None	Needs to replace blank flange	Replaced blank flange with a rebuilt spare valve	None, valve has been leak checked and meets the tech spec limits
Dec 12	Pressure suppression system/drywell snubber #2	None	Routine maint.	Added oil	None, Reactor in shutdown
Dec 18	Pressure suppression system/snubbers	None	Preventive maint.	Added oil to snubbers 3,6 and 32	None
July 1	Process radiation monitoring/MSL rad monitors	Changing alarm setpoints	Routine adjustments for a new fuel cycle	Adjusted monitors to new setpoints	None
Aug 11	Process radiation monitoring/"B" main steam line	Meters reading high	Monitor needed calibration	Completed an alarm & half scram calibration	None
Sept 10	Process radiation monitoring/ stack gas pump	Flow oscillates	Glass at suction filters was loose	Tighten glass	None, there was an operable pump at all times

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Nov 3	Process radiation monitoring/stackgas sample Pump #1	Pump failure	Defective pump	Replaced with a new pump	None, redundant equipment available
July 15	Area radiation monitoring/reactor building vent stack detector wells	None	Preventive maint.	Removed [illegible] from vent stack and decon them on the outside	None, no failure had occurred with the detectors
July 30	Fuel pool cooling and filtering system/fuel pool liner pipe penetrations	Permitted water to drain between the reactor drywall and drywall shielding	Needed a diffuser pipe welder to canal liner	Welder diffuser pipe to canal liner	None
July 2	Radwaste/D/W floor drain integrator	Integrator continues to run when pump is off	Electrical zero on square root converter out of calibration	Set electrical zero	None
July 1	High pressure cooling injection/temperature switch	None	Routine maint.	checked calibration of temperature switch	None, reactor shutdown and cool down
Oct 3	High pressure cooling injection/valve 2-2301-8A	Leaking pass union	Preventive maint.	Replaced union	None, reactor in cold shutdown
Oct 3	High pressure cooling injection/turbine	Could have filled the reactor vessel and caused carry over through the steam lines	Turbine did not trip on + 48 in.	Replaced solenoid coil	None, Operators had control of system at all times

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 7	High pressure cooling injection/valve 2-2301-11	Pressure seal ring is leaking on bonnett	Defective seal ring	Disassembled valve and replaced seal ring with new unit	None, the system was always operable
Oct 8	High pressure cooling injection/ valves 2301-64 & 65	Air leaking pass valve	Valve not fully closing	Replaced	None, system was operable at all times
Oct 9	High pressure cooling injection/ pump discharge drain	½ inch drain on HPCI pump discharge line leaking	Defective nipples and union	Installed new 3/8" nipples and union	None, reactor was shutdown
Oct 17	High pressure cooling injection/ valve 2-2301-11	Leaked during pump flow test	Defective seal ring	Disassembled valve and replaced seal ring with new unit	None
Oct 31	High pressure cooling injection/steam line hangers	None	Preventive maint.	Inspected & adjusted as necessary the main steam line hanger in the hot condition	None
Nov 25	High pressure cooling injection/ turbine	None	routine inspection	checked couplings on turbine	None
Nov 25	High pressure cooling injection/ steam line sway braces	None	Routine maint.	Adjusted all sway braces according to specifications	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 28	Off gas system/ prefilter	Failure permitted some particulate matter to reach the charcoal beds	Filter was damaged by an off-gas explosion	Installed new grounded pre-filter	None
Oct 17	Off gas system/ B recombines off gas condenser drain valves	Could not open drain valves	Solenoids needed cleaning	Cleaned solenoids	None, reactor was in cold shutdown
Dec 11	Off gas system/ flow indication	None	Preventive maint.	Replaced high off gas flow indicating switch located on panel 2202-30 2-5441-44	None, reactor was down for refueling
July 11	Isolation condensor system/	Found breaker tripped	Bent valve stem & work seal ring	Replaced bent valve stem. Dye checked disc & sect. Replaced packing & installed new seal ring	None: the failure of the valve prevented use of the isolation condenser, but failure occurred and was corrected during a unit shut down
July 14	Core spray and flooding system/core spray system fill pressure switch	Switch operation sluggish	Plunger was hanging up	Repaired switch	None: no safety significance, alarm function only

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 14	Core spray fill/ pressure switch	Switch operation sluggish	Dirty switch	Repaired switch	None
July 29	Core spray and flodding system/ switch	Switch failed to operate	Sediment build up	Switch was cleaned & calibrated	None: single failure had no impact on reactor safety
Aug 5	Primary containment cooling system and LPCI/torque switch	None	Change in setting due to natural operating conditions	Torque switch was reset	None: routine adjustment recommended by station nuclear engineering
Aug 18	Primary containment cooling sys and LPCI/service water pump	Leaking pump	Blown packing	Repacked pump	None
Oct 6	Isolation condenser system/manual valve	Steam blown past packing	Worn packing	packing replaced	None: reactor was in shutdown, below 90# pressure
Oct 22	Core spray and flooding system/ core spray check valve	Selenoid on check valve not operating	Bad selenoid	Repaired selenoid	None: there was no effect on safety. This was routine preventive maint.

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 29	Primary containment cooling and LPCI/test valve	Oil leakage	bad seal	seal tightened up	None: there was no effect on safety. this was routine preventive maint.
Oct 31	Primary containment cooling system and LPCI/switch	Found set point off would not trip fuel at 0"	Bad switch	Replaced switch	None: reactor shut down less than 212°F. This was preventive maintenance. There was no effect on safe operation
Nov 13	Standby liquid control system/ panel light	Light is out	Bad socket and burnt bulb	socket and bulb repaired	None
July 1	Neutron monitoring system/local power range monitor high alarms D-2	LPRM high alarm at D-2 was set off	New 8X8 fuel has a lower power density	New set point established at 80%	None routine setpoint change
July 1	Neutron monitoring system/Quad trip card	Constant light on UR "D"	Routine maint.	Replaced G4 + Q1 in RBM -8 Quad trip card Functional check out P.C. board (Quad Trip) in RBM-8 & APRM	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 1	Neutron monitoring system/flow converter	Operator unable to calibrate flow converter	Broken D.C. voltage supply	D.C. voltage supply repaired	None
July 1	Neutron monitoring system/flow converter	Operator unable to calibrate flow converter	Broken D.C. voltage supply	D. C. Voltage supply repaired	None
July 2	Neutron monitoring system/average power range monitor	Discrepancies appeared on APRM flow bias signal	Instrument was not zeroed properly	Instrument was zeroed	None; scram set points are set to compensate for slight variation in flow bias
July 2	Neutron monitoring system/local power range monitor	LPRM trips at 45 instead of 90	trip was out of adjustment	Adjusted trip at 90% power	None
July 2	Neutron monitoring system/Quad trip card	Constant light on LL 'B'	Rod block monitor was malfunctioning	G4 was replaced and checked out to decon	None. No safety significance. Reactor was shut at the time
July 2	Neutron monitoring system/source range monitor	Source range monitor out of calibrating	Period circuit appeared bad	Instrument was recalibrated	None: the equipment was not installed in the reactor while the work was completed

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 1	Neutron monitoring system/flow converter	Operator unable to calibrate flow converter	Broken D.C. voltage supply	D.C. voltage supply repaired	None
July 1	Neutron monitoring system/flow converter	Operator unable to calibrate flow converter	Broken D.C. voltage supply	D. C. Voltage supply repaired	None
July 2	Neutron monitoring system/average power range monitor	Discrepancies appeared on APRM flow bias signal	Instrument was not zeroed properly	Instrument was zeroed	None; scram set points are set to compensate for slight variation in flow bias
July 2	Neutron monitoring system/local power range monitor	LPRM trips at 45 instead of 90	trip was out of adjustment	Adjusted trip at 90% power	None
July 2	Neutron monitoring system/Quad trip card	Constant light on LL 'B'	Rod block monitor was malfunctioning	G4 was replaced and checked out to decon	None. No safety significance. Reactor was shutdown at the time
July 2	Neutron monitoring system/source range monitor	Source range monitor out of calibrating	Period circuit appeared bad	Instrument was recalibrated	None: the equipment was not installed in the reactor while the work was completed

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 2	Neutron monitoring system/intermediate range monitor	IRM wide range monitor was not reading correctly	Instrument was not calibrated properly	The instrument was calibrated	None: this is a spare component and the unit was in the cold shutdown
July 14	Neutron monitoring system/local power range monitor	LPRM was not reading correctly	Instrument was not calibrated properly	The instrument was calibrated	None: no safety significance; redundant instruments available
July 17	Neutron control system/APRM rod block & scram set	Instruments not reading properly	Instruments not in calibration	Average power range monitor #2 & #3 found above normal set points. Monitor was calibrated	None
July 21	Neutron control system/Ion chamber power supply for LPRM	Ion chamber power supply does not function properly	Carbon resistor was burnt out	Carbon resistor was replaced	None: no safety significance because of numerous redundant instruments
July 30	Neutron control system/APRM flow bias alarm	Alarms sounding periodically	Improper set point	Set point was corrected	None: failures caused rod blocks, but did not affect reactor safety
Aug 13	Neutron monitoring system/D2 LPRM indicators	Relamp and correct point alignment on indicators that are not functioning	Bad lamps	Relamp & set lamps for pointer display on meter	None: indication only does not affect reactor safety

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 15	Neutron monitoring system/intermediate range monitor	Monitor was not working properly	DC Amplifier was not plugged in properly	Amplifier was plugged in properly and then recalibrated	None: no safety significance redundant instrument available
Aug 18	Neutron monitoring system/Ion chamber power supply	No power supply in group #1 package for LPRM	Bad power supply	Power supply was replaced	None
Aug 25	Neutron monitoring system/local power range monitor	Computer reads 5w/cm^2 on the bypassed LPRM. Should read zero	Bad connection and resistor	Connection and resistor were replaced	None: there was no safety significance as redundant instrumentation was available
Oct 16	SRM/IRM drive control system/IRM switch	IRM switch will not work	Bad switch	Switch was replaced	None: there was no effect on safe operation. All nuclear instrumention was operable
Oct 16	Neutron monitoring system/LPRM	Reading > 125% on panel 902-5 reading 40% on back panel	Bad LPRM card	Card was replaced	None: redundant instrumentation available
Oct 22	Neutron monitoring system/ #2 APRM recorder	Red pen reading 104 computer reading 97.25	Pen slipped on drive cord	Pen and drive cord adjusted	None: recorder not safety related
Oct 22	Neutron monitoring system/SRM 21	Period circuit can't be adjusted for greater than 22 sec	High voltage was loading down 120 volt DC power supply	DC voltage supply replaced	None: there was no effect on safe operation.reactor was in the run mode.

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
					The IRM's & APRM were operable for reactor protection
Oct 22	Neutron monitoring system/IRM #12	No input signal	Bad cable	Cable was replaced	None
Oct 22	Neutron monitoring system/SRM	Indicator reads about one decade higher than the reset	Bad SRM	replaced SRM with one that was repaired	None
Oct 28	Neutron monitoring system/TIP ball valve	Machine ball valve limit switch contacts forward drive circuit	limit switches need resetting	Limit switches were reset	None: All boundaries were intact and the shear valve was available for isolation
Oct 31	Neutron monitoring System/APRM #3	Alarm lights come on without trip alarm	Alarm lights above APRM page are electric trip circuits while alarms out on 902-5 are relay circuits. Relays can't respond as fast as electronic signals so its possible to get alarm lights with no alarm	None	None
Nov 3	Neutron monitoring system/SRM #23	Circuit failed	Borken lead	Broken lead was repaired	None: reactor shut down all rods are in

TABLE 11 C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Nov 3	Neutron monitoring system/SRM	SRM period meter and count rate meter are surging upward	False signals caused by sheared cable	Cable repaired	None: there was no effect on safe operation. Reactor was in cold shutdown
Nov 3	Neutron monitoring system/APRM	Flow converter error check	Routine maint.	None	None: this was preventive maint.
Nov 5	Neutron monitoring system/D-2 LPRM	Monitor is reading high	LPRM needed recalibrating	Recalibrated	None: there was no effect on safe operation, LPRM had been bypassed
Nov 10	Neutron monitoring system/IRM #17	IRM is irratic and will not respond to range change	Bad preamp	New preamp was put into service	None:there was no effect on safe operation
Nov 10	Reactor protection system/600# bypass	Calibration yields low reading	Unit out of calibration	Recalibrated	None:
Nov 17	Neutron monitoring system/LPRM	High reading	Unit not calibrated	Unit calibrated	None: these LPRM were returned to service which improved reactor monitoring

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Nov 17	Neutron monitoring system/CPRM	CPRM is spiking high	Alarm draft to high alarm point	Unit recalibrated	None; this had no effect on safe operation
Nov 19	Neutron monitoring system/LPRM	LPRM 32-25C reading 75 TIP track shows reading S2 LPRM bypassed	Unit not calibrated	Unit recalibrated	None: this had no effect on safe operation as it was preventive maint.
Nov 21	Neutron monitoring system/LPRM 40-25D	Unit shutdown LPRM reading full scale on bypass	No cause found	No action taken at present time	None:
Nov 21	Neutron monitoring system/SRM23	Reading very jumpy on period meter	Loose connection	Connection was tightened	None
Nov 26	Neutron monitoring system/LPRM	Reads down scale	Normal use	LPRM was recalibrated & brought back to proper specs.	None: sufficient, redundant equipment operable in all instrument channels to provide for reactor safety
Dec 12	Neutron monitoring system/APRM for comparators	APRM flow comparators are off 3%. - 4%.	Normal use	Recalibrate	None: APRM scram capability will not be affected during calibration
Dec 10	Neutron monitoring system/LPRM 48-25B	LPRM reading high	Problem caused by seal leakage	Seal repaired	None: there was no effect on safe operation
Dec 10	Neutron monitoring system/LPRM 32-49A	LPRM reading high	Problem caused by seal leakage	Seal repaired	None, there was no effect on safe operation

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 30	Neutron monitoring system/LPRM 32-33B	Swinging erratically	Normal use	Recalibrated LPRM	None: this action did not affect reactor safety
Dec 31	Neutron monitoring system/LPRM 24-33B	LPRM is reading around 80% while the tip shows it should be reading around 46%	Normal use	Calibrate LPRM	None: sufficient redundant components operable to provide required. Instrumentation necessary to monitor reactor
Dec 31	Neutron monitoring system/LPRM 48-49B	LPRM is reading around 75% while the tip trace shows it should be reading around 50%	Normal use	Calibrate LPRM	None sufficient redundant components operate to provide required instrumentation necessary to monitor reactor safe guards
Dec 31	Neutron monitoring system/LPRM 24-17A	TIP trace shows around 56% where as 24-17A was swinging around 75-80 %	Normal use	Calibrate LPRM	None: redundant instrumentation available to provide necessary APRM input
Dec 31	Neutron monitoring system/LPRM 48-25A	LPRM swinging around 78 w/cm^2 while tip trace reads 61 w/cm^2	Normal use	Calibrate LPRM	None: minimum reactor protection inputs satisfied by redundant equipment.

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 1	Main steam line/ flow indicators in lines A & C	Flow indicator gave inproper readings. No flow indication in control room	Flow indicators were out of calibration	Flow indicators were calibrated	None
July 1	Nuclear boiler control room instrumentation/ gauge upper level wide range	Instrument not reading correctly	transmitter malfunctioning	Transmitter was repaired	None
July 1	Nuclear boiler cont ol room instrumentation/ gage-upper level wide range	Instrument not reading correctly	Calibration was off on transmitter	Transmitter was recalibrated	None: there is no trip or control from this instrument
July 1	Nuclear boiler (recirculation system)/main steam line flow indicator	No flow indication in control room	Transmitter zero was .9ma low	Transmitter was rezeroed	None: indicator was the only thing affected
July 1	Main steam piping system/pilot valve thermocouple	Pilot valve thermocouple reads full scale ($600^{o}F$)	Broken thermocouple junction	Thermocouple junction was remade	None: thermocouple was the only thing affected
July 2	Reactor pressure vessel instruments/ total core flow sensor	sensor reads too low	sensor out of calibration	Sensor is recalibrated	None: indicator was the only thing affected

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 2	Hydro static test pressure gauge	None	Routine inspection	Calibration of gages checked out ok	None
July 2	Nuclear boiler (recirculation system)/recirculation pump flow transmitter	Recirculation pump flow transmitter gives erroneous readings	Transmitter out of calibration	Flow transmitter is calibrated	None. No safety significance
July 2	Reactor recirculation system/recirculation pump "B" instrument rack	Instrument became wet when valve above leaked water. After receiving water the instrument rack did not work properly	Leaking valve	instrument rack was dried out and recalibrated	None
July 14	Reactor recirculation system/set pump transmitters	Jet pump transmitter is out of calibration	There was no malfunction - routine adjustment	Routine inspection	None
July 14	Main steam piping system/main steam isolation valve pilot temp indicator	Valve leak & torus H_2O temp recorder reads full scale	Bad connections in indicator transmitter unit	Connections remade	None
July 14	Nuclear boiler (recirculation system)/proportional amplifier	None	Routine inspection	Adjusted gain until total core Flow indication was satisfactory	None: Routine adjustment

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 1	Low pressure steam/ relay	Relay dropping out sporadically	Relay out of calibration	Relay was calibrated	None
Aug 1	Reactor pressure vessel thermocouples/ steam line low pressure relay	Relay dropping out sporadically	Relay out of adjustment	Relay was checked, repaired, and placed back into service	None: sporatic trips of this relay have not had any impact on reactor operation
Aug 6	Unit 2 safety valve	None	Routine inspection of spare 6" safety valve	Calibration of gages checked out ok	None
Aug 8	Local mounted instrument/reactor instrumentation D2	None	Routine monitoring	None	None
Sep 17	Reactor recirculation system/spare accumulator	None	Routine maint.	None	None: there was no effect on safe operation. This accumu
Oct 3	Nuclear boiler (recirculation system)/accumu.	Hi water in the accumulator every hour	Bad "0" rings	New "0" rings put in	None: all rods in and there was no effects on safe operation. The reactor was in cold shutdown

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 3	Nuclear boiler (recirculation system)/accumulator	N2 Leak	Worn packing	The N_2 valve packing was replaced with new style packing	None
Oct 3	Nuclear boiler (recirculation system)/accumulator	N_2 leak	Worn packing	The N_2 valve packing was replaced with new packing	None
Oct 3	Reactor recirculation system/accumulator	N_2 leak	worn packing	The N_2 valve packing was replaced with new packing	None
Oct 3	Nuclear boiler (recirculation system)/electromatic 2-C lite socket	Green light socket will not function	Worn light socket	Light socket was replaced	None: there was no effect on safe operation the 2C electromatic valve was always operable
Oct 18	Local mounted instrument/main steam line low pressure switch	Spurious trips	Extraneous vibrations caused the switch to trip	Vibration mounting brackets were installed to reduce the spurious trips	None: unit was shutdown
Oct 18	Recirculation pump instruments/ spare flow compartor power supply	Fuse was blown on power supply	Routine time in service	Fuse was changed and unit was tested to be ok	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 29	Nuclear boiler (recirculation system)/accumulator	N_2 Leak	Worn packing	Replaced packing and accumulator was tested to be ok	None
Nov 3	Nuclear boiler (recirculation system/main steam isolation valve	Thermo couple indicating full scale	Thermocouple not functioning	Replaced with new thermocouple	None
Nov 3	Nuclear boiler (recirculation system)/reactor protection instrument system	Could only select rods in top ¼ of of reactor core	Unknown	problem cleared itself no action necessary	None
Nov 10	Reactor recirculation system/ jet pump flow indicator #6	Instrument reading was high	Instrument was not in calibration	Instrument was calibrated	None this was preventive maint. no system was removed from service
Nov 10	Reactor pressure vessel instruments/ jet pump	Jet pump flow indication was not even between jet pump #1 & #6	Instrument was not in calibration	Instrument was calibrated	None: only control room & computer effected. There was no affect on safe operation. This was preventive maint.
Nov 21	Nuclear boiler (recirculation system)/control rod drive accumulator	N_2 fill valve packing is blown	Worn packing	Packing changed as requested	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 3	Main steam piping system/main steam isolation valve	During 10% closure test of MSIV; had to to hold in depressed position to functionally test	Unknown	Scheduled for outage work	None: unit in shutdown
Dec 3	Nuclear boiler (recirculation system)/main steam isolation valve	Valve its closing too fast	Timing was out of adjustment	Adjustment made to close valve in proper time	None
Dec 8	Nuclear boiler conv valves & equip./diaphragm flange	Air cleaning from dia flange in the drywell on the secondary level	Bad seal on dia flange	Replaced diaphragm inlet air hose	None: there was no effect on safe operation; reactor was in cold shutdown during this maintenance
Dec 8	Main steam piping system/Group I isolation valve	Group I isolation valve malfunctioning	Spurious vibrations	Installed shock mounting brackets which solved the problem	None
Dec 10	Reactor recirculation system/flow converters	Improper readings	Recirc loop flow trans was out of calibration	Recirc loop flow trans was recalibrated	None: there was no effect on safe operation. This was an instrument check
Dec 12	Nuclear boiler (recirculation system)/TIP ball valve limit switch	None	Routine inspection	Operational inspection	None: there was no effect on safe operation ball valve was available to close at all times

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 1	Diesel generator system/diesel gen.	Diesel generator would not start	Undetermined	Diesel was later tested and started 6 out of 6 times	Failure to start is an abnormal occurrence reportable to the NRC. No safety significance to the failure because all Eccs components were satisfactorily tested.
July 9	Diesel generator system/diesel gen.	None	None Routine inspection of diesel generator electrical sys	None	None
July 9	Diesel gen. sys/ Diesel generator	None	Routine 6 month inspection	None	None
July 17	Diesel generator system/diesel gen cylinder temp No. 6 cylinder	No. 6 cylinder does not operate properly	Dirty switch	Switch was cleaned	None
Aug 14	Diesel generator system/"B" air compressor	Breaker tripped thermally	Found wire off holding coil	Replace wire and check contacts	None. Starting air was available to diesel gen. at all times. Diesel gen. operability was not affected
Aug 18	Diesel generator system/"B" air compressor	None	This is routine maint.	None	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 27	Diesel gen system/diesel gen.	None	This is routine monthly inspection	None	None
Sep 10	Diesel generator system/diesel gen fire pump	Loss of coolant	Radiator cap is loose	New radiator cap is installed	None
Sept 11	Diesel generator system/diesel fire pump	No auto start	Bad selenoid	Replaced starting selenoid. Old selenoid did not operate	None
Sep 19	Diesel generator system/diesel gen air comp	Loud noise from breaker	Loose breaker	Reset space between contacts on pressure switch	None: the air compressor was operable at all times
Sept 24	Diesel generator system/diesel gen.	None	Routine one month inspection	None	None: there was no effects on safe operation this was preventive maintenance
Sept 26	Diesel generator system/diesel gen.	Loss of lubricant	Oil leak due to work gasket & loose bolts	Repaired oil leak on oil pump around cap screws and flanges	None: there was no effect on safe operation. All other diesels & electrical feeds were operable.

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 29	Diesel generator system/diesel gen. turbo charger	Oil filter pressure indicator reads full scale	Bad sending unit	Sending unit & gauge were replaced	None: this was preventive maint.
Sept. 29	Diesel generator sys/ diesel generator	None	Routine monthly inspection	None	None: there was no effect on safe operation. All other diesels and electrical equip. was operable
Oct 6	Diesel generator system/diesel start (air valve)	Difficulty with the diesel generator starter	Air start valve appears to be sticking	Overhauled air start solenoid	None: there was no effect on safe operation as a result of this failure
Oct 6	Diesel generator system/diesel generator	Improper reading on crank case high pressure gage	Plugged exhaust screen	Removed screen plugging exhaust pipe	None: reactor was in cold shutdown
Oct 28	Diesel generator system/diesel generator	None	Routine inspection of diodes	None	None: reactor in cold shutdown
Oct 28	Diesel generator system/diesel generator	None	Routine monthly inspection	Completed inspection per procedure	None
Oct 28	Diesel generator system/diesel generator	None	Routine quarterly inspection	None	None
Oct 28	Diesel generator system/diesel generator	None	Routine monthly inspection	None	Non

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 28	Diesel generator system/diesel gen.	None	Routine monthly inspection	None	None
Oct 28	Diesel generator system/	Loss of lubricant	Leak in line to local lube oil pressure gages	Fittings were tightened	None: this was preventive maintenance, the units 2 & 3 diesel gen. and all ECCS systems were operable
Nov 13	Diesel generator system/coolant pump	Loss of coolant	Coolant pump seal is worn	Seal replaced	None: there was no effect on safe operation
Nov 14	Diesel generator system/spare diesel water pump	None	Left & right hand pumps need rebuilt. These were spare pumps	Pumps were rebuilt	None: this was preventive maint.
Dec 3	Diesel generator system/diesel gen.	None	Routine monthly inspection	None	None
Dec 12	Diesel generator system/diesel gen	None	Routine monthly inspection	Completed inspection and found starting solenoid was leaking. It was replaced	None
Dec 18	Diesel generator system/diesel gen.	None	Routine monthly inspection	None	None
Dec 30	Diesel generator system/diesel gen	None	Routine monthly inspection	None	None

TABLE II C

Dresden Unit 2 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Nov 17	480 Volt switcher/ breakers & contactors	None	Routine inspection of breaker	None	None
Sept 18	N_2 inerting system/temperature switch	trips at 90°F	Bad switch	Replaced switch & relocated it in order to provide more accurate temperature indication	None
Aug 1	DC system/battery charger alarm	Alarm tripped	Alarm was not set at proper voltage	Alarm was set at 114 volts	None. No impact on reactor operating
Aug 7	DC system/125 volt DC ground	125 volt DC line was grounded	water was on the lines	Lines were dried, checked and put back into service	None: failure had no impact on reactor operation
Oct 22	DC system/diesel fire batteries	Low voltage	Batteries were not being charged properly	Batteries were brought up to proper charge	None
Aug 14	DC system/batteries	None	Routine cleaning of terminal	Terminals were cleaned	None
Aug 18	DC system/batteries	None	Routine cleaning of terminals	Terminals were cleaned	None
Sept 24	DC system/DC breakers	DC breakers were not working properly	Improper air gap in breakers	Air gap and auxiliary contacts were adjusted on breakers	None: reactor was in cold shutdown

TABLE IID

DRESDEN II NONREPORTABLE DEVIATION REPORTS REQUIRING

CORRECTIVE MAINTENANCE

Date of Occurrence	Number	Component Requiring Corrective Maintenance	Date Complete
7/3/75	D12-2-75-78	APRM #3 Rod Block Set Point	7/16/75
7/20/75	D12-2-75-82	B-EHC Pressure Regulator	8/25/75
7/29/75	D12-2-75-83	FCV AO 2/3 - 7510B	10/9/75
9/28/75	D12-2-75-93	Outlet flange of 2F demin unit	10/9/75
10/10/75	D12-2-75-101	DPIS 2-261-35, A,D, F, & H	12/16/75
12/15/75	D12-2-75-111	Transformer 2	12/22/75

TABLE II E

LOCAL LEAK RATE TEST RESULTS

Date of Test	Penetration Number	Leakage Path Tested (Piping Between Valves)	Leak Rate SCFH	% of Limit	Comments
25 July 75	X-304	2-1601-20A& 31A	0.915	3.11	
25 July 75	X-304	2-1601-20B & 31B	7.099	24.16	
25 July 75	X-125 & X-318	2-1601-23, 24, 60, 61, 62, & 63	2.960	10.07	
27 Sept 75	X-306A	Torus access hatch (E)	0.0	0.0	
25 July 75	X-126 & X-304	2-1601-21, 22, 55. & 56	3.739	12.73	
29 Sept 75	"	"	18.017	61.32	
29 Sept 75	"	" (*)	9.009	30.66	
7 Oct. 75	"	" (*)	-	-	Beyond meas. capacity
12 Oct 75	"	" (*) (**)	7.53	25.63	
17 Oct 75	"	" (*)	6.732	22.91	

NOTE: (*) Valve 2-8503-500 closed (in series with 2-1601-55)
(**) Valve 2-1601-22 Removed and blind flanged

TABLE IIF
PRIMARY COOLANT CHEMISTRY
Dresden Unit 2

July to Dec., 1975

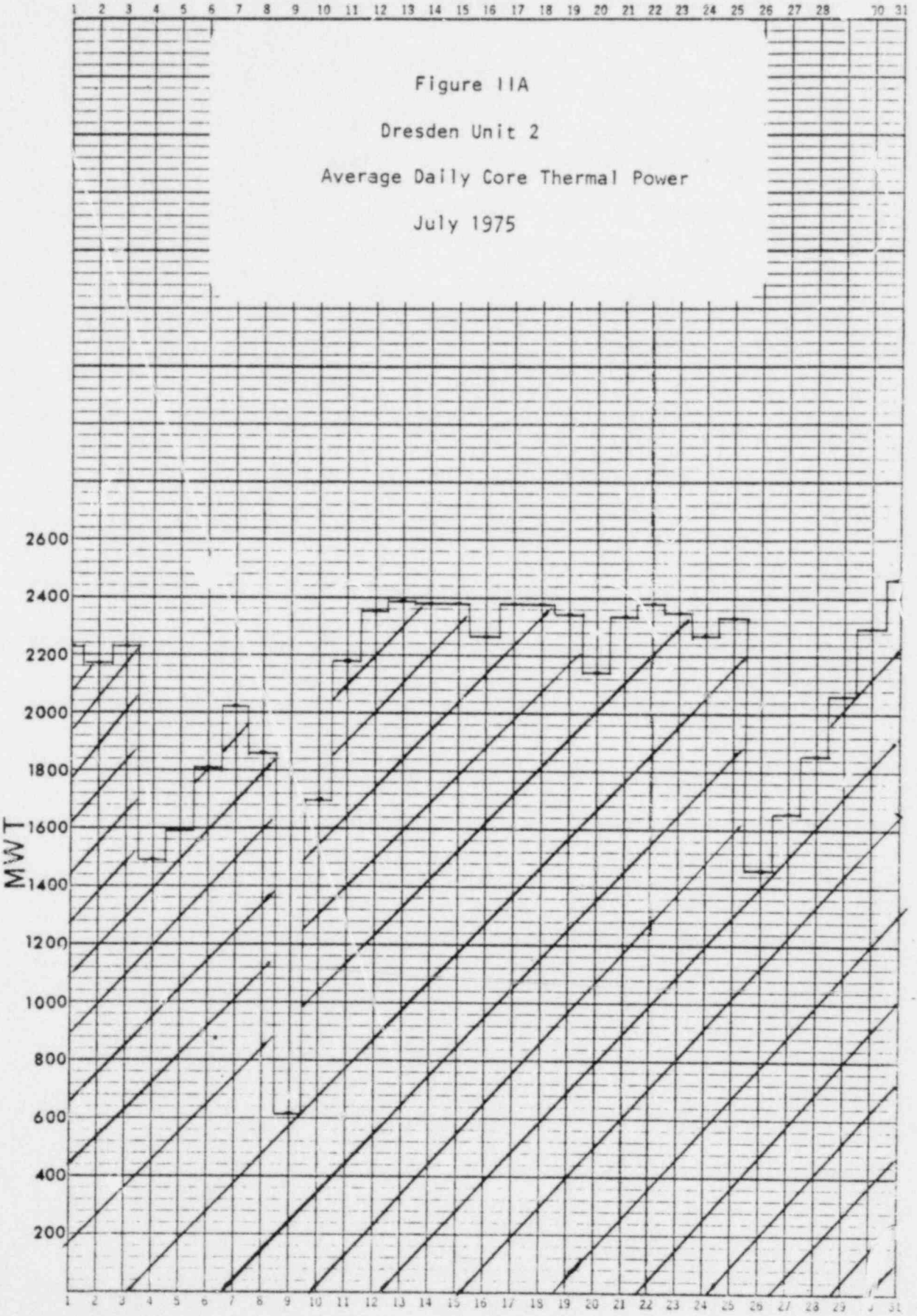
		Units	July	August	Sept.	Oct.	Nov.	Dec.
1.	Gross Radioactivity							
	a) Maximum	uCi/ml	3.0E 08	1.2E 08	1.0E 08	1.2E 08	1.1E 9	3.7E 8
	b) Average	uCi/ml	1.1E 08	9.6E 07	6.3E 07	7.7E 07	1.7E 8	1.2E 8
	c) Minimum	uCi/ml	2.2E 07	6.9E 07	8.5E 06	7.9E 06	3.8E 7	4.7E 7
2.	Chloride							
	a) Maximum	ppm	.067	.082	.097	.073	.091	.078
	b) Average	ppm	.041	.041	.042	.036	.041	.042
	c) Minimum	ppm	<.030	<1030	<.030	<.030	<.030	<.030
3.	pH @ 25° C							
	a) Maximum	pH	8.4	8.4	8.0	8.2	8.0	7.7
	b) Average	pH	7.8	7.7	7.4	7.6	7.5	7.5
	c) Minimum	pH	6.1	6.8	6.9	6.0	6.4	7.3
4.	Iodine 131	uCi/ml	3.4E-04	2.4E-04	2.3E-04	1.6E-04	2.1E-04	2.7E-4
5.	Iodine-131: Iodine-133	Ratio	.08	.09	.02	.066	.03	.07
6.	Gross Tritium	uCi/ml	3.5E-03	3.2E-03	3.6E-03	4.6E-03	5.2E-03	5.0E-03

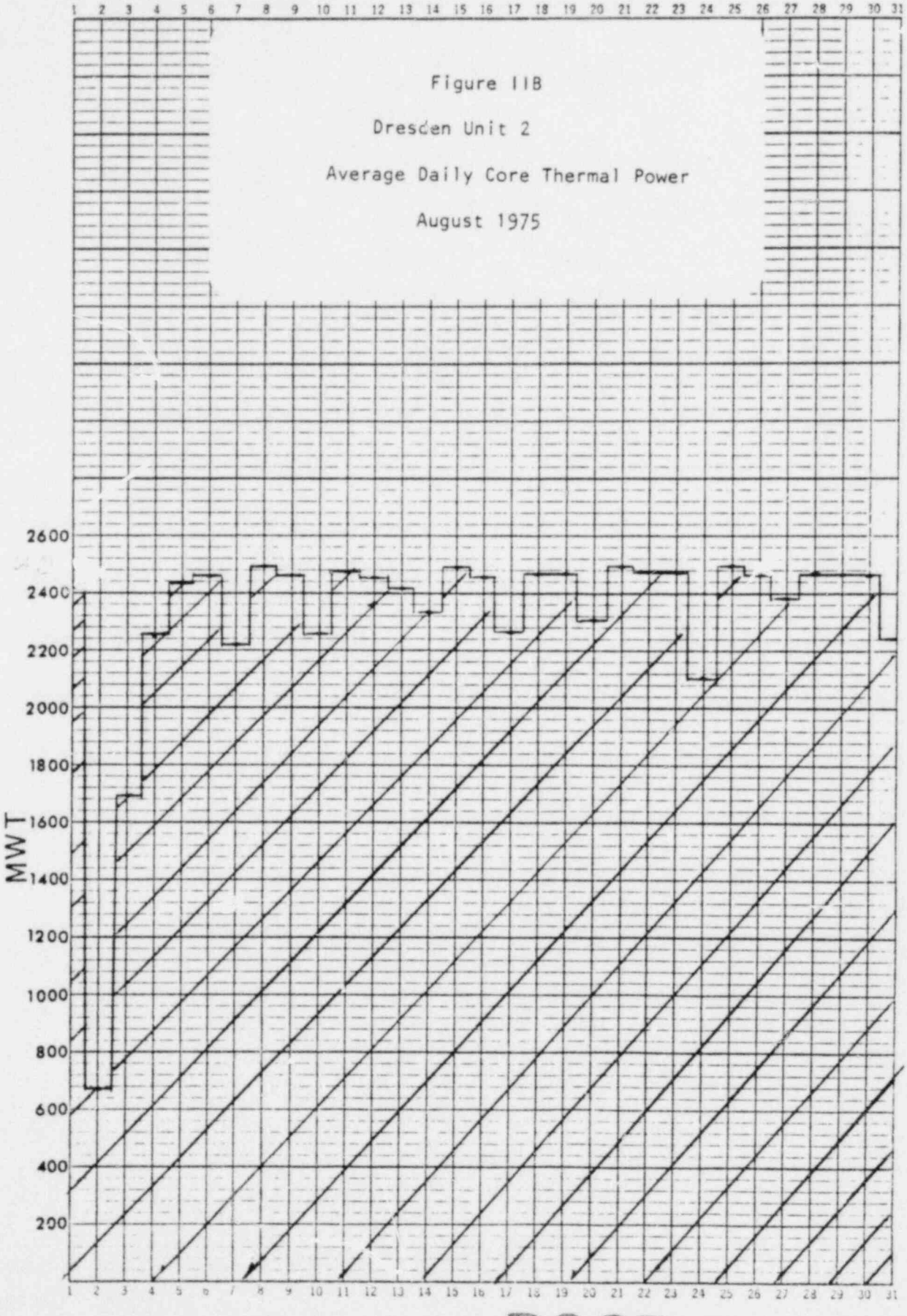
Figure IIA

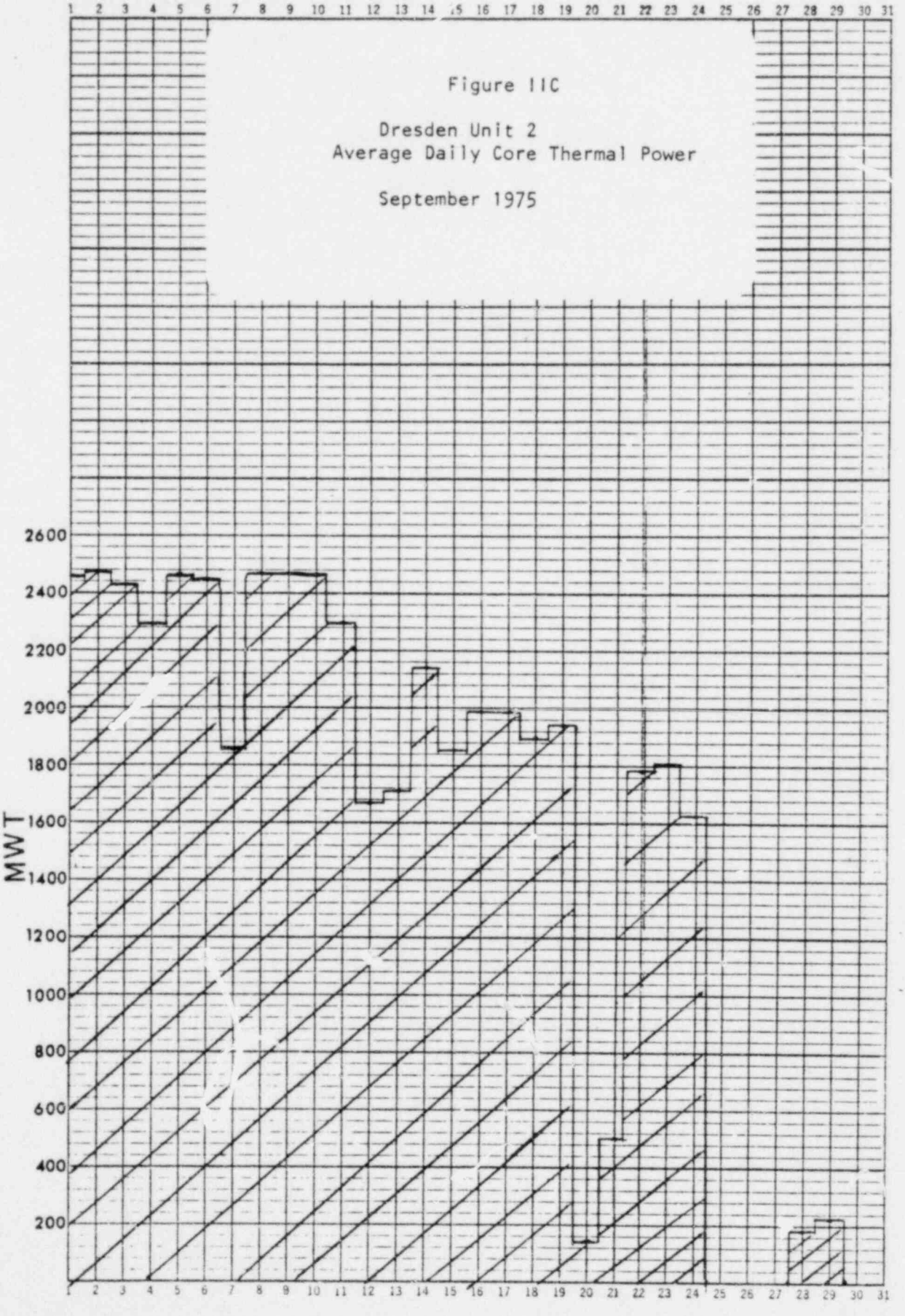
Dresden Unit 2

Average Daily Core Thermal Power

July 1975







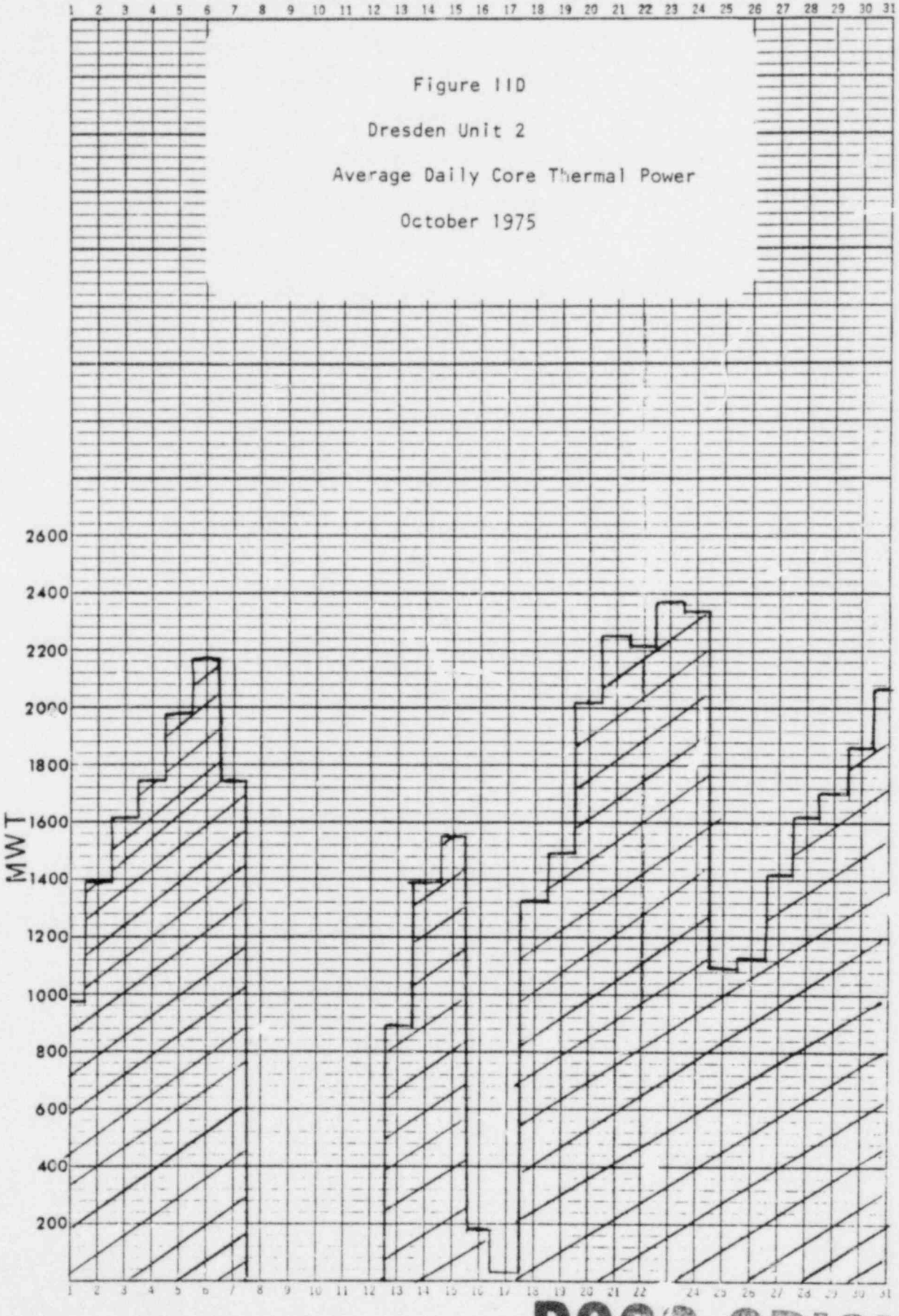
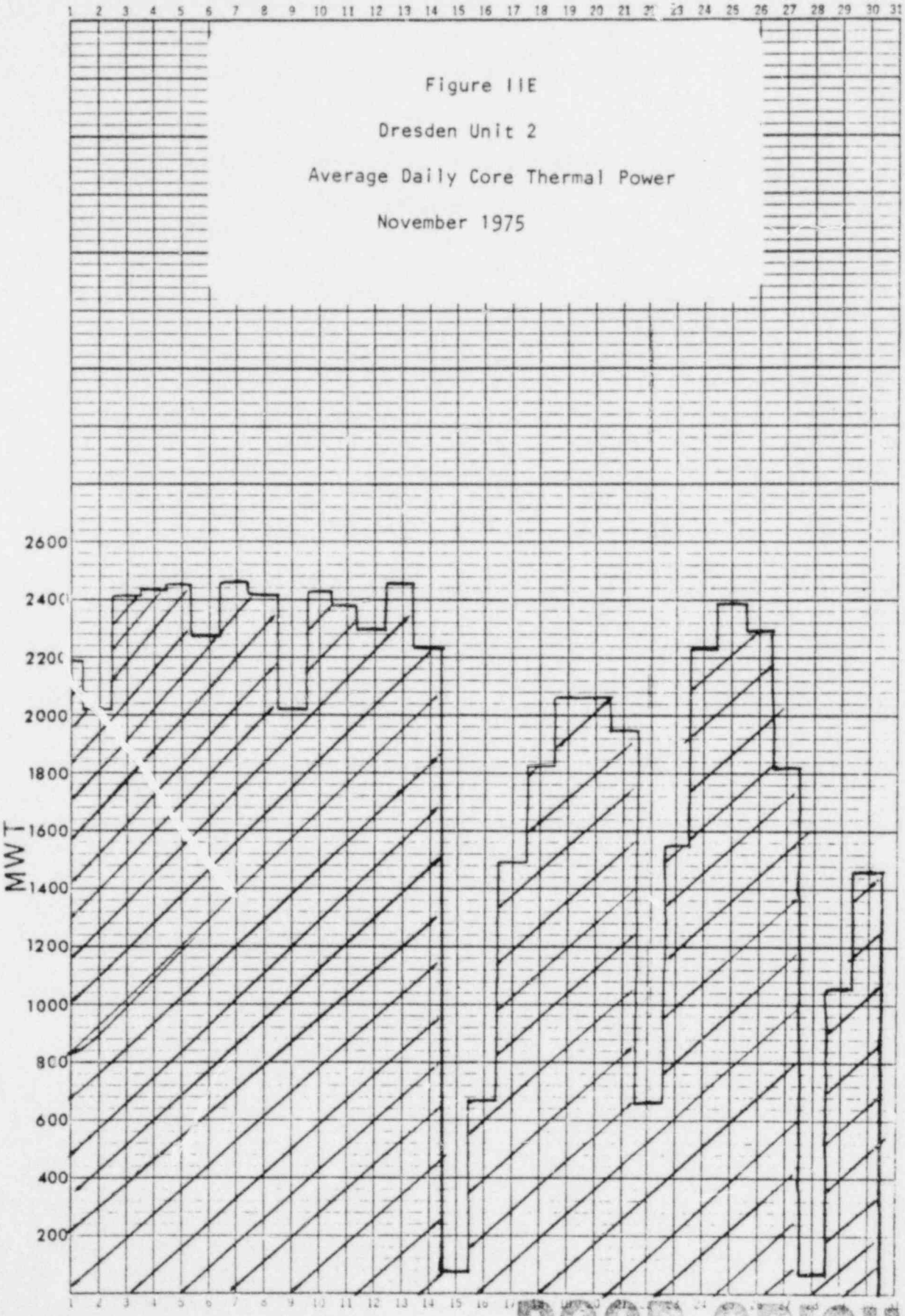


Figure IIE

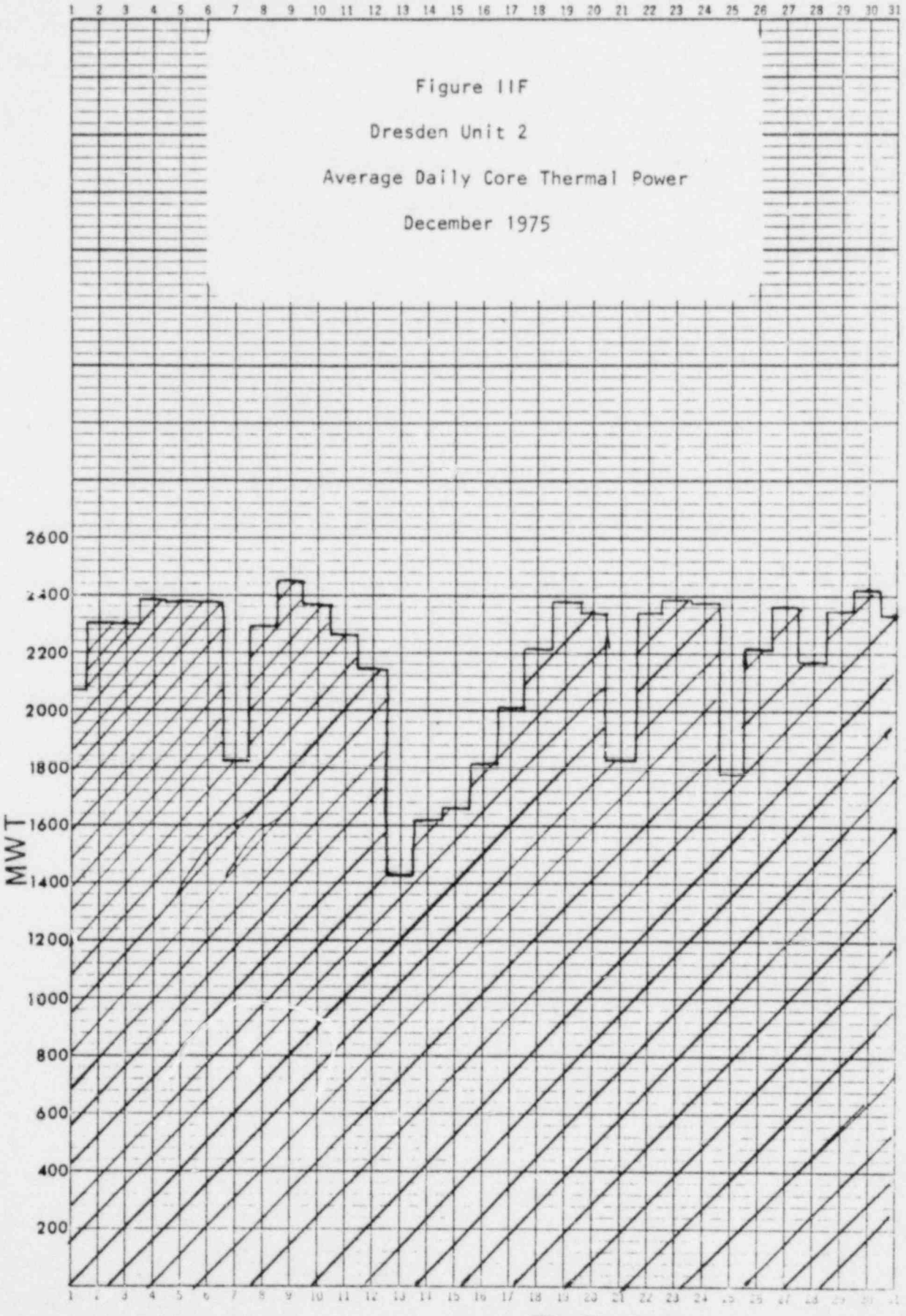
Dresden Unit 2

Average Daily Core Thermal Power

November 1975



1 MONTH BY DAYS 46 2290
X 110 DIVISIONS
KEUFFEL & ESSER CO.



DRESDEN NUCLEAR POWER STATION
SEMI ANNUAL REPORT
JULY 1 THROUGH DECEMBER 31, 1975
SECTION III DRESDEN UNIT #3

I. Unit #3

A. Operations Summary

1. Changes in Plant Design
Described in section E of this report.

2. Performance Characteristics
Equipment performance is shown in chronological history which follows

UNIT THREE CHRONOLOGICAL HISTORY

July 1 to July 14

Refueling outage continues, with major outage items being CRD overhaul and feedwater sparger replacements.

July 15

Feedwater sparger work is completed @ 1730. CRD overhaul work continues with 4 CRD's yet to be unlatched and removed.

July 16 to July 18

Problems that previously prevented the successful removal of 3 of the last 4 CRD's have been resolved. However, E-9, the last drive, still will not unlatch for removal.

July 19 to July 23

Jet pump inspection revealed cracked tack welds on the restrainer keeper for pumps #6 & 17. The keepers were rewelded and rated as satisfactory July 23, 1975. "B" recirculation pump is out of service, beginning July 21, 1975 for seal replacement. CRD overhaul work continues.

July 24 - July 28

Reactor cavity water clean-up is in progress after the removal of the service platform. There also remains the problem of not being able to unlatch drive E-9. General Electric is working with CECo, not only in trying to find a solution for E-9, but also in trying to find a solution as to why drive M-7 will not latch.

July 29 - July 31

Drive M-7 did finally couple. However, the unlatching of E-9 still remains a problem. Nitrogen charging of CRD accumulators is now in progress, as well as the timing and exercising of the drives. Drive F-12 has a bent spud finger, which will not allow drive to withdraw to an unlatch position.

August 1 to August 5

All CRD accumulators are charged, as of 8/3/75. CRD timing is still in progress. It was determined that drive E-9 will not uncouple and no further attempt will be made to do so. It is, however, completely operational and provides no safety hazard.

August 6

Began loading fuel elements into the core. CRD timing continues when not loading fuel.

August 7 - August 13

Completed timing all drives except for "E-9", August 11. Fuel loading is still in progress, with 305 assemblies presently loaded in the core. On August 10 th, the clean-up system had to be isolated to prevent leakage to radwaste via the floor drain system.

August 14 - August 17

Removed the isolation of the clean-up system and also began friction testing of the CRD's, August 14. Loading of the core is still continuing.

August 18

Completed the core reloading of 724 fuel assemblies @ 0240. CRD friction testing is still in process.

August 19 - August 21

Core relocations and verifications were both completed on August 20. Also, on August 20, the gates between the Dryer-Separator pit and reactor cavity were installed.

August 22

The steam dryer and steam separator were installed and locked in place. Wall washing of the dryer and separator pit is now in progress.

August 23 - August 25

Wall washing was completed August 24. Shutdown margin test is now in progress. In preparation for the reactor head installation, the reactor studs and "O" rings are being cleaned and protectors are being installed.

August 26 - August 29

The reactor vessel head was placed on the vessel August 26. On August 27, attempts were made to get steam to the shutdown heat exchanger so studs for the head may be tensioned. On August 29, the stud tensioning was complete and the insulator was installed.

August 30 - September 4

During the reactor hydro test, which commenced on August 30, 7 CRD flance "O" rings were found to be leaking. In the process of replacement, one of the seven drives was dropped and damaged. This was replaced with an overhauled drive. All seven replacements were completed 9/2/75. Also, during the hydro test on August 30 there occurred an incident of operator error which resulted in the over pressurization of the reactor vessel - approaching to within 75# of the vessel's 1325# design limit. This incident occurred as a result of a failure of a company procedure to properly prescribe notification to the station operator of an on-going surveillance test. The test called for the temporary removal of control room reactor pressure indication. The operator (N.S.O.) saw the corresponding pressure loss and reacted accordingly. The procedure responsible has now been corrected to alleviate future problems of that sort. Started scram testing CRD's on 9/4/75.

September 5 - September 7

On 9/6/75, the following was completed prior to start-up: Scram testing of all control rod drives; target rock valve test; drywell locked and the one pound test performed on the equipment hatch. At 2112 on 9/6/75 "A" recurculation pump was started and at 2117 "B" pump was started.

On 9/7/75, all the shutdown margin checks were completed and @ 1200, both "A" and "B" circulation pumps were started. At 2145, the master start-up check list was completed. At 2146, preparations were made to vent and enter the drywell for the repair of a CRD connector.

September 8 - September 9

Unit start-up began with reactor becoming critical on 9/8/75 @ 1900. Continued to perform start-up testing.

September 10

Unit was placed in service @ 0055, holding @ 200 MWe for 24 hour soaking period. At 1150, smoke was detected below control valves. After an inspection, it was discovered that EHC oil was leaking onto hot insulation. An immediate load drop was started to remove the unit from the system so that repairs could be made as soon as possilbe. The unit came off the system, @ 1215.

September 11 - September 16

While the unit was down for repair of the EHC oil leak, it was discovered that both A & B recirculation pumps had suffered probable seal failure.

After the repair work on the above mentioned items were completed - which included the containment of the EHC oil leak, the replacement of the wet insulation on the control valve, the rebuilding of recirculation pump "A" seal, and the replacement of recirculation pump "B" seal We started pulling rods for critical on September 16 @ 0645. Soon after achieving critical @0852, a bonnet leak was found to have occurred on both #3 and #4 control valves. Presently holding reactor pressure @ 280# for repair work on the control valves.

September 17 - 18

Control valve repair work progressed to completion. Started rod pull on 9/18/75 @ 1901, with criticality reached @ 2030. Inspection of #3 and #4 control valves showed no leaks.

September 19

Unit was placed in service @ 1325 with plans to increase load to 200 MWe and hold for soaking period.

September 20 - September 27

Loading is being held steady for Xenon equilibrium. On 9/23/75 @ 1600, a load increase of 3 MWe/hr was initiated.

September 28 - September 29

Continued load increase to 767 MWe (9/28/75 @ 2230), then began load drop for required surveillance testing. Upon completion of tests on 9/28/75 @ 0600, started load increase from 460 MWe @ 50 MWe/hr. At 0725, the load pick-up had to be stopped due to a cracked 3D3 drain line to 3C3 heater. The heater drain line was closed off and repairs were made, with completion on 9/29/75 @ 0345. A load increase of 50 MWe/hr was then begun.

September 30 - October 2

Increased load by 3 MWe/hr to 771 MWe on 10/1/75 @ 0945. Reactor scrammed @ 1511 due to operator error, as per the following:
during a surveillance test which necessitated a ½ scram condition, the NSO looked up at his control panel and saw what the thought was an indication of a reactor scram condition. To prevent an 850# isolation in the run mode, he moved the mode selector switch to start, completing the scram action. The unit reached criticality @ 0212 on 10/2/75 and was returned to service @ 0636.

October 3 - October 31

After the October 1 outage, Unit -3 proceded to increase load by 3 MWe/hr reaching a high for the month of 800 MWe. The unit maintained a steady loading of approximately 780 MWe for the entire month, except for periodic load drops for surveillance testing. There were no further outages during the month.

Some of the problems which occurred during the month of October were: Beginning 10/6/75, we began to experience problems with "C" and "D" feedwater heaters tripping out; on 10/12/75 we removed valve A.O. 1601-22, for reuse on Unit 2, and blank flanged Unit 3; on 10/13/75 "3C" reactor feed pump was taken out of service for repair of minimum flow valve. All above conditions were rectified by the end of the month.

November 1 - November 10

The unit continued to achieve near maximum load capability, dropping load for periodic surveillance testing. The following incidents occurred during this period: On 11/2/75 @ 1236, we lost the clean-up system due to the inability of the clean-up surge tank to hold an adequate nitrogen charge for low point setting; On 11/8/75 an attempt was made to transfer from "3A" feedwater regulating valve to "3B", but to no avail; also on 11/8, there occurred an inboard seal leak on "3B" CRD pump. On 11/9/75, there occurred a leak in the outboard seal of condensate booster pump.

November 11

At 0001 hours, the reactor scrammed due an average power range monitor (APRM) hi hi condition. This high flux condition was created from an as yet unresolved problem with "B" recirculation pump in which it spiked downward then upward, causing flow to fluctuate accordingly. The unit was put back in service at 1021 hours, with the "B" recirc MG scoop tube locked out at minimum speed.

November 12 - November 21

After the outage, the unit increased in load to near maximum load capability and then leveled off to a steady state. While maintaining an average of 790 MWe the follow notable incidents occurred: Due to the oscillation of "B" recirculation pump, its associated scoop tube remained locked-out during this period; on 11/19/75 an attempt was made again to transfer from "A", feedwater regulating valve to "B", but had to be transferred back again on 11/20/75.

November 22

Condensate pump "D" was placed into service to run with pumps "A" and "B". Pump "D" is of a newer impeller design than "A" and "B" and data will be taken to ensure against "D" pumps incapatibility to operate with the older design of pumps "A", "B" and "C". "B" scoop tube is still locked-out.

November 23 - November 30

Data on 11/23/75 showed no problems, as yet, with "D" condensate pump. From November 24 to November 28 the normal drywell pneumatic air supply system was replaced with its nitrogen back-up system, due to a system malfunction. The unit remained in a steady state condition, averaging approximately 790 MWe and dropping load only for required surveillance testing.

December 1 - December 3

Due to high off-gas activity, the unit is being limited to a maximum of 700 MWe, beginning 12/1/75. The problem is being investigated.

December 4-December 8

On 12/4/75 @ 0352, the unit was taken off-system for the repair of a drywell air leak. During ensuing outage the following additional work was accomplished: Completed the required drywell snubber inspection; repaired the head flange leak detection valve; repaired clean-up valve 1201-140A valve; conducted scram testing on ½ of the core's control rod drives; inspected the main steam isolation valves. The unit went back on-system on December 8 @ 1944.

December 9 - December 26

After the unit returned to service, load was held steady @ 525 MWe for core evaluation, from 12/9/75 to 12/12/75.

On 12/13/75, load was dropped & held @ 372 MWe to minimize the dose rate for work required to repair "2B" Main Steam Isolation Valve Limit Switch. From 12/15/75 -12/17/75, the unit diesel generator was declared inoperable due to a bad governor. From 12/23/75 - 12/26/75, the high pressure coolant injection (HPCI) steamline incurred a flange leak.

Throughout this entire period, the unit operated under a derating of 238 MWe due to the yet explained off-gas problem.

December 27 - December 31

The unit came off system, manually, on 12/27/75 @ 0209 for repair of the HPCI steamline flange leak. After the repairs were completed, the unit went in service on December 28 @ 0759 and remained under the off-gas derating until the end of the month. Also, during the outage, repairs were made on a turbine pipeway leak; also brushes were replaced on both "A" and "B" MG sets.

A.2.b Unit 3 Fuel Performance July-December 1975

The end-of-month approximate core average exposures for each month of the reporting period are given below.

Also given are the serial number, core location, and average end-of-month exposure for the bundle of highest exposure for each month.

1975	Core Ave. MWD/T	Lead bun. Ser. no.	Lead bun. Location	Lead bun. MWD/T
July	(unit shutdown for refueling during July)			
August	8616	DD 602	45-08	13652
September	8741	DD 602	45-08	13732*
October	9169	DD 602	45-08	14030*
November	9585	DD 602	45-08	14319
December	9859	DD 602	45-08	14518

* Estimated. Process computer was in systematic error in these months.

A.3 Dresden 3 new procedures and changes are presented in section A.3 of the Dresden 2 report.

A.4 Unit 3 Surveillance Testing

Dresden 3 surveillance testing was conducted during the reporting period in accordance with the Technical Specifications. The test results were satisfactory with the exception of the discrepancies listed below:

1. Clamp bolt keeper tack welds on jet pumps #6 and #17 failed on July 21, 1975. (Rpt. #50-249/75-32)

2. "A" LPCI pump suction valve, MO-3-1501-5A, tripped twice on thermal overload on July 28, 1975 (RPT #50-249/75-33)

3. An instrument setpoint drift of isolation condenser high flow switches 1349A & B occurred on August 7, 1975 (RPT #50-249/75-34)

4. Circuit breaker 152-3403 failed to trip (open) during a breaker trip test on August 21, 1975 (Rpt #50-249/75-35)

5. Reactor high pressure sensors 263-55A, B & C were found with setpoints above the Technical Specifications limit of 1060 PSIG on August 23, 1975 (RPT#50-249/75-36)

6. Pressure switches PS-3-263-53A, 53B and 53C were found with setpoints above the technical specifications limit on August 26, 1975 (RPT#50-249/75-37)

7. Pressure switches 3-263-52A1 and 52A2 were found with setpoints greater than the Technical specification "Band" of 300 psi $\leq$ p $\leq$ 350 psi on August 26, 1975 (RPT #50-249/75-38)

8. The overload relay tripped twice on MO valve 3-220-1 on August 26, 1975. (RPT #50-249/75-39)

9. Pressure switches PS3-263-51A and 51B were found with setpoints above the Technical Specifications limit of $\leq$ 600 psi on August 27, 1975 (Rpt #50-249/75-40)

10. IRM's 11, 12,14, 16 and 18 failed to respond during plant start-up on September 8, 1975 (Rpt#50-249/75-41)

11. Motor-operated LPC suction valve 3-1501-5D failed to open twice during testing on September 20, 1975 (RPT #50-249/75-42)

12. Leak in drain line from Feedwater heater 3D3 to heater 3C3 on September 27, 1975. (RPT #50-249/75-43)

13. Unit 3 off-gas increase on November 25, 1975 (Rpt #50-249/75-44)

14. IRM #12 tripped at a setting higher than allowed in the technical specifications on December 3, 1975 (RPT #50-249/75-45)

15. Drywell snubber #25 was found inoperable due to oil leak on December 7, 1975 (RPT #50-249/75-46)

16. Unit 3 Diesel Generator surveillance test failed on December 11, 1975 (Rpt #50-249/75-47)

17. HPCI flow switch DPIS 3-2353 setpoint higher than technical specification limit on December 22, 1976 (RPT #50-249/75-48)

18. Cable connector failure on refueling floor radiation monitor on December 23, 1976 (RPT #50-249/75-49)

The drywell to torus vacuum breaker 1 PSI leak testing was conducted during September 1975 for Unit #3.

The results were 0.55 inches of water is a 7 ½ minute period. The results satisfy the tech spec requirements of the equivelant flow through a 1" orifice with a 1.0 PSI differential pressure.

A.5 Results of Periodic Containment Leak Rate Tests

Table III E lists the results of periodic containment leak rate tests performed during the reporting period. The table does not include the results of the individual tests conducted as part of the surveillance program during the refueling outage. These results were reported in a separate report to the commission. However, a summary of the refueling outage local leak tests and the result of the individual local leak rate test performed after the outage is presented in the table.

A.6 Changes, Tests and Experiments Requiring Authorization from the Commission

No changes, tests or experiments requiring commission authorization were performed during the reporting period.

A.7 Key Changes in Plant Operating Organization

Personnel changes are described in paragraph A.7 of Section I

B. Power Generation

Power generation during the reporting period is summarized in Table III A. Figures III A through III F are monthly histograms of thermal power vs time.

C. Shutdowns

Table III B lists all reactor shutdowns encountered during the reporting period.

D. Maintenance

Corrective maintenance performed on safety related components is listed in Table III C. This table gives a discription of the maintenance performed, including the cause and effect on safe reactor operation.

E. Changes, Tests and Experiments

A list of all changes, tests and experiments carried out without prior commission approval is presented below. A brief description and summary safety evaluation for each changed is also given.

1. M12-3-73-28 Neutron Monitoring System

Bypass the SRM Hi, Inop and Hi-Hi annunciator when the reactor is in the "run" mode.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previoulsy evaluated in the Final Safety Analysis Report is not increased because: the circuit involved has no control function.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the SRM detectors are withdrawn from the core during power range operation

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: The SRM detectors are not used during "Run" mode operation.

2. M12-3-73-120 Standby Gas & Diesel Auxiliaries

Modify the control circuitry for 56 TS & diesel auxiliaries to correct design deficiencies.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the systems are being upgraded by the modification.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the intended performance of the system is safer.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: testing and operational requirements are not degraded by this modification.

3. M12-3-73-121 Core Spray, LPCI and Auto Blowdown Systems

Remove the test lights from the core spray, LPCI & auto blowdown systems to preclude a pin to pin short causing an initiation.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the removal of the test lights does not affect any system previously reviewed in the FSAR.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the change has no affect on system operation.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the core spray, LPCI and auto blowdown systems are still tested as frequently as before, only in a different manner. The use of test lights to test initiating relays has been replaced with a direct visual inspection of the relays during a test.

4. M12-3-73-183 LPCI System

Replace the "000" type limitorque operators on LPCI valves 1501-19A & 1501-19B with type "00" operators.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the logic for operation of these valves is unchanged.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: no change made to valve logic

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the valves will be surveillance tested as frequently and in the same manner as before this modification.

5. M12-3-73-187 Neutron Monitoring System

Replace existing tip ball valves with ball valves of improved design supplied by the same manufacturer.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: replacement of the existing Tip ball valves will decrease the number of failures and consequently increase the probability of containment isolation following the use of the Tip System.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the new ball valves are of the same type as originally installed and are made by the same manufacturer but do reflect improvements to eliminate failure including those due to insufficient spring tension.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the isolation function of the Tip ball valves is not altered and any failure of the new replacement ball valves will result in the same backup system performing the containment isolation function.

6. M12-3-74-95 LPCI System

Replace existing breakers and overload heaters for valves 1501-19A & B

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because : the logic for operation of these valves is unchanged.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: this increased size will lower the changes of nuisance trips, thereby increasing the reliability of the valves.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the affected valves will be surveillance tested as frequently and in the same manner as before this modification.

7. M12-3-74-100 Pressure Suppression System

Install a sight glass to provide means of visual verification of torus water level.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the installation utilizes existing penetrations and valves. The normally closed valves which are part of the existing torus level system remain normally closed. Therefore, there is no probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the FSAR.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the possibility for an accident or malfunction of a different type than any previously evaluated in the FSAR is not created by this installation since it utilizes all existing valving.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the system does not reduce marginal safety in any way. It does improve intelligence regarding the maintenance of margin of safety as related to torus water level.

8. M12-3-74-114 Feedwater & HPCI systems

This modification will add support to the 3/4" test connections on A & B feed water lines in X area and A & B feedwater lines in drywell west feed water lines in X area and HPCI testable check valve in X area.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the probability of an accident should be decreased because of improved reliability in the feedwater and HPCI piping systems.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the possibility of an unreviewed accident should remain the same since the system function will remain unchanged.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the margin of safety should be increased by this modification because the reliability of HPCI and feedwater piping should be increased.

9. M12-3-74-133 Nuclear Boiler System

Revise valve control circuit for MO-220-4 such that the valve will be torque seating instead of position seating.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: initiating logic not changed, torque seating will prevent, damage to the valves that could have occurred with the existing circuit because of a misaligned position switch.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because : no change has been made to the initiating logic for opening and closing the valve.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the valve will be tested in the same manner as before.

10. M12-3-74-152 Nuclear Boiler System MSIV pilot valves.

Remove the poppet valve and insert a pipe plug. Remove the signal line to the poppet valve and plug the resulting hole.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: removal of the poppet valve will increase MSIV reliability.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the function of the MSIV is not altered.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the response times of the MSIVs will not be altered.

11. M12-3-74-167 Pressure Suppression System

Pin drywell to torus vacuum breaker disc arm to valve shaft to eliminate play. 1601-32A through "F" & 1601-33"A" through "F".

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the function of the valve is unchanged. This modification only reduces the play in the valve assembly to provide more reliable position indication.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the only modification is the improvement in the method of retaining the disc arm to the valve shaft.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: this mod provides for an improvement of position indication to determine compliance with Tech Spec limits for allowable valve opening during operation.

12. M12-3-74-189 Control Rod Drive System

Replace teflon packing with ethylene propylene packing on CRD hydraulic control units accumulators gas charging needle valve.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: a change in material will not alter the function of the valve and will improve reliability of the hydraulic system.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the system remains the same.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: this modification does not affect the technical specifications or operability requirements.

13. M12-3-74-190 Control Rod Hydraulic System

Enlarge the scram discharge volume from 1.1 gal/drive to 3.34 gal/drive per GE-FDI 399/57145 (Dresden 3).

The probability of an occurrence or the consequence or an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: this modification does not alter the function of the CRD system. The protective instrumentation on the instrument volume is unaffected as the additional volume is being added above the existing switches and is sloped to drain completely.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the increase in the size of the discharge volume does not change operation of the system and does not alter the intent of the original design.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: This modification has no effect on the function of the instrument volume (u-loop) or its instrumentation. Further, this modification conservatively increases the volume available to accomodate the water discharged during a scram as described in the basis for paragraph 3.1 of the Tech. Specs.

14. M12-3-75-17 Reactor Recirculation System

Modify control circuit for Unit 3 recirc pump discharge valves 0202-5A and 0202-5B to remove the seal-in feature from the "open" control only.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: this modification makes it possible to throttle the discharge valves preventing a cold recirc. loop startup and neutron flux spike as discussed in section 4.3.3.4 of the Dresden FSAR.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the modification does not change the basic design of the control circuitry and therefore does not create the possibility for an accident or malfunction of a different type than previously evaluated in the FSAR.

The margin of safety, as defined in the basis for any Technical Specification is no reduced because the modification does not effect the control circuit logic or the function of the valves and therefore does not reduce the margin of safety.

15. M12-3-75-28 Pressure Suppression System

Move the terminal block to the front of the local junction box for differential pressure switches 3-1622A & 3-1622B in order to facilitate surveillance testing.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the FSAR does not differentiate between electrical connections made by splicing or by use of terminal blocks.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: Terminal blocks are recognized as an approved method of splicing or terminating cables.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the function of the equipment remains unchanged. This modification provides the means to utilize a more precise method to verify correct operation of the differential pressure switches.

16. M12-3-75-61 Pressure Suppression System

Recoating of the torus in accordance with Sargent and Lundy Specification K-3149. The primary work is to sand blast and then repain' ne immersion area of the torus. Several different types of qualified paints will be applied in different bays of the torus. The repainting is needed because of the poor condition of the present paint. The use of several different paints will provide a comparison of their performance. The coating systems to be used will comply with the applicable ANSI standards.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the new coating systems are expected to perform as well as if not better than the old coating system.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the new coating systems will perform the same function as the old coating system.

The margin of safety, as defined in the basis for any Technical specification is not reduced because: the torus will still be protected by paint. The new paint is expected to be as good as or better than the old paint. There is no technical specification margin of safety defined for the paint.

17. P'2-3-75-65 Nuclear Boiler

Grind out cracks in the reactor vessel feedwater nozzles. This includes cladding and basemetal depending on the depth of the cracks.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the available reinforcing area exceeds the required reinforcing area thereby retaining the validity and applicability of the original stress calcualtions.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the nozzles perform the same functions as before and are still within the applicable code. The corrosion allowance of 1/16" of basemetal makes the presence of cladding unnecessary.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: all cracks will be ground out and the original construction code for the vessel will still be met. The installation of the new design spargers should essentially eliminate the cause of cracking and the grind out should prevent further propagation of the cracks.

18. M12-3-75-74 Neutron Monitoring System

Install a 75 ohm, 25 watt variable resistor in series with the primary of each (Two Total) LPRM indicating light transformer.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the LPRM indicating circuitry has been altered to extend the life of the indicating lamps and any resistor failure can only result in further continual bulb failures, which is the problem that presently exists.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the LPRM basic system operation has in no way been changed.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: the lifetime expectancy of the indicating lamps has been extended, thus providing the operator with a more reliable indication of system performance and further reducing the frequency of maintenance.

19. M12-3-75-77 Various Systems

Make repairs to cables and reroute cable tray in D-3 Drywell for pan section 3D-6. Cables damaged by heat from close proximity of Rx head continuous vent line. Tip system cables to be rerouted in a separate 4" conduit.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: repairs will retain system functions as previously designed.

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: the rerouting of the cables away from the continuous vent line will actually decrease the possibility of any malfunction or accident. Also, no new possibility exists for repaired cables since their functions have not been changed.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: margin of safety actually increased because of rerouting of cable thereby greatly diminishing the possibility of cable failure.

20. M12-3-75-99 DC system

Replace control assembly with new updated version. Old assembly is not manufactured or repaired anymore by manufacturer. For U3 250 V batteries only.

The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because: the control assembly will not change the basic function of the battery changer. The replacement assembly is an approved replacement by the Original Equipment Manufacturer (Gould)

The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because: system function remains unchanged. No new possibility exists because of modified replacement assembly.

The margin of safety, as defined in the basis for any Technical Specification is not reduced because: Margin of safety not affected by mod. With updated revision, reliability of charger should actually increase.

F. Primary Coolant Chemistry
Chemistry data is presented on Table IIIF of this section.

TABLE III A

DRESDEN UNIT 3 POWER GENERATION SUMMARY JULY - DECEMBER 1975

Month	Gross Thermal Power (MWHt)	Gross Electrical Power (MWHe)	Reserve shutdown hours	Hours reactor critical	Hours generator on line
July	0	5	0	0	0
August	0	1	0	0	0
September	456,871	145,534	0	339:00	285:55
October	1,560,823	518,498	0	733:59	729:35
November	1,519,239	503,188	0	715:14	709:40
December	1,001,407	326,658	0	631:48	602:18

Maximum Dependable Capacity (MWe)

Gross	Net
838	800

TABLE III B

UNIT 3 REACTOR SHUTDOWNS

Shutdown Number	Date & Time	Cause	Duration	Method of Shutdown	Plant Status During Outage	Corrective Action (If applicable)
1	9/10/75 @ 1215	Investigate recirculation pump seal and EHC oil leak	217:10	Manual scram	Cold shutdown	Replaced bad recirculation pump seal. Also secured EHC oil leak and replaced valve insulation
2	10/1/75 @ 1511	Operator error	15:25	Manual scram	Start-up	N/A
3	11/11/75 @ 0001	Recirculation pump spike and APRM Hi-Hi	10:20	Automatic scram	Start-up	N/A
4	12/4/75 @ 0352	Drywell air leak	111:52	Manual	Cold shutdown	Repaired fitting on main steam isolation valve
5	12/27/75 @ 0209	HPCI steam leak	2950	Manual	Cold shutdown	Repaired leaking HPCI steam line leak

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 12	Nuclear boiler & recirculation sys/feedwater check valve 3-220-58B	Failed leak test	Bad O-ring	Disassembled valve and remachined O-ring groove	None, all fuel was removed
July 17	Nuclear boiler and recirculation sys/feedwater check valve 3-220-62B	Failed leak test	Bad O-ring	Disassembled valve and remachined O-ring groove	None, all fuel was removed
Aug 6	Nuclear boiler and recirculation sys/ jet pumps #6 & #17	None	Restrainer tack welds were found broken during	Tack welded outboard retainers	None, Reactor in refuel
Aug 6	Nuclear boiler & recirculation sys/ 3B reactor recirc pump	None	Defective seals	Replaced seals	None, all fuel was removed from vessel
Sept 10	Nuclear boiler and recirculation sys/ reactor head	Had to maintain reactor vessel flange/shell area temperature	Routine maint.	Install head on reactor	None
Sept 15	Nuclear boiler and recirculation sys/ MOV-3-202-5A	Valve failed in the closed position	Grounds in cable to valve	Hooked up spare wires to replace grounded wires	Valve not required for safe operation and was maintained in closed position during operation

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action Taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 15	Nuclear boiler and recirculation system/ MS-IV	None	Preventive maint.	Replaced pilot valve poppets with new style on all inboard MSIV vlvs	None, Reactor shutdown, vlv closed
Sept 15	Nuclear boiler and recirculation sys/ decon flanges on 28" recirc loop	None	Routine maint.	Replaced decon flanges	None
Sept 15	Nuclear boiler and recirculation sys/main steam line safety vlvs	None	Installation of 4 overhauled safety valves	Installed safety valves on main steam lines 3-203 A, B, C and D	None, no fuel in vessel
Sept 15	Nuclear boiler and recirculation system / MSIV 203-2C	Closed indication does not go out even when valve is open	Limit switch needs adjustment	Adjusted limit switch	None, reactor in shutdown
Sept 15	Nuclear boiler and recirculation sys/ MO Valves	Packing leaking during Hydro	Packing needed tightening on vlvs 202-48B, 5A, 5B, 6B and 7B	Tighten packing	None, reactor in shutdown
Sept 15	Nuclear boiler and recirculation system/ inboard MSIV vlvs	Had packing leaks during hydro	Loose packing on vlvs 203-1A, 1B, 1C, and 1D	Tighten packing on 203-1B and 1C and added rings to 203-1A and 1B	None, reactor in shutdown
Sept 15	Nuclear boiler and recirculation sys/MO-220-1	Packing leak during hydro	Loose packing	Tighten packing	None, reactor in shutdown

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 15	Nuclear boiler and recirculation system/ target rock relief vlv	Main steam line flange leaked during hydro	Loose flange bolts	Tighten flange bolts	None, reactor in shutdown
Sept 15	Nuclear boiler and recirculation system/ inboard main steam drain valves	Motor trip after one cycle	Defective overload relay	Replaced relay	None
Sept 16	Nuclear boiler/recirc pump by pass line "A"	Present line not suitable for present purpose	Normal wear	New discharge valve bypass line installed	None, reactor in cold shutdown
Sept 16	Nuclear boiler/recirc pump bypass line "B"	Present line not suitable for present purpose	Normal wear	New discharge valve bypass line installed	None, reactor in cold shutdown
Sept 16	Nuclear boiler and recirculation sys/ drywall head	None	Routine maint.	Installed and bolted down head	None, reactor in shutdown
Sept 23	Nuclear boiler and recirculation system/ motor operated vlvs	None	Routine inspection	Adjusted all motor operated valve torque switches	None, reactor in shutdown
Sept 23	Nuclear boiler and recirculation system/ excess flow checks	Failed excess flow checks	Valve 3-220-17D, 3-263-2-6B and 25, 3-1301-23 and 24, and 3-1402-31A could not backfell sensors to 1000 lbs	Replaced valves	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 23	Nuclear boiler and recirculation system/ reactor recirculation pumps	None	Preventive maint	Cleaned and painted the reactor recirculation pump bowls to allow decontamination for replacing seals	None
Sept 2[illegible]	Nuclear boiler and recirculation system/ MSIV 203-2D	None	Test to check operation valve	Removed and replaced pilot valve	None, reactor in shutdown
Sept 24	Nuclear boiler and recirculation system/ MSIV 203-2C	Excessive air leakage	Defective O-rings	Overhauled air cylinders installed new rings and O-rings	None, reactor shutdown
Nov 13	Nuclear boiler and recirculation system/ recirc motor generator mechanical stops	None	To allow procedure number 33-200-#IV to be performed	Set the recirculation pump runout limits	None, pump could always be shutoff
Dec 13	Nuclear boiler and recirculation system/ MSIV 1A	Excessive air leakage	Leaking inlet pipe	Tighten inlet pipe	None, unit down
Dec 24	Nuclear boiler and recirculation sys/ electromatic relief valves	None	Preventive maint.	Inspected all electromatics and tightened as necessary	None, reactor in cold shutdown

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 24	Nuclear boiler and recirculation system/ MSIA	Relay 590-102A did not drop out	Relay hang-up	Freed operation of relay	None
Sept 23	Reactor recirculation system/recirculation pump 3B	None	Preventive maint.	Hydro and replaced seals as required	None, reactor in cold shutdown
Sept 24	Reactor recirculation system/recirculation pump 3A	Affective startup	Defective seals	Replaces seals and hydro	None
Sept 15	Main steam piping system/target rock vlvs	None	The target rock safety/relief valve procedure required gags installed	Installed and removed gags for procedure	None, reactor in shutdown
Sept 16	Main steam piping system/2A MSIV	Valve went past 10% close limit switch	Limit switch was out of adjustment	Adjusted limit switch	None, redundent equipment available to provide safe reactor shut-down
Sept 23	Main steam piping system / safety valves	None	Gags were needed for hydro	Installed and removed gags for hydro	None
Dec 24	Main steam piping system/MSIV-2B	Control room received a double indication	Loose screw holding up limit switch	Tightened screw and adjusted limit switch	None
Sept 23	Reactor head cooling system/head spray MO-3-205-2-4	Valve will not close with CRD pump on	Limit switch out of adjustment	Readjusted limit switch to stay closed longer on opening	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 19	Nuclear boiler conv valves and equip/ instrument line flow check valves	Check valve would not unseat while trying to back fill sensing	Unknown	Inspection showed no problem, backfilled with no problem	None
Dec 12	Nuclear boiler control room instruments/MSL flow 3-D-261-25	Faulty indication	"0" position off	Readjusted zero position on meter	None, instrument trip function was not impaired
Nov 10	Recirculation pump instruments/jet pump calibration	Faulty indication on 903-4	Calibration was off	Recalibrated meter	None
Nov 24	Recirculation pump instruments/APRM #4	Had a zero reading on process computer OD-3 output	Unknown	Inspection showed this was a normal indication	None
Dec 4	Recirculation pump instruments/jet pump flow	None	Routine maint	Rough calibrated jet pump flow indicators in aux elect RM & local panel	None
Oct 31	Reactor pressure vessel instruments/ reactor low level switch	LIS 263-57B stuck open	Blown fuse	Replaced fuse with a new one	None
July 1	Control rod drive system/accumulator	Switches are in need of calibration	Normal use	All switches have been calibrated	None, core unloaded during repair

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 1	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #7123	None, CRD continued to perform its intended function
July 1	Control rod drive sys/rod drive	None	Routine maint.	Overhauled & leak tested CRD Serial #117	None
July 2	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #6362	None
July 2	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #1236	None, CRD continued to perform its intended function
July 2	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #878	None
July 2	Control rod drive sys/rod drive	None	Routine maint	Overhauled and leak tested CRD serial #467-C	None
July 2	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #1078	None, CRD continued to perform its intended function.

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 3	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#962	None
July 3	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #509C	None
July 4	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #979	None, CRD continued to perform its intended function
July 4	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #761	None
July 5	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leaked tested CRD serial #963	None
July 5	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#897	None,CRD continued to perform its intended function
July 6	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and Leak tested CRD serial#1026	None
July 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#1502	None
July 6	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#1022	None, CRD continued to perform its intended function

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 6	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#1775	None
July 7	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leaked tested CRD serial#970	none
July 7	Control rod drive sys/rod drive	None	Routine maint	Overhauled and leak tested CRD serial#297	None, CRD continued to perform its intended function
July 7	Control rod drive system/rod drive	None	Routine maint	Overhauled and leak tested CRD serial #900	None
July 8	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#4	None
July 8	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #1046	None, CRD continued to perform its intended function
July 8	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#6398	None
July 8	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leaked tested CRD serial#2027	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 8	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #1529	None, CRD continued to perform its intended function
July 8	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#6333	None
July 9	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #6205	None
July 9	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #7052	None CRD continued to perform its intended function
July 9	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #6219	None
July 10	Control rod drive sys/ rod drive	None	Routine maint	Overhauled and leaked tested CRD serial#6215	None
July 11	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #5461	None, CRD continued to perform its intended function
July 11	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#6425	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 11	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#612	None
July 12	Control rod drive sys/rod drive	None	Routine maint	Overhauled and leak tested CRD serial #6409	None, CRD continued to perform its intended function
July 12	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #1445	None
July 12	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leaked tested CRD serial#7137	None
July 12	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#7184	None, CRD continued to perform its intended function
July 13	Control Rod Drive Sys/ Rod drive	None	Routine maint.	Overhauled & leak tested CRD serial #6426	None
July 13	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#1497A	None
July 14	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #533C	None, CRD continued to perform its intended function
July 14	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#1039	None
July 14	Control rod drive sys/rod drive	None	Routine maint.	Overhauled and leaked tested CRD serial#905	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 14	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #6356	None, CRD continued to perform its intended function
July 14	Control rod drive system/rod drive	None	Routine maint	Overhauled and leak tested CRD serial #6539	None
July 15	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#588	None
July 15	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#6323	None, CRD continued to perform its intended function
July 15	Control rod drive system/rod drive	None	Routine maint.	Overhauled and leak tested CRD serial #301	None
July 17	Control rod drive sys/ rod drive	None rod	Routine maint.	Overhauled and leaked tested CRD serial#1064	None
July 18	Control rod drive sys/ rod drive	None	Routine maint.	Overhauled and leak tested CRD serial#5857	None, CRD continued to perform its intended function

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 5	Control rod drive hydraulic sys/CRD accumulator	Improper pressure reading	Normal use	Pressure gage was recalibrated	None
Aug 8	Control rod drive hydraulic system/CRD D-2 scram inlet vlv	Loss of fluid	D-2 scram inlet vlv leaking thru	Valve was repaired	None, with fuel removed from the reactor vessel. The CRD system was not required
Aug 6	Control rod drive hydraulic sys/CRD accumulator	Accumulator will not hold pressure	Normal wear	Old accumulator was removed and rebuild one installed	None, all fuel was removed from the reactor vessel
Aug 6	Control rod drive hydraulic sys/CRD accumulator	Accumulator is leaking	Valve is leaking	The top hat was replaced as well as the solenoid	None, reactor had all fuel removed
Aug 6	Control rod drive hydraulic/N_2 vlv	Leaking N_2 vlv	Normal wear	Removed old packing installed new packing	None
Aug 11	Control rod drive hydraulic sys/CRD accumulator 38-39	Cannot isolate charging wtr with 113 vlv	bad valve	Replaced valve	None- no fuel in the reactor
Aug 12	Control rod drive hydraulic sys/CRD accumulator 10-23	Unable to keep N_2 side M.T. of water	Bad "O" rings and gaskets	New "O" rings and gaskets were installed	None, reactor was sub-critical

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 13	Control rod drive hydraulic sys/CRD accumulator 14-11	High water alarm comes up once per hour	Bad "O" rings	new "O" rings and gasket were installed	None, no fuel in reactor
Aug 19	Control rod drive hydraulic system/N_2 vlv	Loss of N_2	N_2 valve leaks due to bad packing	Installed new style packing	None, reactor in refuel
Aug 19	Control rod drive hydraulic sys/N_2 vlv	Loss of N_2	N_2 vlv leaks due to bad packing	Installed new style packing	None, reactor in refuel
Aug 19	Control rod drive hydraulic sys/spare accumulator A 3081	Cylinder was found to be pitted	Normal use	Spare accumulator was rebuilt	None
Aug 26	Control rod drive hydraulic sys/N_2 accumulator rings	Loss of N_2	Packing was leaking	Installed new N_2 valve packing	None, there was no fuel in the reactor
Sept 15	Control rod drive hydraulic sys/scram inlet valve	Loss of fluid	Scram inlet vlv leaking through	Valve was adjusted	None
Sept 16	Control rod drive hydraulic sys/HFA relays	None	Routine inspection of HFA relays during outage	[illegible]	None, reactor shutdown

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 24	Control rod drive sys/ accumulator 20-19	Received a hi water alarm	Defective accum	Replaced accum	None, CRD fully inserted
Sept 24	Control rod drive sys/ accumulator 02-35	Nitrogen leak	Faulty packing	Replaced packing	None, shut-down margin verified satisfactory
Sept 24	Control rod drive sys/accumulator 38-43	High water alarm	Defective accum	Replaced accum	None, CRD was fully inserted
Sept 25	Control rod drive hydraulic sys	RPIS G-9 has double indication	Bad card	RPIS card was replaced	None, this was for an indicator only did not affect reactor operation
Sept 26	Control rod drive hydraulic sys/acc 10-23	Malfunctioning alarm	Found wires at point "P" were reversed	Wiring was corrected	none: insured that reactor was in a position that tech spec limits allow acc to be discharged

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 3	Control rod drive hydraulic sys/pressure switch	Pressure switch is activating both high & low alarms	Pressure switch needs calibration	Pressure switch is calibrated	None, system operability was not affected
Oct 16	Control rod drive hydraulic sys/LPRM	LPRMs were not functioning properly	Bad detector	Detector was replaced	None, component failures did not result in degraded sys operation as redundant instrumentation was available at all times
Oct 22	Control rod drive hydraulic sys/acc 18-47	Leaking N_2 fill cap	Normal wear	Replaced N_2 cap	None, control rod drive scram capability not impaired via scram from reactor press.
Oct 22	Control rod drive hydraulic sys/APRM #1	APRM #1 meter on 903-37 does not indicate	There is a burr on the plunger	Burr was removed	None, redundant equipment available to provide for minimum instrumentation
Oct 30	Control rod drive hydraulic sys/CRD 10-23	High water level alarm	Normal wear	Acc. was repaired	None, alarm only sys (CRD) operability not affected

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Nov 3	Control rod drive hydraulic sys/CRD control sys	Control rod drive control sys cannot select any rods in upper half of core	Normal wear	Condition cleared itself	None, indication only. Sys operation was not affected to a point where plant safety was affected
Dec 12	Control rod drive hydraulic sys/scram discharge volume level switches	None	Routine maint.	Switch E was repaired	None
Dec 18	Control rod drive hydraulic system	Water leakage	Bad seal	Seal was replaced	None shutdown margin maintained with CRD OOS
Dec 18	Control rod drive hydraulic sys/acc replacement	Water leaking into N_2 side of acc	Bad seal	Seals were replaced	None, shutdown margin maintained with CRD OOS
Dec 24	Control rod drive hydraulic sys/N_2 accum 34-55 fill cap	N_2 leaking from N_2 fill cap	Bad fill cap	New fill cap was used	None, accumulator availability was not impaired

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 24	Control rod drive hydraulic sys	Low pressure alarm	Bad valve seat	Took slight cut on valve disc lapped disc into seat	None:equipment failure did not compromise system operation
Dec 30	Control rod drive hydraulic sys/low pressure switch	Low pressure alarm not working	Normal use	Recalibrated switch	None, reactor shutdown
Dec 30	Control rod drive hydraulis sys/RPIS probe	Failure to go to "00" on scrams and long	Normal use	Replaced or rebuild RPIS probes	None, CRD maintenance related with reactor in cold shutdown during refueling
Sept 16	Neutron monitoring sys/IRM #16	Noisey. Spiked to Hi on reactor scram. On bypass it tripped at least 5 times	Bad detector	New detector installed	None, redundant equip, available to provide for safe plant operation
Sept 23	Neutron monitoring sys/TIP sys lights	Lights on F-5 containment isolation are out	Bad light	Burned out lights were replaced	None. Indication only & trip sys operation not affected
Sept 24	Neutron monitoring sys/SRM #24 drive control fuses	When SRM is moved, fuse blow on drive controls	Limits needed to be reset	Limit were reset	None drive meter problem did not affect SRM. Operability scram function of detector not affected

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 1	Neutron monitoring sys/scram reactivity instrument	None	This was a test run by GE too study the scram reactivity inst.	N/A	None. Reactor safety not affected
Aug 8	Neutron monitoring sys/source range monitor 21 + 22 recorder	Recorder does not indicate the same as the indicators. It was off by a factor of 10	Out of calibration	Recorder was recorded & placed back into service	None. Reactor in cold shutdown
Sept 15	Neutron monitoring sys/IRM 11, 12, 14, 16, 18	The IRM's did not respond to flux increases	Bad Cables	Cables were replaced	None. Reactor locked in refuel
Sept 25	Neutron monitoring sys/LPRM's	Upscale and downscale trips on all U-3 LPRM's are not operating properly	LPRM's were not calibrated properly	LPRM's were calibrated	None. System operability not affected
Sept 29	Neutron monitoring sys/connector replacement	Bad cables	Normal wear	New cable connectors installed	None. Reactor in cold shutdown
Oct 3	Neutron monitoring sys/IRM#14	Erratic readings	Found open cable between detector and junction box	Replaced cable	None. Reactor locked in shutdown
Oct 3	Neutron monitoring sys/TIP	Worn system	Normal wear	Repaired all components	None. Repair completed during refueling

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 3	Neutron monitoring sys/IRM #13	Spurious trips on bypass	Moisture in the connector	Moisture removed with a heat gun	None. Reactor locked in cold shutdown
Oct 6	Neutron monitoring sys/IRM #13	Channel goes off scale	Found bad cable between the detector and junction box in sub pile room	New cable installed	None. Reactor locked in shutdown
Oct 10	Neutron monitoring system/LPRM 40-09	Reading full scale	LPRM 40-09 is shorted	Detector was replaced during the outage	None: redundant equipment was available
Oct 10	Neutron monitoring sys/LPRM 40-57B	Reading high	LPRM is shorted	Detector was replaced during the outage	None: redundant equip. available to provide for reactor safety
Oct 10	Neutron monitoring sys/LPRM 16-17B	Reading 75% when all the other LPRM's read 0	Detector out of calibration	Detector replaced during outage	None. Redundant equip. available to provide for reactor safety
Oct 10	Neutron monitoring sys/LPRM	LPRM 1C-16-49 reading up scale	LPRM was shorted	LPRM was replaced during outage	None. Redundant equip. available to provide for reactor safety

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 10	Neutron monitoring sys/LPRM	The LPRM was spiking high	LPRM was shorted	LPRM was replaced during outage	None. Redundant equip. was available to provide for reactor safety
Oct 14	Neutron monitoring system/APRM	APRM has caused several spurious scram (HiHi) signals	Normal wear	APRM's were cleaned & placed back in service	None
Oct 16	Neutron monitoring sys/LPRM 48-25D	LPRM reading full scale	Bad detector	Detector is replaced	None. Redundant equipment available to provide for reactor safety
Oct 16	Neutron monitoring system/LPRM 32-49B	LPRM not working	Normal wear	LPRM repaired	None. Redundant equip. available to provide for reactor safety
Oct 16	Neutron monitoring sys/LPRM 24-33D	LPRM not working	Pin is broken	LPRM was replaced	None. Redundant equip. available to provide for reactor safety
Oct 16	Neutron monitoring sys/LPRM	LPRM giving false readings	Normal wear	Repair LPRM	None: redundant equip. available to provide for reactor safety

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 16	Neutron monitoring sys/LPRM's 40-41C 56-25C, 16-17B, 32-49D, 40-57A	LPRM's were giving false readings	LPRM's were shorted out	Detectors were replaced	None. redundant equip. available to provide for reactor safety
Oct 16	Neutron monitoring sys/ LPRM's G2, 32-57D, 24-49C	LPRM's were giving false readings	LPRM's were shorted out	Detectors were replaced	None. Redundant equip. available to provide for reactor safety
Oct 17	Neutron monitoring sys/LPRM 08-25D	LPRM not working	LPRM's are shorted	Shorted LPRM's were replaced	None: redundant equip. available to provide APRM operability & reactor safety
Oct 17	Neutron monitoring system/LPRM's 40-25B, 48-33A	LPRM not working	LPRM's are shorted	Shorted LPRM's were replaced	None.Redundant equipment
Oct 17	Neutron monitoring sys/LPRM 48-41A & B	Spikes down scales	LPRM's are shorted	Shorted lPRM's were replaced	None. Redundant equip. available
Oct 17	Neutron monitoring sys/LPRM 48 & 41	LPRM not working	LPRM was shorted	LPRM was repaired	None: redundant equipment available

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 17	Neutron monitoring sys/ LPRM 32-41C	LPRM 32-41C appears erratic	Normal wear	LPRM was recalibrated, cleaned, and put back into service	None. sufficient LPRM's are available to maintain APRM operability
Oct 17	Neutron monitoring sys/LPRM 08-4A	Reading high	Bad detector	New detector installed	None
Nov 3	Neutron monitoring sys/ APRM	5% drop in reading for no apparent reason	Dirty pins on card	Pins were cleaned and card was placed back into service	None: redundant equip. available
Nov 4	Neutron monitoring sys/SRM's & IRM's	None	Routine maint. procedure	Placed back into service	None: "jumper" calbes provided while IRM/SRM were disconnected from their normal cables to provide for continued operability
Nov 5	Neutron monitoring sys/G_2 20 volt power supply	Bad voltage supply	Circuit breaker tripped & will not reset	Replaced voltage supply	None. Reactor is in cold shutdown

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Nov 10	Neutron monitoring sys/SRM #21	SRM #21 is very erratic, jumping around	Normal wear	Problem cleared itself	None: this was preventive maintenance
Nov 17	Neutron monitoring sys/APRM downscale alarm	Alarm - APRM on panel 903-5	Bad card	New card installed. problem cleared	None: this was preventive maint.
Nov 17	Neutron monitoring sys/LPRM's	LPRM is out of calibration	Normal use	LPRM is recalibration	None: there was no effect on safe operation
Nov 22	Neutron monitoring sys/ APRM stepping down scale	APRM step downscale	Normal wear	Replaced slide wire wiper & calibrated	None: redundant equip. available to provide for reactor safety
Nov 25	Neutron monitoring sys/LPRM 32-09A	Improper reading given by LPRM	Normal wear	Replaced with new detector	None: redundant instrumentation available at all times
Dec 12	Neutron monitoring sys/APRM flow bias off normal" alarm	Alarm is up	Normal wear	Recalibrated flow converters A & B	None: both comparators were found set high which would have caused "earlier (A more conservative set-point) reactor protection

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 13	Neutron monitoring sys/LPRM 24-09B	Computer picks up 17 w/cm^2 yet back panel meters show 53 w/cm^2	Bad relay contact	Contact cleaned & then placed back into service	None: LPRM has no trip signals to RPS. indication only
Dec 8	Neutron monitoring sys/ LPRM 24-25D "outage"	Reads high calib.	Bad detector	Detector is replaced	None. Redundant instrumentation available to provide minimum instrumentation requirements necessary for reactor scram protection
Sept 16	Control room panels /125 VDC main bus	Received ground alarm	Switch 30 in cabinet 903-34 is grounding	Repaired ground	None
Sept 16	Shutdown cooling system/MO-1001-1A	Leaking during hydro	loose packing	Pulled up on packing	None, valve operation not affected by failure
July 14	Standby liquid control sys/tank heaters	Heaters would not come on when control setpoint is raised above actual temperature	Switch was valved out	Valved in switch	None, heaters are not required with core unloaded
Aug 6	Standby liquid control system/piping	None	Routine inspection	Removed spool piece before the squibb valves to inspect the piping	None, no fuel in vessel

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken tc Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 6	Standby liquid control system/relief vlvs	None	Routine inspection	Checked both relief vlvs pressure setpoint	None, there was no fuel in vessel
Aug 7	Standby liquid control sys/relief valve	Relief valve RV-1105A was leaking	Defective gasket	Replaced gasket and tested Valve	None, the defective gasket did not affect the operation of the system
Aug 8	Standby liquid control system	None	Routine inspection	Provided the assistance as required to perform the surveillance test 1100-S-IV	None, all fuel was removed from vessel
July 14	Isolation condenser sys/vent monitor-3A	Erratic operation	Defective GM tube	Replaced GM tube and recalibrated	None, reactor shutdown and B monitor was operational
Aug 9	Isolation condensor sys/troughs	None	Sandblasting and painting iso-condenser	Unbolted troughs and lay at bottom of iso-condenser	None
Aug 11	Isolation condensor sys	None	Preventive maint.	Repaired field coating as specified in S & L spec K-3149	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 19	Isolation condensor sys/MO-1301-2	None	Needed valve stem for unit-2	Removed valve stem and replaced with new one	None, sys was not required to be operational
Sept 16	Isolation condensor sys/MO-1301-1	Packing leaked during hydro	Loose packing	Pulled up on packing	None, valve could still operate
Sept 24	Isolation condensor sys/MO 1301-2	Leaking pressure seal	Defective pressure seal	Replaced pressure seal	None
Sept 24	Isolation condensor sys/MO 1301-2	Body to bonnet seal ring is leaking	Loose seal ring nuts	Tightened upon seal ring nuts	None, valve operation was not affected
Dec 23	Isolation condensor sys/man way	None	Routine Inspection	Open isolation condensor man hatch and install a ladder	None, secondary containment maintained by plug in vent to atmosphere
Aug 6	Core spray and flooding sys/"A" header vent	None	Suspected a leak at vent 3-1402-52A in a weld	Tested suspected weld and found no leak	None, fuel removed from reactor vessel

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 15	Core spray and flooding sys/valves 1402-9A and 9C	Air leaking past solenoids	Defective solenoids	Changed out both solenoids	None
Sept 16	Core spray and flooding sys/test valve MO-3-1402-4A	Valves hangs up when closing under pump pressure	Faulty motor	Replace motor	None, fuel was removed from reactor
July 17	Primary containment cooling sys and LPCI/ valves 1501-27B and 28B	Valves leaking through	Faulty packing	Replaced packing	None, there is no fuel in vessel
July 17	Primary containment cooling sys and LPCI/valve 1501-27A	None	Valve disc needed in Unit 2	Removed valve disc	None, there is no fuel in vessel
July 17	Primary containment cooling sys and LPCI/ test flange	None	Set up for LPCI containment spray test	Installed LPCI containment spray test flange between valves 3-1501-27B and 28B	None, no fuel in vessel
July 17	Primary containment cooling system and LPCI/vlv 3-1501-27A	None	Routine maint	Replaced valve disc	None
Aug 6	Primary containment cooling sys and LPCI/ ESS fill pump	None	Preventive maint.	Replaced vent valve and also replaced bad gauge on discharge line	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 21	Primary containment cooling system and LPCI/valve 3-1501-5A	Valve tripped on thermal while opening after being closed	Defective motor	Replaced motor	None, manual opening of the valve was available
Sept 9	Primary containment cooling system and LPCI/valve 1501-26A	Leak during hydro	Loose packing	Tightened up on packing	None, valve operation not affected by failure
Sept 16	Primary containment cooling sys and LPCI/ pump	Pump would not shut off after start from control switch	Suspected breaker	Breaker checked ok, started and tripped pump ok	None
Sept 23	Primary containment cooling sys and LPCI/ testable check A03-1501-25A	Could not operate valve by air	Dirty air operator	Removed AIR operator, cleaned and replaced seals	None, valve disc still functions.
Sept 25	Primary containment cooling system & LPCI/ Ht XT disc vlv	None	Position feedback pot was taken off for use in Unit 2	Replaced position feedback pot on valve	None, valve controller removed with operation not required of system

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 29	Primary containment cooling system and LPCI/Hx outlet valve 3-1501-3B	Valve did not close all the way	Close torque was set just under required setting	Readjusted torque setting on valve	None, valve operation did not affect system operation
Nov 17	Primary containment cooling system & LPCI/ valve MO 3-1501-3B	Valve controller is erratic	Dirty controller internals	Removed from panel inspected & cleaned valve on bench	None, controller problem did not affect systems operability
July 7	Pressure suppression system/reactor building interlock doors	Reactor building to hallway would not open	Latch had falled out of place	Repaired latch	None, secondary containment in forced at all times
July 14	Pressure suppression system/torus sand-blasting	None	Preventive maint.	Sandblast and preparing torus for application of new coating	None
Aug 6	Pressure suppression sys/reactor building door	Door will not lock	Defective lock	Tightened up screw in lock	None
Aug 7	Pressure suppression system/torus	None	Routine maint.	Opened torus hatches at start of outage, closed at end of outage	None, fuel was removed from reactor

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Aug 12	Pressure suppression sys/drywell hydraulic restraints	None	Preventive maint.	Added oil to snubbers	None, low oil would not make snubbers inoperable
Aug 14	Pressure suppression system/drywell hydraulic restraints	None	Routine maint.	Overhauled and/or replaced snubbers as necessary	None, the failure of one snubber on a line will not affect the safety of the system
Sept 12	Pressure suppression system/drywell to torus vacuum breaker 3-1601-32B	Leakage pass vacuum breaker	Faulty packing	Replaced packing	Primary containment integrity reduced by valve leakage, no fuel was in vessel
Sept 15	Pressure suppression system/torus vent valve 3-1601-61	Leak rate test showed leakage	Leakage from around the valve shaft	Repaired valve	None, all fuel was removed from vessel
Sept 15	Pressure suppression system/drywell to torus vacuum breaker 3-1601-33D	Leak rate test showed leakage	Faulty O-rings	Installed O-rings and stuffing box bushings to specifications	Primary containment integrity slightly degraded, no fuel in vessel

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 15	Pressure suppression sys/torus vacuum breakers	None	Preventive maint.	Inspected 25% of valves, checked adjustment of position switches and measured force to open	None, all fuel was removed
Sept 16	Pressure suppression sys/equipment hatch	None	Routine maint.	Opened hatch at start of outage and closed hatch at end of outage	None, reactor in cold shutdown
Sept 24	Pressure suppression system/drywell equipment and personnel locks	None	Preventive maint.	Performed the procedure for air lock and closure maint. and repair	None
Sept 16	Pressure suppression system/drywell snubbers	None	Preventive maint.	Added oil as necessary to snubbers	None
Nov 4	Pressure suppression sys/vacuum breakers	Right hand limit did not make up, only one alarm	Loose relay	Repaired and tested relay	None, primary containment was in effect at all times
Dec 12	Pressure suppression sys/torus level transmitter 3-1626	Level reading in error to actual level	Level transmitter was out of calibration	Calibrated transmitter and set high and low alarms	None, system operation not affected
Dec 18	Pressure suppression sys/drywell snubber#25	Leakage in snubber	defective fitting	Replaced fitting and added oil	None
Dec 18	Pressure suppression sys/drywell valve 1601-22	None	Valve was needed for unit 2	Replaced valve with a new one when available	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 24	Pressure suppression sys/vent line butterfly valve AO-3-1601-23	Leak rate test revealed valve was leaking	Faulty packing	Repaired packing	None
Nov 13	Process radiation monitoring/off gas monitor log recorder	None	Routine maint.	Adjusted alarm and trip point setting	None
Nov 21	Process radiation monitoring/main steam line radiation monitors	None	Routine maint.	Adjusted main steam line high radiation scram and isolation	None
July 14	Radwaste/drywell equip. drain integrator	Drywell equip. drain integrator was running continuously	Integrator out of calibration	Adjusted zero on integrator	None
Sept 15	Radwaste/Drywell equipment drain sample pump discharge valve AO-3-2001-5	Limit switch not operating properly	Defective limit switch	Replaced limit switch	None
July 18	High pressure cooling injection/oil system	None	Routine inspection	Inspected flexible connectors during outage	None
Sept 12	High pressure cooling injection/valve A03-2301-/	Leak coming from body of testable check valve	Packing drain nipple did not have Cap on	Installed pipe cap	None
Sept 15	High pressure cooling injection/drain pot on west wall of pump room	Blowing steam	valves needed repacking	Inspected, retightened, adjusted and repacked as necessary all drain pot valves	None, valves and system operation not affected

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 15	High pressure cooling injection/valve 2301-A	Leaking valve	Loose packing	Tightened up on packing	None
Sept 19	High pressure cooling injection/minimum flow check valves 3-2301-26 and 27	None	Preventive maint.	Leak rate checked valves	None
Nov 10	High pressure cooling injection/valve SO 3-2301-31	Leaking steam out of stem	Faulty packing	Repacked valve	None
Dec 2	High pressure cooling injection/valve MO 2301-8	Valve failure	Defective motor	Installed a new motor, checked limits and rotation, and cycled valve three times	None, reactor in refuel
Dec 3	High pressure cooling injection/valve 3-2301-54	Steam leak	Faulty packing	Repacked valve	None
Dec 8	High pressure cooling injection/valve 2301-3	Valve leakage	Faulty packing	Repacked valve	None, reactor in shutdown
Sept 29	Feedheater vents/ turbine stop valve #1	Valve does not fast close the last 10%	Broke splices	Repaired broken splices to fast acting solonoid	None, repair performed prior to 45% power, where switch actuation is required

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Oct 28	Fire protection sys/ 2/3 diesel generator cooling water pump breaker	Breaker tripped	Suspected breaker	Checked contractor, meggered and bridged motor, and checked operating current all check-out okay	None
Aug 6	Off gas system/3A filter	Leaking valves	Inlet and outlet valves had loose packing	Repacked valves	None, Fuel was removed from vessel
Sept 24	Off gas system/hold up line drain valve AO 3-5424-500	Valve is stuck closed	Control air was off	Turned on operating air and adjusted limit switch	None
Oct 16	Off gas system/hi rad alarm	Alarm comes in at the wrong setting	Alarm out of calibration	Calibrated alarm	None
Aug 22	Turbine generator and auxiliary/condenser level switch LS3 4441-24A and B	None	Preventive maint.	Installed unistrut extension to existing switch mounting support	None. reactor in refuel
July 11	Diesel generator sys/air starting press.	Air leak	Air leaking from two ports near regulating stem	Completely overhauled valve, replaced O-Rings and reassembled valve	None, diesel still had enough air to start it
July 11	Diesel generator system/diesel gen.	None	Preventive maint.	Monthly diesel gen. inspection for May	None
July 11	Diesel gen. sys/diesel generator	None	Preventive maint.	Monthly diesel gen. inspection for June	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 11	Diesel generator sys/ starting air	Diesel was not able to start	Blown diaphram in the air supply pressure regulator	Replace regulator	Redundant equipment available during repair, all fuel removed from vessel
July 18	Diesel generator sys/ head temperatures	No indication from thermocouples #7 & #18	Suspected bad thermocouples	Could not find anything wrong both indicated 100°F.	None, no fuel in the vessel
July 28	Diesel generator sys/ diesel generator	None	Preventive maint.	Diesel generator monthly inspection for the month of July	None, 2/3 diesel generator operable, no fuel in vessel
Aug 27	Diesel generator sys/ #3 diesel generator	None	Preventive maint.	Diesel generator monthly inspection for the month of Aug	None
Sept 16	Diesel generator sys/ 2/3 cooling water pump breaker	Breaker tripped	Faulty breaker	Replaced breaker	The #2 diesel generator & all ECCS sys were available
Sept 24	Diesel generator sys/ #3 diesel generator	None	Preventive maint.	Diesel gen. monthly inspection for the month of Sept.	None
Nov 29	Diesel gen. sys/#3 diesel generator	None	Preventive maint.	Performed monthly diesel gen. inspec. for Nov.	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Dec 8	Diesel gen. sys/#3 diesel gen. d	None	Preventive maint.	Performed monthly diesel gen. inspection for Dec.	None
Dec 18	Diesel gen. sys/#3 diesel gen.	None	Routine maint.	Inspected and adjusted as necessary the diesel gen. governor	2/3 diesel and all low pres. ECCS available
Dec 24	Diesel gen sys/#3 diesel generator	None	Preventive maint.	Performed monthly inspection for the month of Dec.	None, redundant diesel and all low pres. ECCS available
Dec 24	Diesel generator sys/ #3 diesel gen.	None	Routine maint.	Changed fuel oil filters	None
Aug 6	4160 volt switch gear/breakers	None	Preventive maint.	Inspected switch gear cubicile and overhauled breakers that are due for overhauling	None
Aug 6	4160 volt switch gear/ Bus Pots -31, 32, 33, 34, 33-1 and 34-1	None	Routine maint.	Inspected movable contacts and stationary fingers and movable buttons for evidence of carbon, cleaned as necessary	None
Sept 23	480 volt motor control center/bus 37 and 38 main feed and tie breakers	None	Preventive maint.	Overhauled breakers	None

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Mal-function	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept 15	120/240 Vac essential service sys/D.C. drive motor	Ground indication	Under cut comm. was worn	Repaired motor and cleared ground	Redundant backup power supply was available to carry the load. Reactor was in refuel mode
Sept 16	125 VDC sys/main bus	Ground indication	Ground in the main transformer	Repaired ground	None, failure did not result in adnormal sys operation
July 11	Oxygen sample sys/isol-ation valves	None	Preventive maint.	Lubricated valves: 8501-1B-1A 8541-3B-3A 8501-5A-5B 9205-A-B 9203-A-B 9206-A-B	None
July 11	DC sys/125 VDC	Ground indication	Ground on main bus 902-32 and reserve bus 902-33	Cleared grounds	None
July 11	DC sys/250V DC battery charges	Charger was surging from 6-20 AMPS	Defective resistors and control assembly 13	Replaced defective parts	None, Redundant equip. was available at all times

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
July 14	DC sys/24/48 VDC battery chargers	None	Preventive maint.	Adjusted the 4 chargers float charge and checked the equailzing volts	None
Aug 6	DC sys/24/48 VDC battery chargers	None	Preventive maint.	Replaced bad cells prior to fuel load on unit	System was never inoperable
Aug 6	DC sys/24/48 VDC battery charger	Cells being over charged	Charger set too high	Adjusted equilizing voltage	None
Aug 9	DC system/24/48 VDC battery charger	None	Routine test	Performed battery discharge test	None
Aug 14	DC system/250 volt batteries	None	Routine maint.	Cleaned batteries	None, batteries continued to perform its intended function
Aug 22	DC sys/125 volts batteries	AC breaker trips when timer is set	High DC trip card needed adjustment	Adjusted card to trip breaker at 141 VDC	None
Sept 15	DC sys/125 volt batteries	None	Preventive maint.	Cleaned batteries	None
Sept 24	DC sys/24/48 volt battery chargers	None	Preventive maint.	Adjusted all chargers volts per cell setting	None, battery operability not compromised

TABLE IIIC

Dresden Unit 3 Maintenance Summary 1975

Date	System/Component	Effect of Malfunction	Cause of Malfunction	Action taken to Preclude Recurrence	Effect on Safe Operation of Reactor
Sept. 24	DC sys/station batteries	None	Routine maint.	Adjusted battery chargers volt per cell setting on unit 2's 125 VDC and Unit 3's 24/48, 125, and 250 VDC chargers	None, batteries and chargers were available at all times
Nov 17	DC sys/DC breakers	None	Preventive maint.	Adjusted air gaps and aux contacts of all DC breakers	None, reactor in shutdown

TABLE IIID

DRESDEN III NONREPORTABLE DEVIATION REPORTS REQUIRING

CORRECTIVE MAINTENANCE

Date of Occurrence	Number	Component Requiring Corrective Maintenance	Date Complete
8/1/75	D12-3-75-49	Control rod drive F-12	8/2/75
8/29/75	D-12-3-75-62	Transformer 32 fire valve	9/10/75
9/5/75	D12-3-75-64	2C MSIV	9/8/75
9/6/75	D12-3-75-66	Reactor low level switch (263-57B)	11/6/75
9/9/75	D12-3-75-67	2A MSIV	9/9/75
9/10/75	D12-3-75-68	Main steam line ins.	9/12/75
9/10/75	D12-3-75-69	A reactor recirc pump	9/15/75
9/10/75	D12-3-75-69	B reactor recirc pump	9/15/75
9/16/75	D12-3-75-70	#3 & #4 control valves	9/24/75
9/21/75	D12-3-75-71	#2 Control valve	12/8/75
10/19/75	D12-3-75-79	1601-33A limit switch	10/21/75
10/19/75	D12-3-75-80	High current trip relay for 3C feed pump	10/21/75
11/10/75	D12-3-75-82	HPCI GSLO Blower	11/17/75
12/3/75	D12-3-75-86	IRM #12 setpoint	12/3/75
12/13/75	D12-3-75-89	3A MG set lube oil pump A2	12/22/75

TABLE III E

LOCAL LEAK RATE TEST RESULTS

SUMMARY OF REFUELING OUTAGE TESTS

Type of Penetration	Leak Rate, SCFH	% of Limit
Primary isolation valves	56.14	31.8
Main steam isolation valves	0	0
Electircal penetrations	24.94	14.1
Bellow seals	0.093	0.05
All testable penetrations	81.17	46.0
Double-gasketed seals	6.29	10.7

SUMMARY OF TESTS ON TESTABLE PENETRATIONS AND ISOLATION VALVES AFTER REFUELING OUTAGE

Date of Test	Penetration or Isolation Valves Tested	Leak Rate SCFH	% of Limit
10/12/75	Isol. valves 1601-21, -22, -55, -56, & 8502-500	23.5	80.0
12/4/75	Isol. valves 1601-21, -22, -55, -56, and 8502-500	11.4	38.8
12/8/75	Isol. valves 1601-21, -22, -55, -56, and 8502-500	23.3	79.3

LOCAL LEAK RATE TEST RESULTS
SUMMARY OF TESTS ON DOUBLE-GASKETED SEALS AFTER REFUELING OUTAGE

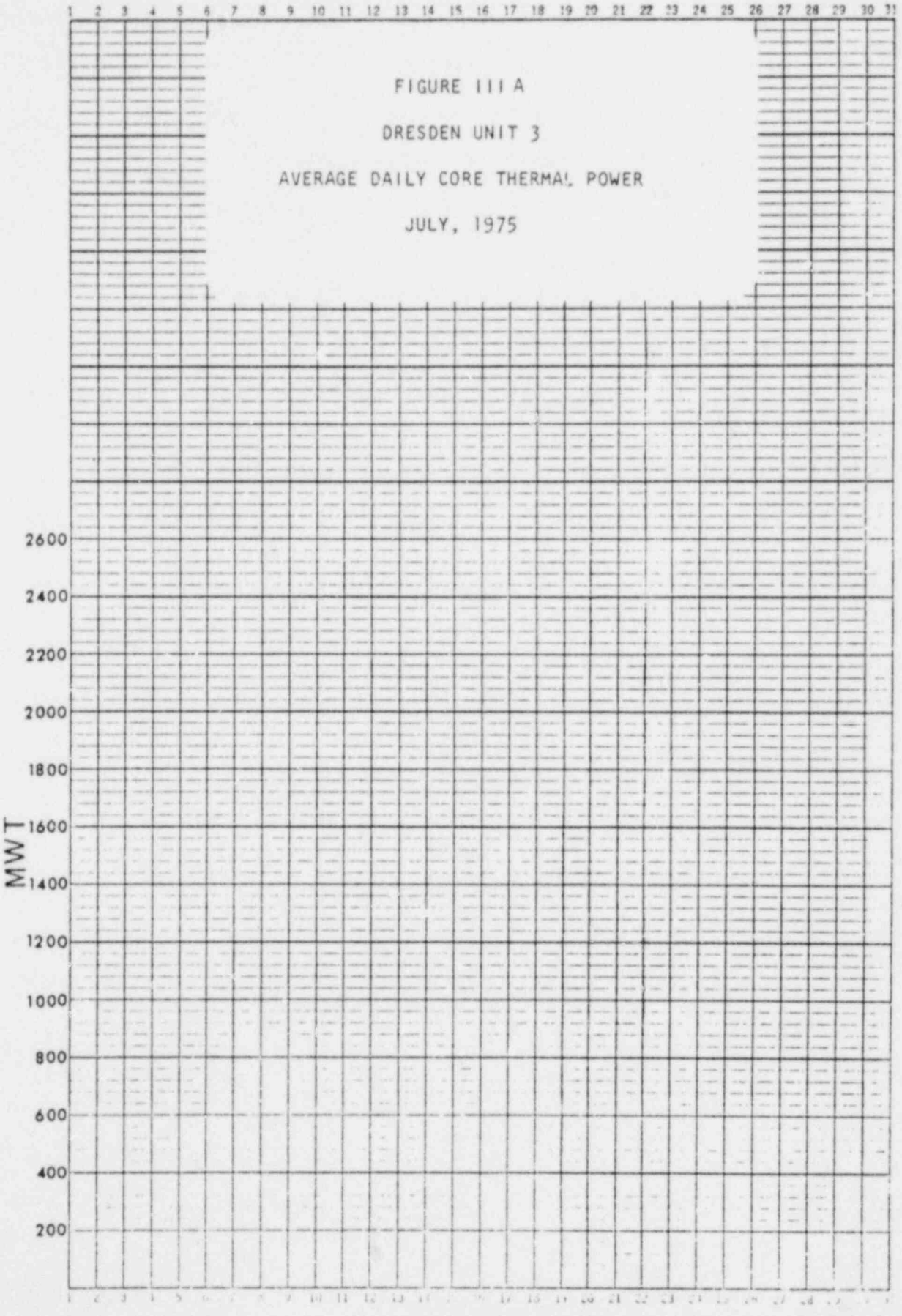
Date of Test	Double-Gasketed Seal Tested	Leak Rate SCFH	% of Limit
9/15/75	Drywell equipment hatch X-100	0	0

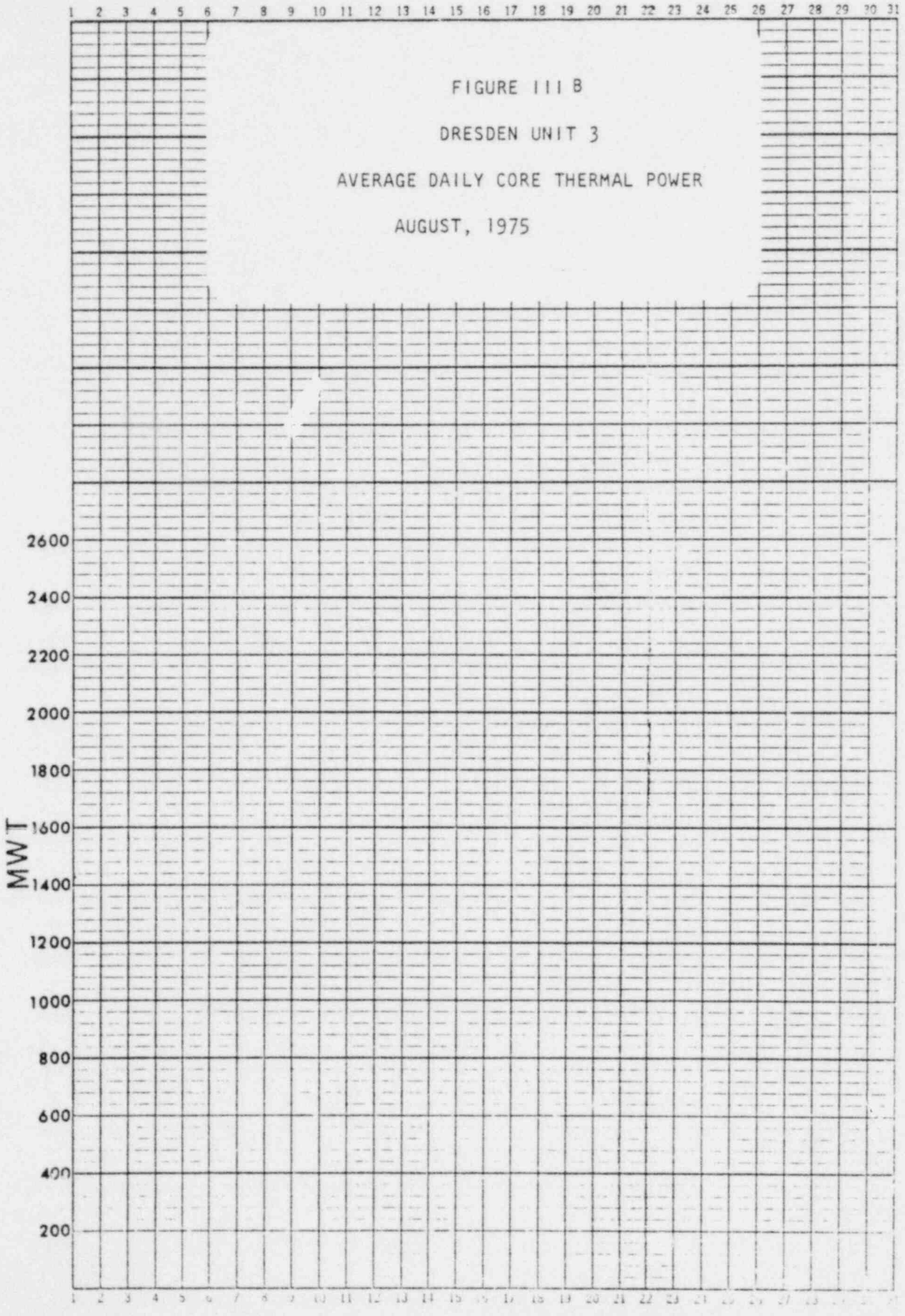
TABLE II
PRIMARY COOLANT CHEMISTRY
Dresden Unit 3

July to Dec., 1975

		Units	July	August	Sept.	Oct.	Nov.	Dec.
1.	Gross Radioactivity							
	a) Maximum	uCi/ml	4.7E 06	1.7E 07	8.5E 08	1.2E 09	1.5E 09	1.0E 09
	b) Average	uCi/ml	2.1E 06	3.0E 06	2.0E 08	6.8E 08	7.4E 08	6.2E 08
	c) Minimum	uCi/ml	8.0E 06	9.9E-05	8.6E 06	1.6E 08	1.5E 08	2.9E 08
2.	Chloride							
	a) Maximum	ppm	.056	.085	.078	.084	.092	.069
	b) Average	ppm	.044	.043	.038	.036	.040	.042
	c) Minimum	ppm	.030	<.030	<.030	<.030	<.030	<.030
3.	pH @ 25° C							
	a) Maximum	pH	7.9	8.3	8.0	7.9	8.2	8.3
	b) Average	pH	7.4	7.7	7.4	7.5	7.6	7.5
	c) Minimum	pH	6.9	6.9	6.3	6.5	6.6	6.5
4.	Iodine 131	uCi/ml	*	*	1.5E-03	2.8E-03	2.9E-03	2.4E-03
5.	Iodine-131: Iodine-133	Ratio	*	*	.09	.11	.09	.10
6.	Gross Tritium	uCi/ml	2.4E-03	2.4E-03	3.0E-03	4.1E-03	4.7E-03	4.4E-03

*Unit Shutdown - None detected





2-3

7527 MWT
809 MWe net

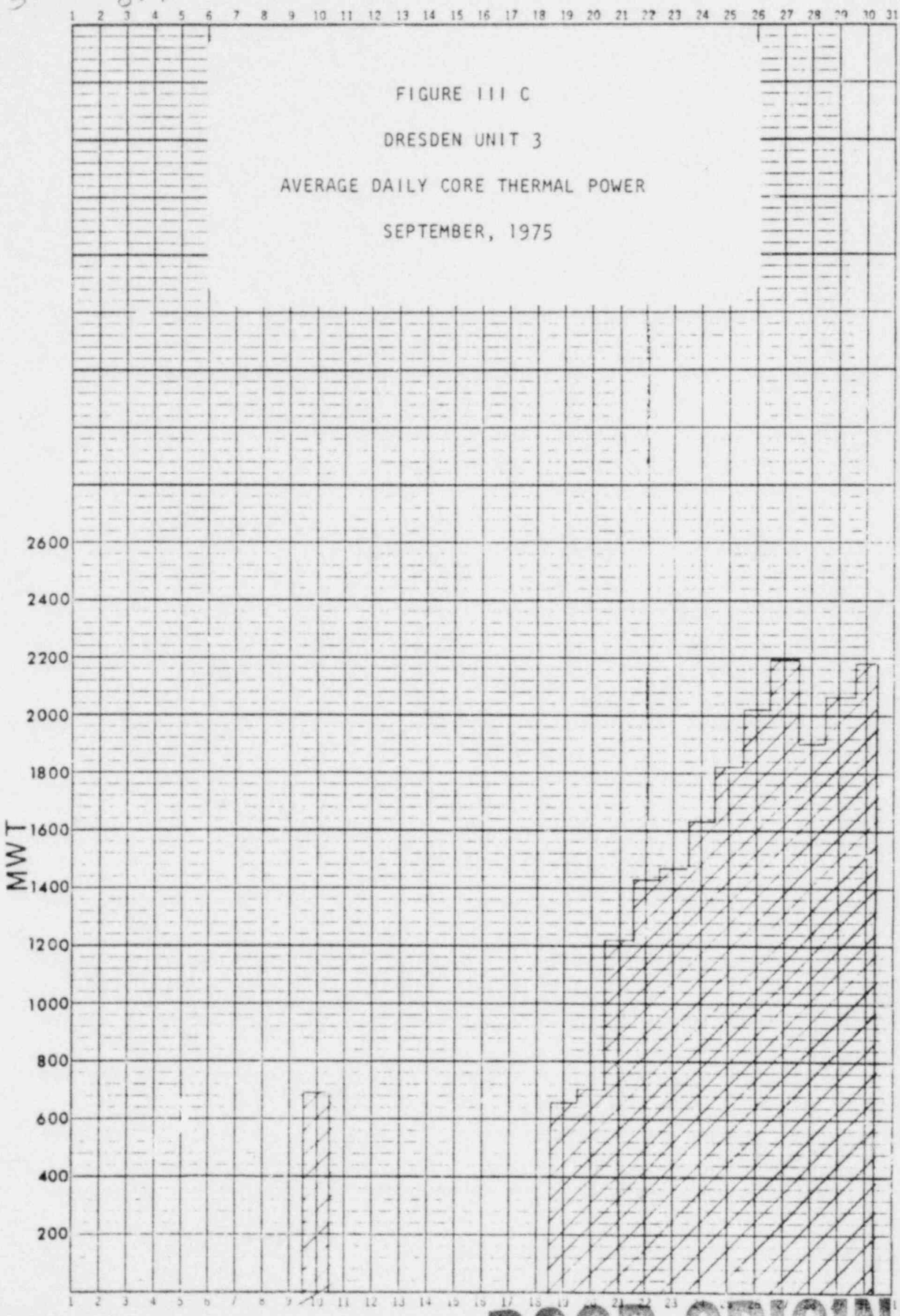
Unit #1 700 MWT
200 MWe

FIGURE III C

DRESDEN UNIT 3

AVERAGE DAILY CORE THERMAL POWER

SEPTEMBER, 1975



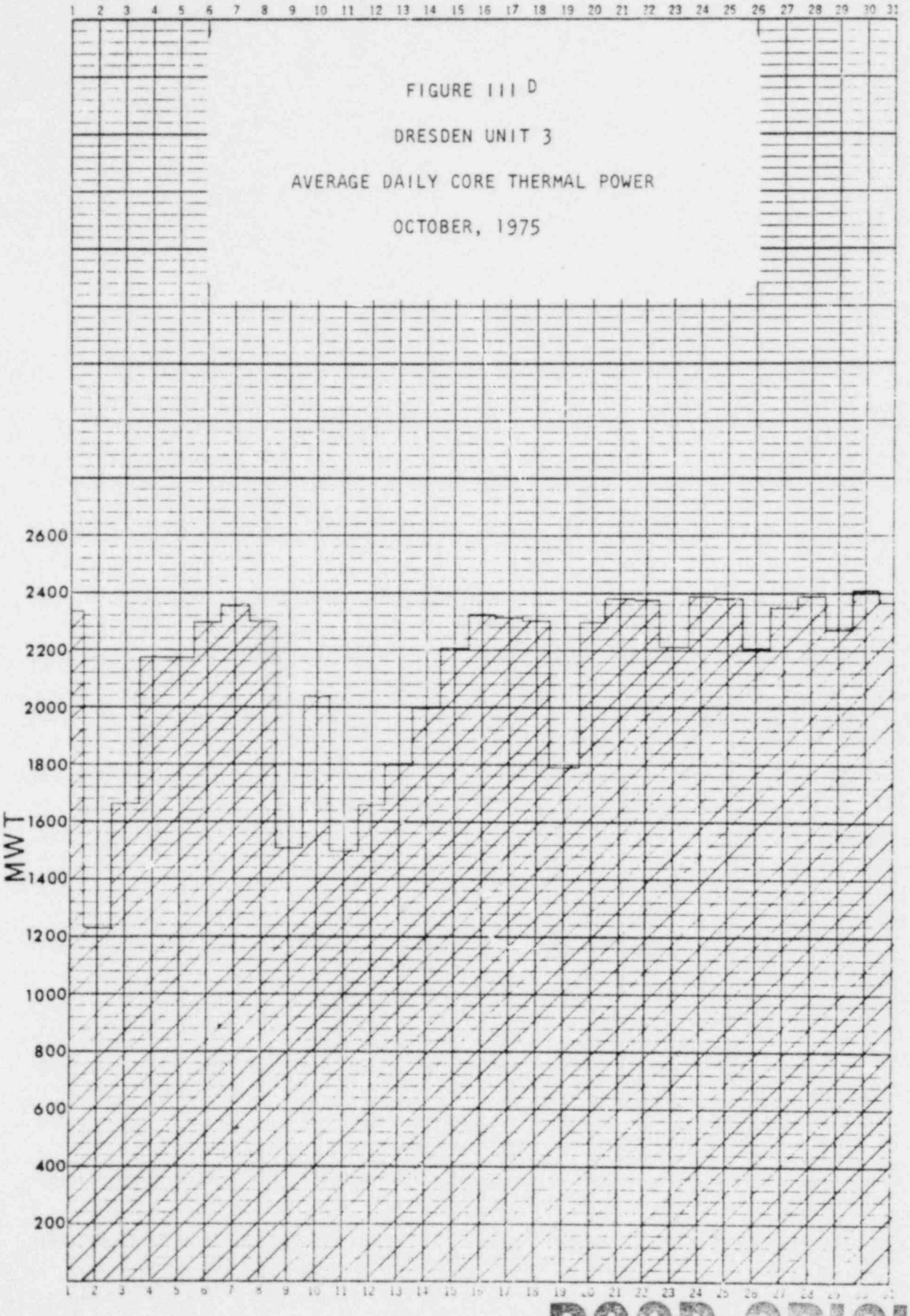
1 MONTH BY DAYS 46 2290
X 110 DIVISIONS
KEUFFEL & ESSER CO.

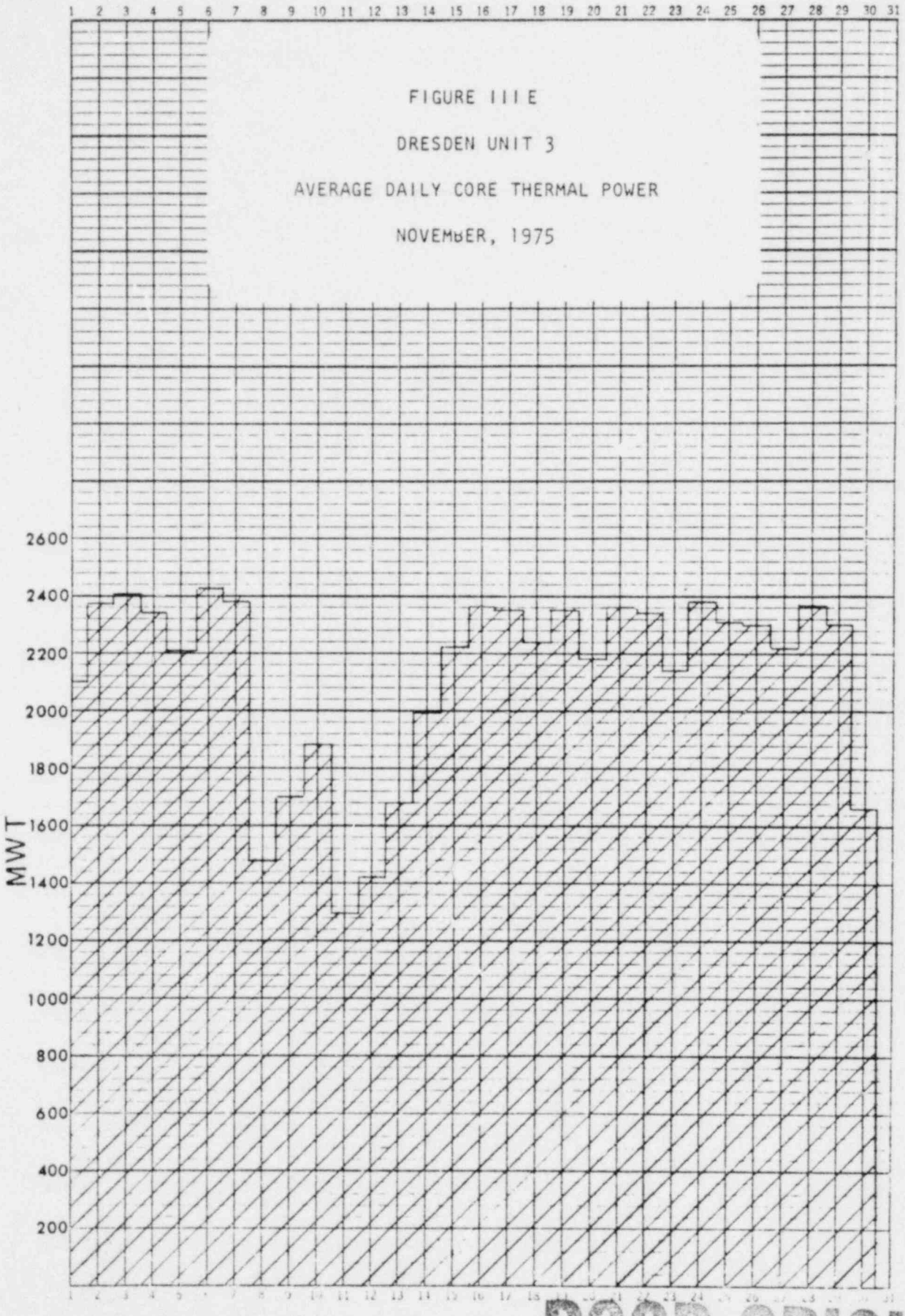
FIGURE III D

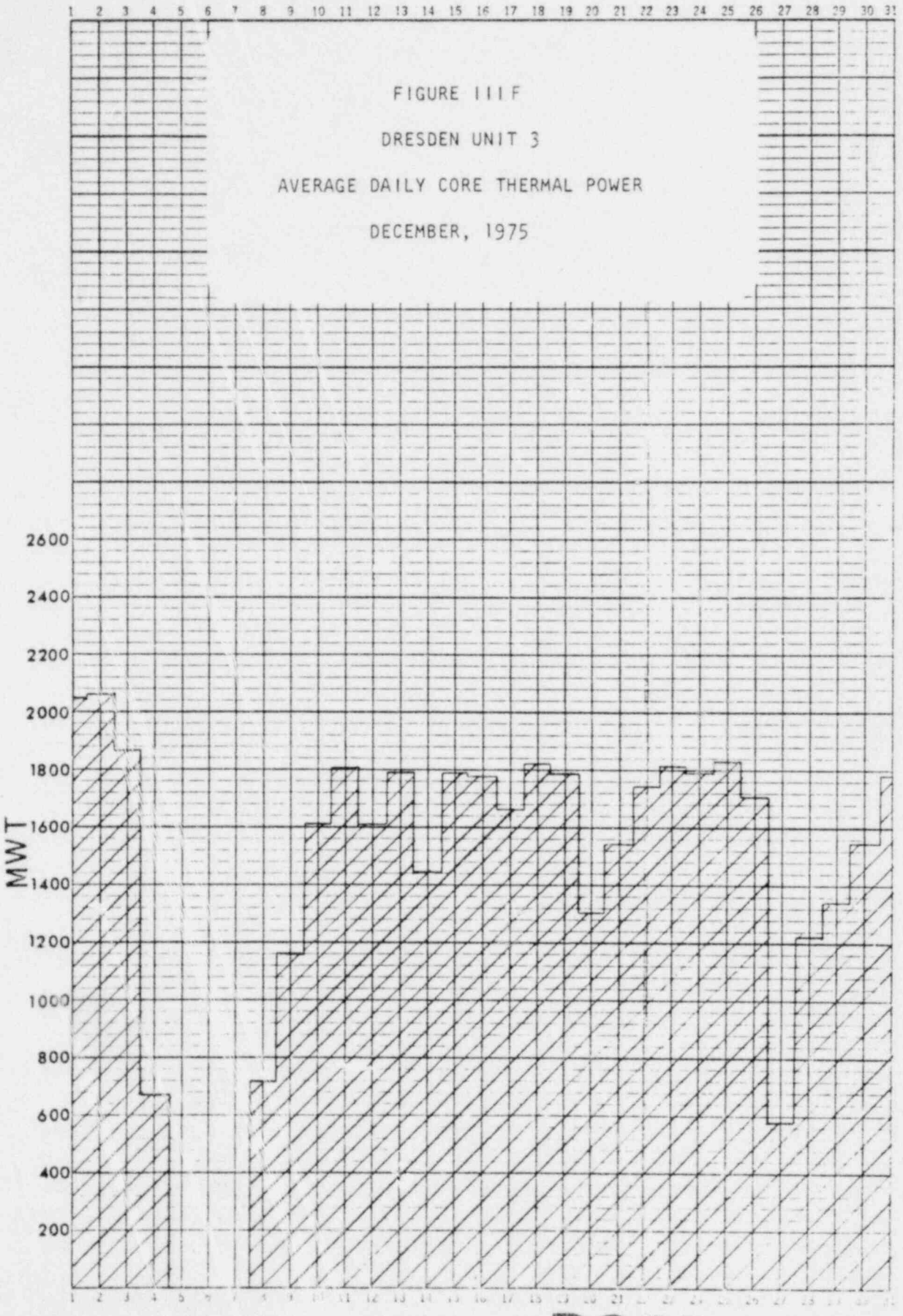
DRESDEN UNIT 3

AVERAGE DAILY CORE THERMAL POWER

OCTOBER, 1975





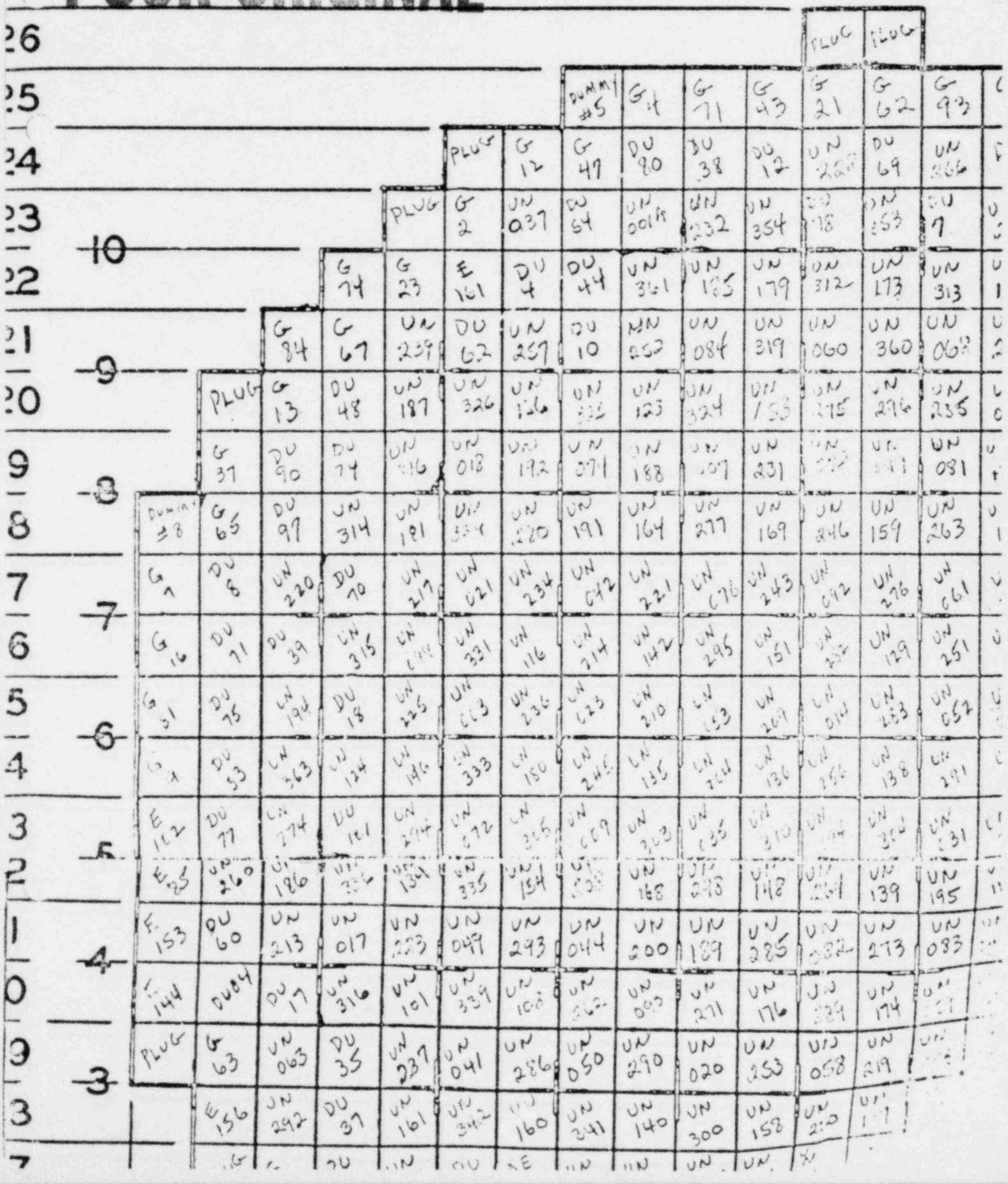


APPENDIX A

DRESDEN 1

FUEL PERFORMANCE FIGURES

FIG. 1 Cycle 9A Verified Map

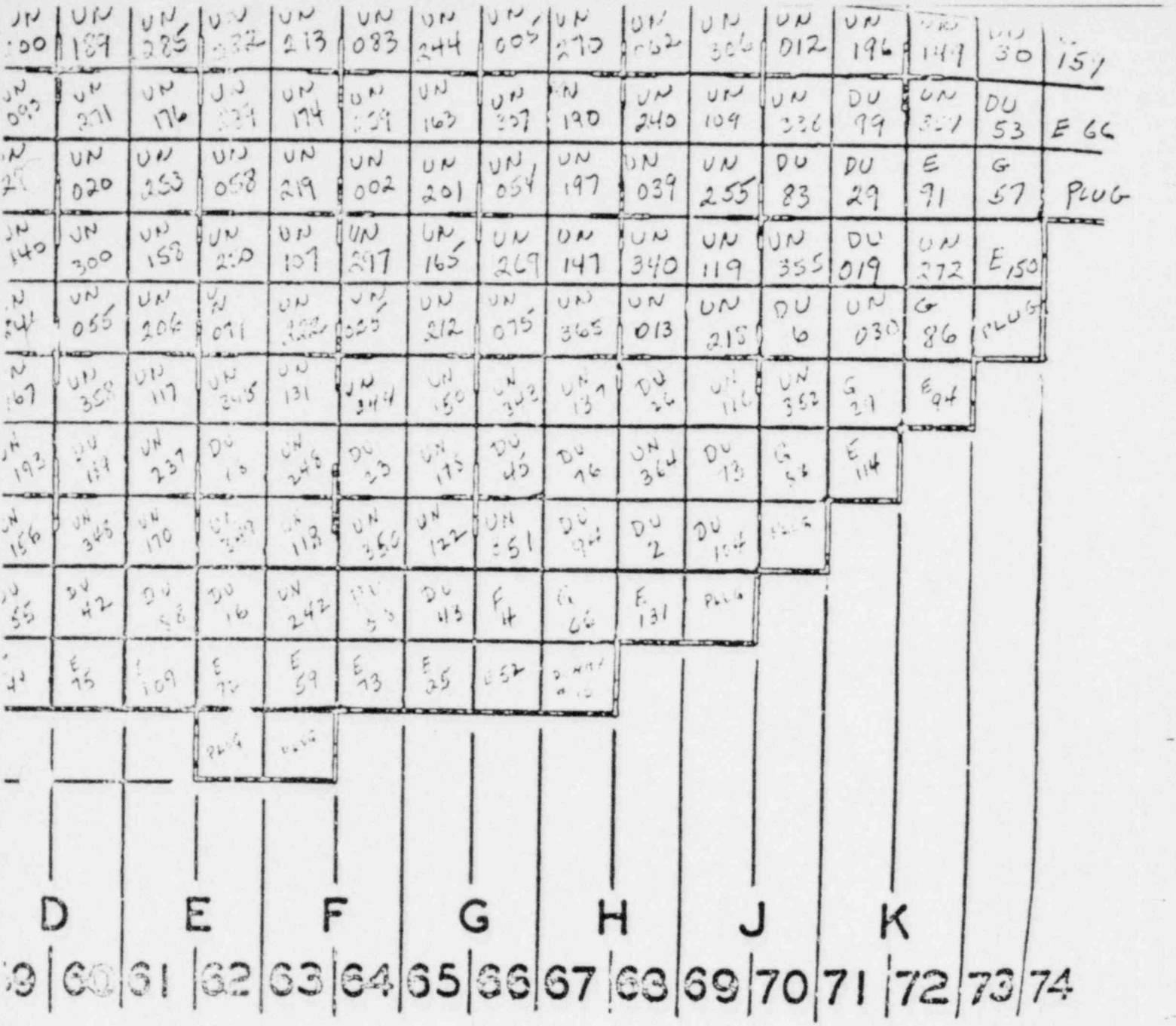


(FIG. 1)

[illegible] Map

J. D. Bowers 5/10/74
E. Valente C.E.Co.
A. DiGrazia C.E.Co
[illegible] G. T[illegible] CECo
John Vol[illegible] AA&Co

			PLUG	PLUG											
[illegible]	G 71	G 43	G 21	G 62	G 93	G 8	G 110	DUMMY #4							
[illegible]	DU 38	DU 12	UN 266	DU 69	UN [illegible]	DU 57	DU 3	G 38	G 6	PLUG					
[illegible]	UN 232	UN 354	[illegible] 18	UN 353	DU 7	UN [illegible]	UN 040	DU 199	G 75	G 55	G 70				
[illegible]	UN 185	UN 179	UN 312	UN 173	UN 313	UN 177	UN 362	DU 21	DU 47	E 95	G 41	G 32			
[illegible]	UN 084	UN 319	UN 060	UN 360	UN 06[illegible]	UN 226	UN 057	UN 211	DU 56	UN 273	UN 029	G 18	PLUG		
N 23	UN 324	UN 153	UN 275	UN 276	UN 235	UN 018	UN 322	UN 263	UN 321	UN 162	UN 320	DU 87	G 72	PLUG	
N 88	UN 007	UN 231	UN [illegible]	UN [illegible]	UN 081	UN 172	UN 004	UN 349	UN 043	UN 238	UN 008	DU 86	G 67	G 22	
N 64	UN 277	UN 169	UN 246	UN 159	UN 263	UN 130	UN 308	UN 171	UN 328	UN 175	UN 327	DU 13	UN 227	G 53	DUMMY #9
N 221	UN 016	UN 243	UN 092	UN 276	UN 061	UN 202	UN 015	UN 302	UN 124	UN 085	UN 100	UN 215	DU 22	DU 105	G 88
UN 142	UN 295	UN 151	UN 282	UN 129	UN 251	UN 120	UN 196	UN 141	UN 281	UN 152	UN 336	UN 110	UN 317	DU 102	G 26
UN 210	UN 153	UN 209	UN 014	UN 283	UN 052	UN 206	UN 078	UN 309	UN 011	UN 332	UN 069	UN 221	DU 95	UN 253	G 11
UN 135	UN 364	UN 136	UN 256	UN 138	UN 291	UN 112	UN 230	UN 132	UN 213	DU 40	UN 207	UN 132	UN 256	DU 34	E 152
[illegible]	UN 155	UN 310	UN [illegible]	UN 354	UN 031	UN 265	UN 011	UN 301	UN 019	UN 346	UN [illegible]	UN 357	DU [illegible]	UN 267	E 62
UN 11	UN 015	UN 148	UN 264	UN 139	UN 195	UN 113	UN 274	UN 254	UN 234	UN 111	UN 279	UN 125	UN 233	DU 15	E 168
UN 330	UN 137	UN 285	UN 082	UN 273	UN 083	UN 244	UN 005	UN 270	UN 062	UN 306	UN 012	UN 196	UN 149	DU 30	E 159
	UN [illegible]	UN 176	UN 289	UN 174	UN 339	UN 163	UN 337	UN 190	UN 240	UN 104	UN 336	DU 79	UN 357	DU 53	E 66
		UN [illegible]	UN 058	UN 219	UN 002	UN 201	UN 054	UN 197	UN 039	UN 255	DU 83	DU 29	E 91	G 57	PLUG
			UN 250	UN 107	UN 297	UN 165	UN 269	UN 147	UN 340	UN 119	UN 355	DU 019	UN 272	E 15[illegible]	
			[illegible]	UN	UN	UN	UN	UN	UN	DU	UN	G			



(FIG. 1)

(FIG. 1)

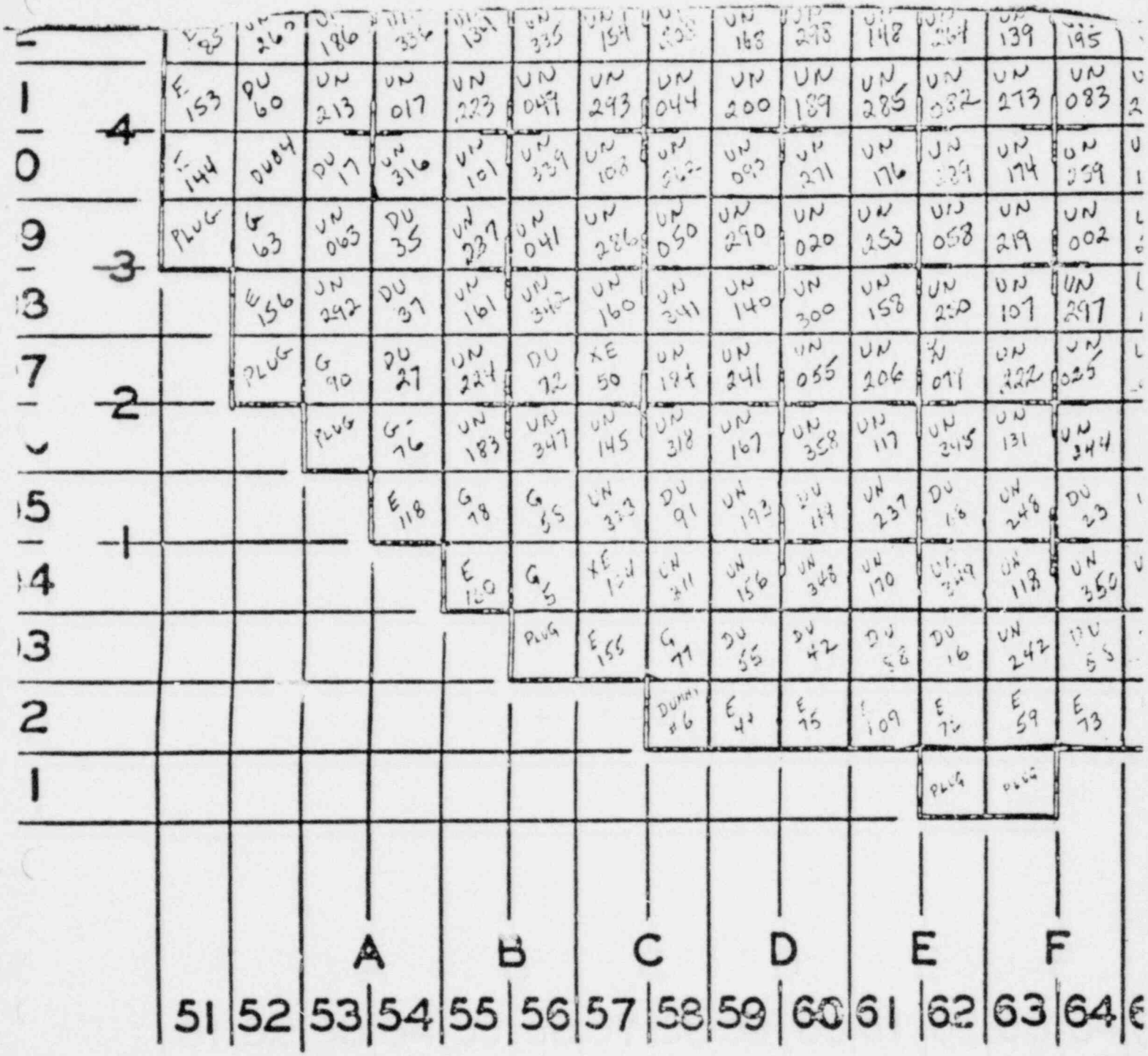
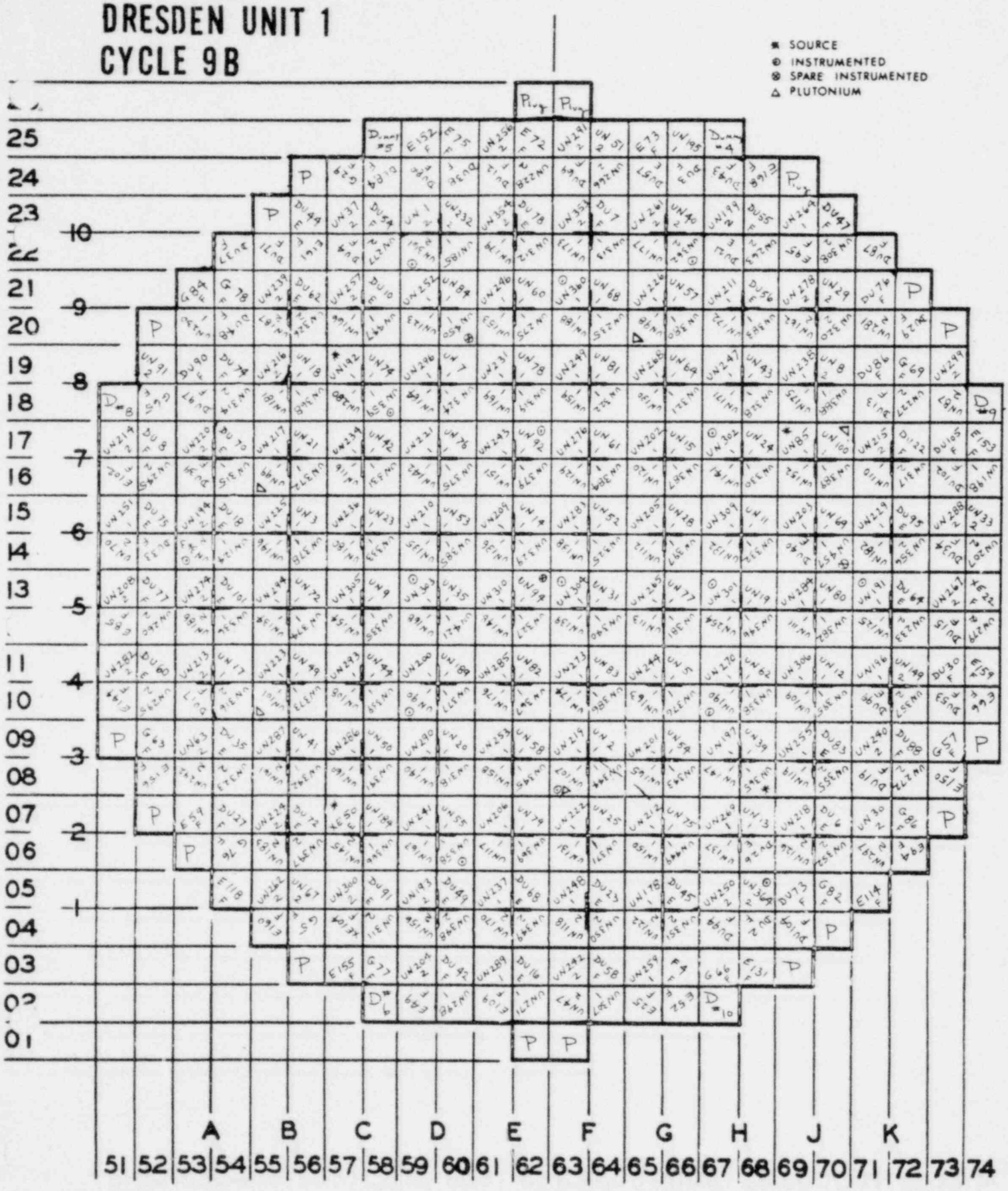


FIG. 2

DRESDEN UNIT 1
CYCLE 9B



TRILUX-BX (JUN 69) (TBX-24X16-C2-02) TBX CYCLE

FIG. 3 Goal Bump 9A

EXPOSURE 2.3112 CYCLE 20 E(I,J,K) BY CHANNL

	1	2	3	4	5	6	7	8	9
(C)									
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.6223
2	0.0	0.0	0.0	0.0	0.0	0.0	21.6603	21.5043	18.1460
3	0.0	0.0	0.0	0.0	0.0	21.3270	17.3632	18.1369	17.6987
4	0.0	0.0	0.0	21.5646	21.5967	19.4344	18.1803	18.7242	2.7570
5	0.0	0.0	20.4694	21.8553	7.8041	17.4995	8.8079	19.0243	9.0726
6	0.0	0.0	21.8120	17.8558	18.3295	0.5609	18.1381	3.1519	17.8056
7	0.0	21.6432	19.3920	16.2211	8.7479	18.2744	16.8716	22.0580	9.8724
8	0.0	17.4497	21.3630	2.4782	18.9626	3.2766	18.6742	17.1221	15.2565
9	23.9301	16.9715	8.4825	16.5218	9.2116	17.4319	8.6490	19.4805	18.0129
10	24.2442	17.1235	16.3864	9.0475	17.2418	3.5070	16.1270	18.1529	17.1627
11	24.4039	15.9914	8.6492	16.2579	9.1600	22.1461	18.5656	17.3592	18.1724
12	24.7422	17.4676	2.6866	14.8118	18.4659	3.5944	14.1974	18.0766	17.1386
13	15.6492	17.3150	8.8441	16.9483	9.1894	21.9830	18.5879	17.1710	18.1981
14	15.6927	8.4132	14.2654	3.1346	16.2850	3.5521	16.3202	18.2224	13.6172
15	15.8022	17.3226	8.7561	16.8224	9.0671	21.3507	18.4110	16.1835	18.1878
16	15.8564	17.1241	16.2203	2.6684	16.5371	3.4238	16.5967	18.1516	22.4614
17	0.0	17.6704	8.6787	20.1568	9.2311	16.3852	8.4327	21.8061	18.2346
18	0.0	16.1258	3.9493	19.9987	18.2311	3.0966	14.1001	3.5303	12.7950
19	0.0	0.0	26.6534	19.8538	8.5646	20.6982	20.6230	11.5801	8.4008
20	0.0	0.0	0.0	19.3285	12.2936	2.2698	18.7299	3.1406	12.6945
21	0.0	0.0	0.0	18.7137	19.5593	26.4385	2.1927	20.7702	8.9755
22	0.0	0.0	0.0	0.0	18.7688	19.7424	19.0950	9.0959	18.8631
23	0.0	0.0	0.0	0.0	0.0	0.0	17.2868	19.9032	21.0991
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2691
1	23.3951	23.2958	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	18.7104	18.5368	21.6387	23.2885	0.0	0.0	0.0	0.0	0.0
3	4.3078	17.7603	4.7793	21.7878	21.3817	23.2576	0.0	0.0	0.0
4	12.2363	2.8849	19.5471	18.4367	18.4756	21.5261	23.3512	0.0	0.0
5	8.6662	17.4625	8.4582	19.6860	8.3100	17.4171	21.4033	0.0	0.0
6	17.4034	3.5380	17.4830	3.2226	12.1443	2.3914	18.8369	20.9898	0.0
7	4.9935	23.2864	7.5325	17.7030	8.5843	18.1573	19.3506	21.2110	23.4201
8	17.2026	18.1725	18.7005	3.5950	18.5732	2.9956	19.8993	8.0316	25.2536
9	18.0591	22.7387	9.0616	17.7211	23.1283	17.1721	8.6411	17.1910	17.0890
10	16.9710	18.0242	17.3485	18.3356	17.0285	3.2129	16.3024	2.3619	17.3131
11	18.0497	20.6913	18.1478	18.1891	3.4271	21.9241	8.4755	17.6258	9.4758
12	17.0911	7.8799	17.4435	18.3482	20.9404	9.8498	14.1152	3.5629	17.4533
13	9.0853	19.7402	9.3646	22.1244	3.4712	19.4238	3.2225	17.5770	9.5103
14	17.2214	18.2661	18.9380	18.4478	17.2635	9.4865	14.0643	6.9910	17.4931
15	9.0242	20.3481	8.0958	16.6658	18.1118	17.9258	8.4593	16.4572	17.3361
16	11.6463	18.2433	17.6409	8.0485	17.1673	3.1066	18.2538	2.1161	17.2926
17	18.3077	17.6773	8.2558	18.4619	18.1817	17.6347	17.4101	22.0229	20.5420
18	12.7228	18.4946	17.1677	3.2956	17.1388	2.5433	17.9292	7.1264	16.1144
19	8.2482	21.9511	3.3931	18.1099	3.3536	18.2603	14.6773	20.5286	0.0
20	17.5196	3.2311	18.6212	20.3320	18.0995	1.9192	20.5834	16.2554	0.0
21	18.5856	16.8238	18.2657	3.2412	17.7031	20.2988	16.4046	0.0	0.0
22	13.7051	2.2195	18.7345	17.6674	21.9427	0.0	0.0	0.0	0.0
23	17.8328	18.9842	20.2374	17.3162	0.0	0.0	0.0	0.0	0.0
24	17.6564	17.3270	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ALL CYCLES AVERAGE EXPOSURE 0.1423E 02 TOTAL EXPOSURE 0.6586E 04 NUMBER OF A 46

CHANNL

(FIG. 3)

8	9	10	11	12	13	14
0.0	21.8223	22.2397	22.7666	23.3077	23.3041	23.4806
21.5043	18.1460	18.5427	18.6351	9.4847	18.7736	9.4429
3.1369	17.6987	6.0549	2.6637	18.0001	2.7238	17.7256
18.7242	2.7570	11.7097	12.2600	9.4153	11.9961	10.4983
19.0243	9.0706	18.6183	3.4933	18.7857	3.7057	17.5381
3.1519	17.6056	3.4817	17.1077	9.6848	10.8392	7.6434
22.0580	9.8724	22.7044	8.8406	21.9216	10.7391	18.9948
17.1221	15.2565	10.3242	12.0236	10.4233	12.2395	10.5325
7.4805	10.0129	17.3432	10.1571	22.2422	10.1844	15.5848
10.1529	17.1627	9.8773	17.1841	10.0107	16.9936	9.8511
17.3592	10.1724	16.9615	9.9673	17.9999	9.8076	21.7232
10.0766	17.1386	9.9130	16.9070	9.8487	13.5391	9.9285
17.1710	10.1981	20.3917	9.9454	22.1457	10.5011	20.3701
10.2224	13.8172	9.9130	17.0185	9.9448	16.7463	10.0478
16.1835	10.1878	17.4110	10.0975	21.1984	10.2474	19.4190
10.1516	22.4614	10.2299	11.1020	10.3082	11.2316	10.2454
21.8061	10.2346	21.9064	10.4424	16.1511	10.3878	22.7789
3.5303	12.7950	10.6309	12.9185	10.5210	17.9205	10.6180
11.5801	8.4008	16.0558	8.4265	22.0513	8.3616	13.3116
3.1406	12.6945	3.5923	16.6590	3.5346	17.7797	3.4886
20.7702	8.9755	17.1169	5.3293	17.4401	10.4626	17.5027
9.0959	16.8631	2.4846	14.0074	2.6750	13.9735	2.5819
19.9032	21.0991	21.4328	16.0883	18.3003	9.3446	17.9950
0.0	17.2691	17.7337	16.9930	17.8400	18.2911	17.9580

0.0	0.0	0.0
0.0	0.0	0.0
.0	0.0	0.0
0.0	0.0	0.0
0.0	0.0	0.0
20.9898	0.0	0.0
21.2110	23.4201	0.0
8.0316	25.2538	0.0
17.1910	17.0890	23.6344
2.3619	17.3133	23.9661
17.6258	9.4756	24.1206
2.5629	17.4532	13.5239
17.5770	9.5108	17.7664
6.9910	17.4931	14.4985
15.4572	17.3363	15.9721
2.1161	17.2922	15.8579
22.0229	20.5420	0.0
7.1264	16.1145	0.0
20.5288	0.0	0.0
16.2554	0.0	0.0
0.0	0.0	0.0
0.0	0.0	0.0
0.0	0.0	0.0
0.0	0.0	0.0

NUMBER OF ASSEMBLIES
464.00

NUMBER OF NONFUEL CHANNELS
1.00

FIG. 4

Goal Burnup EOC 9B

TRILUX-BX (JUN 69) (TBX-24X16-02-02)

EXPOSURE 2.8121 CYCLE 7 E(IJK) BY CHANNL

	1	2	3	4	5	6	7	8	
(0)									
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4
2	0.0	0.0	0.0	0.0	0.0	0.0	20.4497	17.1347	18.4
3	0.0	0.0	0.0	0.0	0.0	17.9333	17.7389	18.5647	18.1
4	0.0	0.0	0.0	19.4264	17.0225	19.8268	18.6839	10.1119	3.4
5	0.0	0.0	20.7429	19.9328	8.4062	18.1056	9.5590	19.7659	9.9
6	0.0	0.0	6.3645	18.3531	13.9960	3.4381	14.0336	3.7891	18.5
7	0.0	14.3728	19.8404	18.7730	9.5407	19.1296	17.8482	23.0471	11.5
8	0.0	17.8334	21.8422	3.2859	14.6477	3.9471	11.8538	4.7014	16.4
9	8.5994	17.4600	9.0998	16.1915	10.1669	18.4225	9.8648	20.6560	11.2
10	16.1133	9.4150	16.8577	3.9143	18.1582	4.1986	17.2642	4.9643	18.3
11	8.6781	16.6724	9.6045	19.0098	10.1566	23.0862	11.7566	18.5828	11.4
12	15.2401	18.0358	3.5411	15.6133	14.3800	4.2756	15.3626	5.0415	18.4
13	9.0132	17.8576	9.4819	17.6067	10.1276	22.8929	11.7592	18.3830	11.4
14	16.1235	9.0419	14.8699	3.9495	17.1422	4.2399	17.4268	5.0106	15.0
15	8.6398	17.9162	9.4729	19.5896	10.0259	22.2856	11.5492	17.3337	11.2
16	16.1759	8.8862	16.8350	3.5740	17.4658	4.1023	17.6506	4.8673	23.4
17	0.0	18.1156	9.5828	20.9271	10.2048	17.3374	9.5373	22.8071	11.3
18	0.0	16.4397	9.6479	3.0438	14.0851	4.1661	15.0636	4.6926	13.8
19	0.0	0.0	18.6233	20.4203	9.3449	21.4274	21.3469	12.5754	9.5
20	0.0	0.0	0.0	19.7506	12.9372	3.1005	16.4406	3.7335	13.6
21	0.0	0.0	0.0	16.9857	8.9974	15.4948	10.0670	21.4285	9.8
22	0.0	0.0	0.0	0.0	17.0307	20.0972	19.4730	9.7160	17.5
23	0.0	0.0	0.0	0.0	0.0	0.0	17.5169	20.3040	8.9
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6
1	18.3425	8.3339	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	19.2267	16.9950	17.9017	14.6346	0.0	0.0	0.0	0.0	0.0
3	5.0951	18.4101	5.5095	21.6049	8.5865	18.4829	0.0	0.0	0.0
4	13.0938	3.8222	20.2823	10.0750	19.5708	8.8798	18.6155	0.0	0.0
5	9.6352	18.3403	9.4345	20.4796	9.1229	18.0694	17.9529	0.0	0.0
6	18.3505	4.1621	10.6184	3.8475	13.0096	3.1793	9.6938	17.4866	0.0
7	11.7089	24.1644	8.7159	18.6600	9.5752	18.8980	19.9222	21.6819	8.5
8	18.2460	4.8587	11.8542	4.6897	11.5677	3.5642	20.5659	8.6727	15.5
9	11.2510	23.7802	11.1406	18.7280	22.9923	18.0278	9.6047	17.7465	17.5
10	18.1396	4.4684	18.5056	4.6204	17.9276	3.7665	17.0518	3.1257	17.8
11	11.2167	21.7246	11.3220	19.1997	11.2423	22.6247	9.2552	18.2261	10.0
12	18.2252	4.5452	18.5809	4.6319	21.7178	3.6497	14.8179	3.2603	17.9
13	11.3135	20.9363	10.6522	23.1480	11.3794	20.2100	17.7010	18.1256	10.0
14	18.4989	4.6457	12.2466	4.6529	18.2620	3.8816	14.8257	7.6585	17.9
15	11.1510	21.4915	9.3536	16.8146	11.1798	18.8128	9.2893	16.0360	17.7
16	12.8655	4.6151	18.8253	4.6613	18.1387	3.7397	18.9697	2.8105	17.6
17	11.5700	18.8353	9.4482	20.4535	11.1825	18.4533	7.9536	18.4526	20.8
18	13.9244	4.6716	18.1568	4.4948	17.9899	3.4248	18.5189	7.6784	16.3
19	9.3158	22.8096	11.2237	18.8901	9.1474	18.9098	15.2371	20.8723	0.0
20	18.3792	3.8719	13.3647	20.9903	12.7575	2.6124	9.3395	16.5075	0.0
21	11.4405	17.5532	10.3073	3.0124	18.1502	20.6514	16.6595	0.0	0.0
22	14.4102	2.9621	19.2821	18.0706	22.1985	0.0	0.0	0.0	0.0
23	9.5741	19.4148	20.5637	17.5280	0.0	0.0	0.0	0.0	0.0
24	18.0550	17.5717	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ALL CYCLES AVERAGE EXPOSURE 0.1355E 02 TOTAL EXPOSURE 0.6274E 04 NUMBER OF

(FIG. 4)

BY CHANNL

7	8	9	10	11	12	13	14
0.0	0.0	13.4682	18.0391	8.4270	18.2545	8.6935	13.2711
20.4497	17.1347	18.4609	18.9032	19.0710	10.0415	19.2753	10.0426
17.7389	18.5647	18.1136	6.5809	3.3217	18.5985	3.4886	18.3225
18.6839	10.1119	3.4409	12.3218	12.9498	10.1889	12.8011	11.3351
9.5590	19.7659	9.9340	19.3672	11.1448	19.5493	4.6390	18.3073
24 336	3.7891	18.5159	4.0699	17.9897	10.6802	11.2035	8.6005
17.8462	23.0471	11.5624	23.6988	9.9636	22.9044	11.8544	19.9981
21.8538	4.7014	18.4658	4.9218	13.2660	4.9714	13.4959	5.0221
9.8648	20.6560	11.2108	18.4938	11.4689	23.4771	11.5008	18.8227
17.2642	4.9643	18.3233	4.6493	18.4602	4.6665	18.2787	4.6355
11.7566	18.5828	11.4994	18.2463	11.2894	19.2556	11.1894	22.9545
15.3626	5.0415	18.4013	4.7037	18.1712	5.1709	14.9108	5.0929
11.7592	18.3830	11.4865	21.5941	11.3182	23.4507	11.9511	21.6478
17.4268	5.0106	15.0254	4.7307	18.3204	5.1312	18.0910	5.1605
11.5492	17.3337	11.2866	18.5056	11.4551	22.4843	11.6563	20.6963
17.6506	4.8673	23.4530	4.6743	12.4691	4.8220	12.6469	4.7660
9.5373	22.8071	11.3421	22.9852	11.7428	17.4317	11.6660	23.9209
15.0636	4.6926	13.8751	4.9776	14.1548	4.9903	19.1124	5.0159
21.3469	12.5754	9.5161	17.1339	9.5364	23.0347	9.5400	14.4327
16.4406	3.7335	13.6715	4.7795	17.5900	4.2636	18.7426	4.2091
10.0670	21.4285	9.8319	17.9723	6.3933	18.3075	11.3993	18.3133
19.4730	9.7160	17.5523	3.4036	14.8448	3.6316	14.7609	3.4587
17.5169	20.3040	8.9806	22.0471	9.8942	19.0681	10.1184	18.6207
0	0.0	17.6264	8.4128	17.5407	8.9403	14.5637	8.9302

0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
18.6155	0.0	0.0	0.0
17.9529	0.0	0.0	0.0
9.6938	17.4866	0.0	0.0
19.9222	21.6819	8.5230	0.0
20.5659	8.6727	15.5557	0.0
9.6047	17.7465	17.5565	15.9960
17.0518	3.1257	17.8224	8.5995
9.2552	18.2261	10.0833	14.9296
14.8179	3.2603	17.9489	8.7496
17.7010	18.1258	10.0593	18.1233
14.8257	7.6585	17.9532	8.3338
9.2893	16.0360	17.7502	16.2477
18.9697	2.8105	17.6694	16.0544
7.9536	18.4526	20.8598	0.0
18. 189	7.6784	16.3497	0.0
15._371	20.8723	0.0	0.0
9.3395	16.5075	0.0	0.0
16.6595	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0

POSL
E 04

NUMBER OF ASSEMBLIES
464.00

NUMBER OF NONFUEL CHANNELS
1.00

Fig. 5

FUEL DESIGN DATA

Type	III-B	III-B-I	III-F-Pu	III-F	V	6-I 7-I 8-I 9-I 10-I	7-Pu	6 7 8 9 10
Rod array	6X6	6X6	6X6	6X6	6X6	6X6	6X6	6X6
Pellet dia. (in.)	0.478	0.478	0.482	0.482	0.482	0.482	0.482	0.482
Pellet length (in.)	NA	NA	NA	NA	NA	NA	NA	NA
Pellet density	NA	NA	NA	NA	NA	0.935TD	0.935TD	0.935TD
Cladding gap (in.)	0.0035	0.0035	0.00525	0.00525	0.00525	0.00525	0.00525	0.00525
Cladding i.d. (in.)	0.485	0.485	0.4925	0.4925	0.4925	0.4925	0.4925	0.4925
Cladding O.d. (in.)	0.555	0.555	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625
Cladding ovality	NA	NA	NA	NA	NA	NA	NA	NA
Plenum length (in.)	NA	NA	5.2656	5.2656	5.39	5.39	5.39	5.39
Plenum volume (in^3.)	NA	NA	1.00311	1.00311	1.00311	1.0381	1.0381	1.0381

NA = Not available at station

FIG 2

BOC 9A RADIAL POWER DIST.

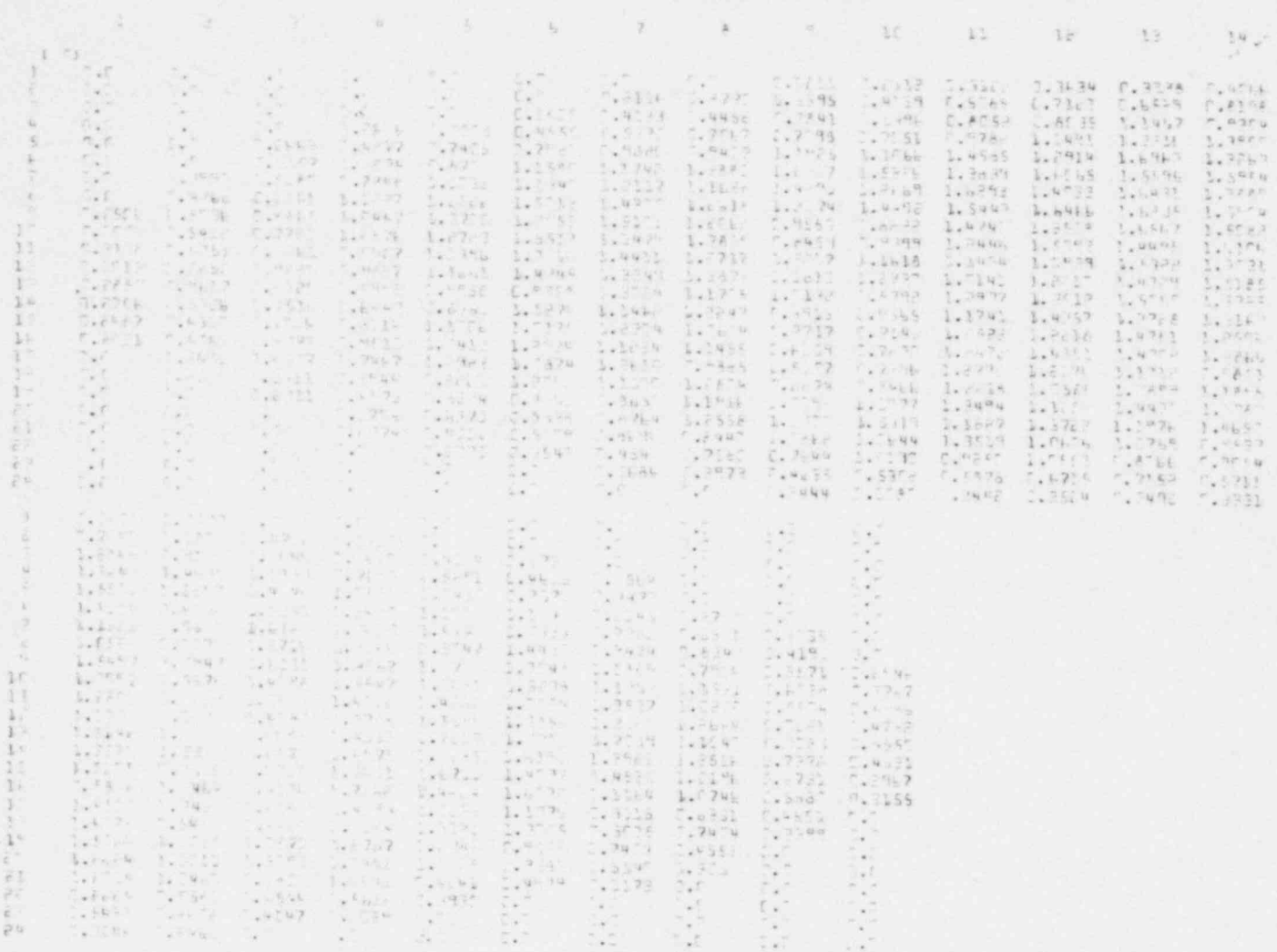


FIG. 1

EXPOSURE 0.0 CYCLE 2C S(I,J) BY CHANNEL BOC 9B

(0)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2930	0.3452	0.4940	0.3515	0.4112	0.2880
2	0.0	0.0	0.0	0.0	0.0	0.0	0.3119	0.4434	0.5380	0.6622	0.6194	0.6866	0.4729	0.4042
3	0.0	0.0	0.0	0.0	0.0	0.3875	0.5542	0.6685	0.8385	1.1037	1.1079	0.7911	0.5847	0.5625
4	0.0	0.0	0.0	0.3079	0.4167	0.5362	0.7502	1.0608	1.3957	1.2462	1.1520	1.1116	0.6521	0.5650
5	0.0	0.0	0.3255	0.5060	0.6259	0.6560	1.0414	1.0032	1.3530	1.1054	1.3051	1.0714	1.1708	0.6411
6	0.0	0.0	[illegible]	[illegible]	0.9391	1.2251	1.1631	1.3050	1.2058	1.5702	1.1745	1.2618	1.1412	[illegible]
7	0.0	0.4162	[illegible]	0.7999	1.1404	1.0901	0.6467	0.8003	1.2545	1.0721	0.9997	0.8177	1.2387	1.0199
8	0.0	0.5177	[illegible]	1.2327	1.2312	1.5459	1.6004	1.6567	1.1180	1.3335	0.9470	1.0876	1.2959	1.4291
9	0.5014	[illegible]	[illegible]	1.1953	1.2743	1.1642	1.3954	1.1635	0.6571	0.7650	1.2241	1.1121	1.3920	1.3821
10	[illegible]	0.9163	[illegible]	[illegible]	1.2266	1.5519	1.5232	1.4095	0.6059	1.6096	1.1272	1.1765	1.2513	1.6440
11	[illegible]	0.6521	[illegible]	1.2757	1.4533	1.2433	1.4347	1.2613	1.3215	1.1466	0.9522	[illegible]	1.3889	1.1504
12	0.6147	[illegible]	[illegible]	1.2476	1.3056	1.6466	1.3764	1.5478	1.2127	1.5049	0.5143	1.1452	1.3195	1.4816
13	0.6667	[illegible]	1.1676	1.2765	0.6977	0.1676	1.3290	1.2168	0.9215	0.8015	1.2375	1.1656	1.3034	1.1270
14	[illegible]	0.8990	[illegible]	[illegible]	0.7537	0.7696	1.1558	1.4390	0.8948	1.1571	[illegible]	1.0773	1.2027	1.4760
15	[illegible]	[illegible]	[illegible]	[illegible]	1.1674	0.5966	1.6573	1.6754	1.3661	1.3327	1.5908	1.4069	1.6016	1.5153
16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.3551	0.9992	1.2647	1.1764	1.7771	1.6046	1.5944	1.6596	1.7758
17	0.0	[illegible]	[illegible]	0.7927	0.6563	0.6592	1.2373	1.0002	1.0011	0.9423	1.0306	1.5446	1.2554	1.0116
18	0.0	[illegible]	[illegible]	[illegible]	0.5018	0.8094	1.1340	1.4905	1.0361	1.2454	1.5749	1.2730	1.2117	1.3098
19	0.0	0.0	[illegible]	0.5075	0.8044	[illegible]	0.9454	1.3404	1.6644	1.4918	1.5959	1.5466	1.6029	1.7666
20	0.0	0.0	0.0	0.4150	0.7155	1.0547	1.0590	1.2760	1.5595	1.9990	1.4460	1.6494	1.6334	2.1492
21	0.0	0.0	0.0	0.2125	0.6169	0.7411	1.0185	1.0790	1.4573	1.4215	1.6415	1.5106	1.7511	1.5275
22	0.0	0.0	0.0	0.0	0.2957	0.4599	0.5949	1.1028	1.0070	1.5226	1.3900	1.6965	1.4516	1.6645
23	0.0	0.0	0.0	0.0	0.0	0.0	0.3651	0.5750	0.9165	0.8570	1.2256	1.1015	1.2436	0.9952
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4256	0.7633	[illegible]	0.9142	0.7476	0.6762

1	0.2415	0.2424	0.0	0.0	[illegible]	0.0	0.0	0.0	0.0	0.0
2	0.3737	0.3769	0.2901	0.2231	0.0	0.0	0.0	0.0	0.0	0.0
3	0.4519	0.5571	[illegible]	0.4622	0.4414	0.2481	0.0	0.0	0.0	0.0
4	0.5509	0.6559	1.0040	0.7066	0.4026	0.4790	0.2455	0.0	0.0	0.0
5	1.0266	0.6915	[illegible]	0.4775	0.7016	0.5266	0.3553	0.0	0.0	0.0
6	1.0249	1.3104	1.1565	1.2492	0.6294	0.7788	0.5469	0.2879	0.0	0.0
7	0.3365	0.6879	1.1959	0.9520	0.6632	0.4435	0.4856	0.3890	0.3284	0.0
8	0.8010	0.9294	1.1355	1.3628	0.6621	0.6976	0.6361	0.6385	0.4044	0.0
9	1.2604	0.9680	1.0165	0.8609	0.6088	0.6774	0.8766	0.6556	0.4840	0.3144
10	1.1654	1.4277	0.9374	1.0917	0.9259	1.2141	0.9275	0.9724	0.5094	0.5179
11	0.8993	0.7653	1.1966	1.0247	0.7532	0.6264	1.0868	0.8610	0.7775	0.4905
12	0.6319	1.0969	1.1530	1.3761	0.7040	0.9364	1.0545	1.1115	0.6919	0.5026
13	1.3679	[illegible]	1.4251	1.1542	1.3011	1.1016	1.0789	0.9443	0.6548	0.4417
14	1.2761	1.6677	1.4046	1.6127	1.2696	1.6159	1.2151	1.1284	0.6933	0.5662
15	1.0502	0.6717	1.5140	1.3626	1.3123	1.1357	1.3691	0.9427	0.6414	0.3642
16	1.0185	1.1493	1.2374	1.5548	1.3581	1.4232	1.0439	1.0410	0.5629	0.2472
17	1.4767	1.2524	1.1099	0.9162	1.3659	1.1027	1.1259	0.6662	0.4492	0.0
18	1.5769	1.6980	1.0017	1.1641	1.1535	1.2736	0.6146	0.7575	0.3343	0.0
19	1.6361	1.9719	1.4349	1.1969	1.2266	0.9474	0.7624	0.4694	0.0	0.0
20	1.6264	1.9725	1.4048	1.1016	1.6474	1.0071	0.6691	0.3264	0.0	0.0
21	1.6665	1.3674	1.3362	1.3192	0.7373	0.5547	0.3465	0.0	0.0	0.0
22	1.3298	1.3014	1.0654	0.6915	0.4468	0.0	0.0	0.0	0.0	0.0
23	1.1385	0.6932	0.5010	0.2137	0.0	0.0	0.0	0.0	0.0	0.0
24	0.5399	0.5945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

POOR ORIGINAL

FIG. 8

EOC 9A

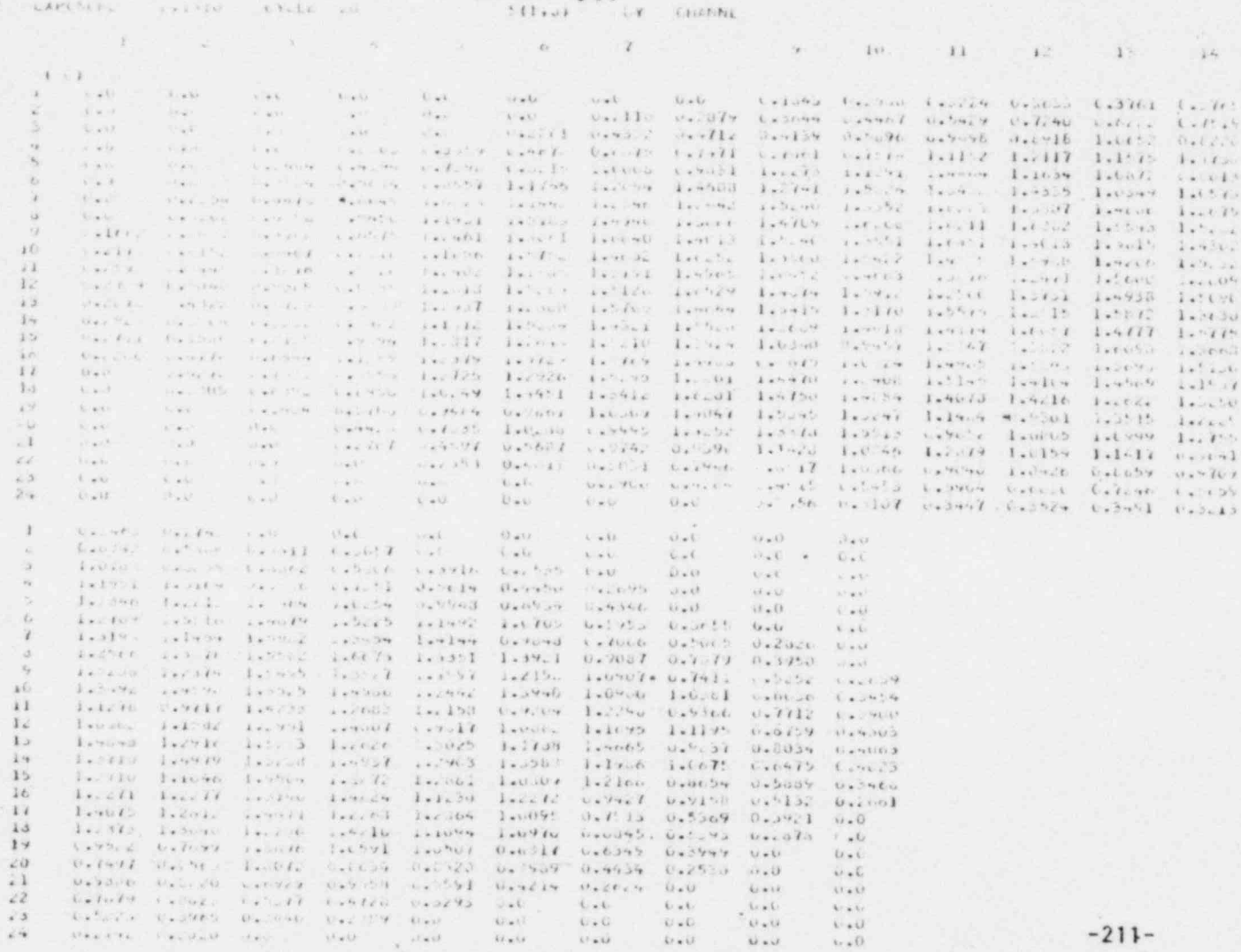


FIG. 9

EOC 9B

EXPOSURE 2.4450 CYCLE 2E S(I,J) BY CHANNEL

(+3)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2272	0.2909	0.4782	0.3791	0.5312	0.4573
2	0.0	0.0	0.0	0.0	0.0	0.0	0.2206	0.3461	0.4562	0.5465	0.6175	0.7570	0.6543	0.7475
3	0.0	0.0	0.0	0.0	0.0	0.2642	0.4453	0.5465	0.6960	0.7474	1.0743	0.9201	1.1071	0.8382
4	0.0	0.0	0.0	0.2202	0.3527	0.4039	0.5904	0.8451	1.0942	1.0836	1.1735	1.1896	1.1782	[illegible]
5	0.0	0.0	0.6237	0.7046	0.6637	0.7043	0.8592	0.8650	1.1516	[illegible]	1.2202	1.1358	1.4463	[illegible]
6	0.0	0.0	0.4762	0.5436	0.7659	1.0220	1.0065	1.2723	1.1142	[illegible]	1.1968	1.3369	1.2702	[illegible]
7	0.0	0.4965	0.3058	[illegible]	0.9468	0.9927	1.0613	1.0655	1.2672	1.1867	1.3696	1.1607	1.2726	1.2424
8	0.0	0.3874	0.5546	1.0941	1.1652	1.3676	[illegible]	1.4723	1.2796	1.5259	1.3646	1.5444	1.5423	1.5794
9	0.3575	0.2256	0.6391	[illegible]	1.3022	1.2735	1.3670	1.3352	1.3974	1.2617	1.2732	1.4039	1.4656	1.3503
10	0.3957	0.3078	0.7843	1.2655	1.1686	1.4706	[illegible]	1.5653	1.3224	1.6907	1.3423	1.4455	1.3462	1.6460
11	0.5167	0.6452	0.9578	1.0075	1.2521	1.1410	1.3543	1.5007	1.4330	1.3952	1.4579	1.3144	1.4317	1.2747
12	0.7684	0.6554	1.1066	1.1784	1.2005	1.4751	1.3042	1.5624	1.3375	1.5437	1.3636	1.6331	1.4216	1.6259
13	0.5370	0.6586	1.5222	1.0942	1.2621	1.1340	1.2567	1.2134	1.4259	1.3941	1.4052	1.2611	1.4415	1.2944
14	0.3584	0.7652	1.5942	1.3056	1.1579	1.4556	1.1727	1.4638	1.3961	1.6548	1.1561	1.5990	1.3376	1.5954
15	0.4500	0.6295	[illegible]	0.9976	1.2324	1.3216	1.3253	1.2957	1.4559	1.5626	1.4749	1.2815	1.3125	1.1535
16	0.3179	0.4442	0.9171	1.1722	1.1367	1.4573	1.3397	1.5525	1.2654	1.2437	1.5683	1.6493	1.3296	1.4135
17	0.0	0.5305	0.7641	1.5587	1.1467	1.1413	1.3371	1.1947	1.4032	1.2781	1.4659	1.3799	1.3465	1.2457
18	0.0	0.2767	0.4973	0.5616	0.3471	1.3131	1.1807	1.4636	1.4663	1.6023	1.4226	1.2033	1.3645	1.6141
19	0.0	0.0	0.2568	0.5615	1.0671	0.8840	0.6915	1.2537	1.3407	1.2560	1.4385	1.2377	1.4435	1.3613
20	0.0	0.0	0.0	0.3994	0.6871	0.7759	0.7732	1.3136	1.1696	1.4167	1.2400	1.5772	1.2279	1.4408
21	0.0	0.0	0.0	0.2465	0.5387	0.6251	0.7937	0.9312	1.0356	1.0604	1.3681	1.1125	1.2193	1.0327
22	0.0	0.0	0.0	0.0	1.3240	0.3479	0.4356	0.7260	0.7700	1.0755	0.9579	1.3637	0.9683	1.1314
23	0.0	0.0	0.0	0.0	0.0	0.0	0.2253	0.3907	0.6389	0.6017	0.3461	0.7647	0.8223	0.6713
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6635	0.4765	0.4069	0.5013	0.5213	0.5350

	1	2	3	4	5	6	7	8	9	10
1	0.1547	0.3430	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.6064	0.6075	0.4151	0.2490	0.0	0.0	0.0	0.0	0.0	0.0
3	1.3090	0.7517	0.6661	0.4995	0.4748	0.2661	0.0	0.0	0.0	0.0
4	1.1164	[illegible]	0.6572	0.8067	0.5256	0.5416	0.2702	0.0	0.0	0.0
5	1.2504	1.0615	[illegible]	0.9441	0.6877	0.6560	0.4215	0.0	0.0	0.0
6	1.2775	1.2256	1.2166	[illegible]	0.4946	0.9575	0.6768	0.3361	0.0	0.0
7	1.2495	[illegible]	1.3669	1.3680	1.1972	0.8576	0.6357	0.4592	0.3383	0.0
8	1.3105	1.2955	1.1223	1.2651	1.2143	1.2561	0.7521	0.7057	0.4074	0.0
9	1.4109	1.2073	[illegible]	1.3773	1.1274	1.0578	0.6450	0.6731	0.4843	0.2396
10	1.4220	1.2543	1.2512	1.4345	1.3200	1.1161	0.9772	0.9795	0.5733	0.4336
11	1.4261	1.2277	1.2415	1.0868	1.2115	1.0158	1.1141	0.6502	0.7130	0.4301
12	1.3378	1.5713	1.1580	1.3467	1.1724	1.3439	1.0462	1.0345	0.6264	0.4991
13	1.4367	1.2722	1.3864	1.1472	1.2436	1.0570	0.9219	0.8376	0.7057	0.3537
14	1.3427	1.4274	1.4277	1.3214	1.4859	1.3638	1.0333	0.9162	0.5830	0.4477
15	1.4408	1.3139	1.4765	1.2958	1.2907	1.0931	1.1012	0.7802	0.5331	0.2868
16	1.4412	1.5322	1.3014	1.5117	1.1673	1.3254	0.9207	0.9155	0.4790	0.2169
17	1.4336	1.3704	1.4090	1.3626	1.2010	0.9509	0.9247	0.6661	0.3570	0.0
18	1.3848	1.3245	1.1973	1.2586	1.1351	1.0299	0.6633	0.6235	0.2504	0.0
19	1.3053	1.1321	1.1586	0.9149	0.9686	0.7649	0.6100	0.3569	0.0	0.0
20	1.1664	1.1546	1.0327	0.8124	0.7494	0.6177	0.5276	0.2306	0.0	0.0
21	1.1311	0.9177	0.8052	0.5073	0.5461	0.3637	0.2791	0.0	0.0	0.0
22	0.8253	0.3547	0.5994	0.4800	0.2962	0.0	0.0	0.0	0.0	0.0
23	0.7696	0.4438	0.3351	0.2642	0.0	0.0	0.0	0.0	0.0	0.0
24	0.3679	0.2069	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Fig. 10

SUMMARY OF HOURS CRITICAL AND NO. OF SHUTDOWNS

-Cycle 9A-

	Hours: minutes critical	No. of shutdowns & depressurization
July, 1974	671:02	2
August, 1974	697:09	2
	-Cycle 9B-	
October, 1974	375:35	5
November,1974	720:00	0
December, 1974	744:00	0
January, 1975	635:17	4
February, 1975	671:00	0
March , 1975	437:50	1
April, 1975	539:40	4
May, 1975	673:03	1
June, 1975	718:52	0
July, 1975	744:00	0
August, 1975	744:00	0
September, 1975	15:20	1

FIG. 11

Exposure BOC9A

TRILUX-BX (JUN 69) (TBX-24X16-02-02)) BX CYCLE 9 WITH WAN CONS AND L

EXPOSURE 0.0 CYCLE 0 E(IJK) BY CHANNL

(C)	1	2	3	4	5	6	7	8	9	
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2891	21.
2	0.0	0.0	0.0	0.0	0.0	0.0	21.1473	20.7295	17.0562	17.
3	0.0	0.0	0.0	0.0	0.0	20.7287	16.3526	16.8642	15.4896	3.
4	0.0	0.0	0.0	21.1010	20.8236	18.4217	16.7917	16.6933	0.0	8.
5	0.0	0.0	19.9786	20.9907	6.1997	15.7354	6.6334	16.8441	6.1999	15.
6	0.0	0.0	21.0527	16.6192	11.4634	0.0	10.5906	0.0	14.8730	0.
7	0.0	21.0638	18.3173	16.6814	6.4482	15.8614	14.2552	19.5437	6.8233	19.
8	0.0	16.5368	20.0253	0.0	11.3731	0.0	7.6733	14.3746	12.3261	7.
9	23.4192	15.8315	6.5073	13.2232	6.2912	14.6217	5.4440	16.6850	6.8083	14.
10	23.5898	15.8455	14.5749	0.0	14.4105	0.0	13.1246	6.9285	14.1596	6.
11	23.6650	14.4819	6.5336	16.8794	6.1194	19.7727	7.3391	14.3536	6.8745	13.
12	23.6590	16.0251	0.0	12.1739	10.5163	0.0	11.0529	6.7605	14.0778	6.
13	14.8129	15.8633	6.5105	14.4915	6.0941	19.1801	7.3331	14.1214	6.7884	17.
14	14.8690	6.6577	12.1691	0.0	13.4547	0.0	13.2760	6.9082	10.6146	6.
15	15.0643	15.9320	6.6100	16.4178	6.0621	18.6367	7.2066	13.1367	6.8852	14.
16	15.6118	15.9740	14.5754	0.0	13.8097	0.0	13.6554	6.9431	19.5646	6.
17	0.0	16.7272	7.1643	18.2554	6.5254	13.6519	5.2648	19.0220	7.0018	19.
18	0.0	15.5242	7.5898	13.5362	11.0705	0.0	11.2809	0.0	9.6155	7.
19	0.0	0.0	24.9952	16.6786	6.5765	16.6587	16.4226	8.6065	5.1160	13.
20	0.0	0.0	0.0	13.4519	10.7362	0.0	13.6001	0.0	9.7540	0.
21	0.0	0.0	0.0	16.1982	13.6337	25.2306	0.0	18.7659	6.4652	14.
22	0.0	0.0	0.0	0.0	16.2565	18.9538	18.0215	7.3612	15.0657	0.
23	0.0	0.0	0.0	0.0	0.0	0.0	16.7238	19.0208	20.0389	20.
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7671	17.
1	22.6682	22.7483	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
2	17.2778	17.3822	20.7446	22.7231	0.0	0.0	0.0	0.0	0.0	0.
3	1.8546	15.9544	2.8772	20.7029	20.4611	22.8132	0.0	0.0	0.0	0.
4	9.4720	0.0	17.5830	17.4613	17.6432	20.6903	22.8790	0.0	0.0	0.
5	5.9157	14.7423	5.6217	17.5913	6.2758	16.0074	20.5848	0.0	0.0	0.
6	14.3371	0.0	7.2817	0.0	9.7949	0.0	17.6377	20.3223	0.0	0.
7	6.7376	20.5757	4.2863	14.9052	5.6992	16.1248	17.9218	20.2063	22.9129	0.
8	14.1458	6.8614	7.4323	0.0	7.6202	0.0	18.0422	6.3846	24.5006	0.
9	6.7654	19.9518	6.6472	14.8947	19.5376	14.5741	6.5350	15.6263	16.0050	23.
10	13.9560	6.8127	14.4816	7.2240	14.2555	0.0	13.8790	0.0	16.0178	23.
11	6.7920	17.8385	6.9829	15.3247	0.0	19.8697	6.7003	15.5811	7.7906	23.
12	14.0619	4.5069	14.4759	7.1993	16.3279	6.1798	11.4630	0.0	15.9971	12.
13	6.8674	16.8060	5.9807	19.8401	0.0	16.7525	0.0	15.4717	7.7775	16.
14	14.1656	6.9571	7.8412	7.2423	14.4179	6.5778	11.4672	4.7031	16.1264	13.
15	6.5725	17.4481	4.6654	12.6667	7.0496	15.2171	6.7932	13.5687	16.0936	15.
16	6.8201	6.9414	14.8387	4.8054	14.4264	0.0	16.1668	0.0	16.2027	15.
17	6.9868	14.6978	4.9836	16.7280	7.3877	15.3864	16.2615	20.8422	19.7554	0.
18	9.5310	7.3160	14.2995	0.0	14.6399	0.0	16.4224	6.7302	15.5520	0.
19	4.9565	19.2580	0.0	15.6285	6.9842	16.4242	13.2722	19.7229	0.0	0.
20	14.7465	0.0	9.9088	14.2986	10.1606	0.0	19.6197	15.7461	0.0	0.
21	7.8964	14.5946	16.5088	0.0	14.4765	19.3639	15.8620	0.0	0.0	0.
22	11.6772	0.0	17.4841	16.5297	21.2337	0.0	0.0	0.0	0.0	0.
23	16.5648	17.9708	19.4077	16.7608	0.0	0.0	0.0	0.0	0.0	0.
24	17.0246	16.8385	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.

ALL CYCLES AVERAGE EXPOSURE 2.1192E 02 TOTAL EXPOSURE 7.5512E 04 NUMBER OF ASSEMBLI 464.00

(FIG. 11)

9 WITH WAN CONS AND LAMBDA AT .998085

Y	CHANNL 8	9	10	11	12	13	14
	0.0	21.2891	21.5263	21.9471	22.4340	22.4980	22.6494
23	20.7295	17.0562	17.2310	17.6894	7.6473	17.2625	7.6590
28	6.8642	15.9896	8.7122	0.0	15.7796	0.0	15.7784
27	16.6733	0.0	8.9994	9.4066	6.4220	9.0451	7.5906
34	16.6441	6.1999	15.9103	0.0	15.9045	0.0	14.6382
36	0.0	14.8730	0.0	14.1211	6.3890	7.5063	4.2203
32	19.5437	6.8233	19.9652	5.5285	19.0530	7.4325	16.0158
33	14.3748	12.3661	7.1112	8.7885	7.1235	8.9664	7.2254
42	16.6850	6.8783	14.3515	6.8595	19.3976	6.8556	12.4763
46	6.9285	14.1596	7.5697	14.1307	6.6989	13.9263	6.5406
31	14.3536	6.8745	13.6982	6.6318	14.9696	6.4728	18.8597
39	6.7625	14.0778	6.5793	13.8298	6.5060	10.3314	6.6198
41	14.1214	6.7684	17.4437	6.6219	19.1907	7.1218	17.4433
40	6.9382	10.6146	6.5576	13.9317	6.6112	13.6565	6.7225
46	13.1367	6.8852	14.3441	6.7200	18.2345	6.8403	16.4113
44	6.9431	19.5646	6.9123	7.7209	6.8964	7.8473	6.8694
48	19.0220	7.0018	19.0206	7.0730	12.9998	7.0255	19.8901
49	0.0	9.6155	7.3358	9.6649	7.1935	14.7266	7.3226
36	8.6065	5.1163	13.0057	5.0464	19.1827	4.9963	10.1515
31	0.0	9.7540	0.0	13.7014	0.0	14.8881	0.0
	18.7659	6.4852	14.6450	8.1832	14.8836	7.5806	15.0312
35	7.3612	15.0657	0.0	11.8108	0.0	11.7401	0.0
38	19.0208	20.0389	20.1922	16.7202	16.7077	7.5458	16.5844
	0.0	16.7671	17.0752	16.2315	17.0363	17.4802	17.2026

	0.0	0.0	0.0
	0.0	0.0	0.0
	0.0	0.0	0.0
2	0.0	0.0	0.0
3	0.0	0.0	0.0
7	20.3223	0.0	0.0
8	20.2063	22.9129	0.0
2	6.3846	24.5006	0.0
0	15.6263	16.0050	23.1354
4C	0.0	16.0178	23.2989
3	15.5911	7.7906	23.3506
50	0.0	15.9971	15.6492
	15.4717	7.7775	16.9595
52	4.7031	16.1264	14.7042
42	13.5567	16.0936	15.3030
38	0.0	16.2027	15.3453
35	20.6462	19.7554	0.0
34	5.7302	15.5520	0.0
32	19.7209	0.0	0.0
29	15.7401	0.0	0.0
25	0.0	0.0	0.0
	0.0	0.0	0.0
	0.0	0.0	0.0
	0.0	0.0	0.0

[illegible] ASSEMBLIES 484.0

NUMBER OF NONFUEL CHANNELS 1.00

Exposures BOC 9B FIG. 12

TRILUX-BX (JUN 69) (TBX-24X16-02-02))

EXPOSURE 0.0 CYCLE 0 E(IJK) BY CHANNL

	1	2	3	4	5	6	7	8	
(0)									
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8(
2	0.0	0.0	0.0	0.0	0.0	0.0	19.8056	16.1542	17.1'
3	0.0	0.0	0.0	0.0	0.0	17.1775	16.5216	17.0438	16.1·
4	0.0	0.0	0.0	18.7997	16.0175	18.6088	17.0267	7.7106	0.3(
5	0.0	0.0	20.0768	18.8131	6.4984	16.1026	7.0332	17.2203	6.6
6	0.0	0.0	4.9811	16.8419	11.8097	0.4701	11.0701	0.0	15.3(
7	0.0	13.4897	18.4966	16.9472	6.8772	16.3177	14.7611	20.0242	7.9
8	0.0	16.6775	20.2267	0.3946	11.8375	0.0	8.2586	0.5949	12.8
9	7.5378	15.9852	6.7310	13.5089	6.8021	15.1420	6.0683	17.2089	7.3
10	14.9273	7.3843	14.7055	0.3603	14.8874	0.0	13.6918	0.6254	14.6
11	7.1407	14.6987	6.9140	16.2398	6.6322	19.8556	7.9515	14.9184	7.4
12	13.8730	16.2241	0.3918	12.5676	10.9910	0.0	11.6331	0.6012	14.6
13	7.4830	16.0493	6.7350	14.7494	6.5649	19.6318	7.9237	14.6642	7.3
14	14.9833	6.8891	12.3705	0.3172	13.8767	0.0	13.8086	0.5631	11.0
15	7.3229	16.1397	6.9261	16.7842	6.5679	19.0796	7.7766	13.6386	7.2
16	15.4004	7.0778	14.8385	0.4363	14.2857	0.0	14.1745	0.5973	19.8
17	0.0	16.8921	7.4555	18.5886	7.0195	14.1481	5.8452	19.4913	7.4
18	0.0	15.6401	7.8353	0.3851	11.4703	0.5549	11.7928	0.6025	10.1
19	0.0	0.0	17.6167	18.8951	6.9480	19.0295	18.8226	9.1448	5.7
20	0.0	0.0	0.0	18.6238	11.0243	0.4031	13.9910	0.0	10.2
21	0.0	0.0	0.0	16.3035	7.4806	13.7396	7.8377	19.1262	6.9
22	0.0	0.0	0.0	0.0	16.3883	19.1102	18.2224	7.6797	15.3
23	0.0	0.0	0.0	0.0	0.0	0.0	16.8387	19.1910	7.1
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8
1	17.3263	7.3458	0.0	0.0	0.0	0.0	0.0	0.0	0.(
2	17.5518	17.5994	16.7518	13.8592	0.0	0.0	0.0	0.0	0.(
3	2.3145	16.3030	3.2493	20.2307	7.2362	17.7417	0.0	0.0	0.(
4	9.9816	0.5711	17.9338	7.8208	18.0746	7.3510	17.8704	0.0	0.(
5	6.0854	15.2482	6.1657	17.9964	6.6808	16.2882	16.7941	0.0	0.(
6	14.8641	0.0	7.2210	0.0	10.2607	0.4328	7.8050	16.5599	0.(
7	7.9737	20.9191	4.8956	15.4418	6.2688	16.5216	18.1973	20.4070	7.'
8	14.6281	0.6103	8.0568	0.6577	8.1946	0.0	18.3932	6.6977	14.:
9	7.3222	20.4009	7.2735	15.4285	20.0268	15.0596	6.9694	15.9096	16..
10	14.4382	0.0	14.9873	0.5553	14.7541	0.0	14.3058	0.4009	16..
11	7.2417	18.2239	7.5193	15.8354	7.7718	19.7416	6.1446	15.9004	8..
12	14.4827	0.0	14.9997	0.5044	18.7239	0.0	11.8861	0.3984	16..
13	7.2824	17.3252	6.6175	19.8562	7.8602	17.2293	14.9037	15.8377	8..
14	14.7062	0.0	8.2646	0.6164	14.9471	0.0	11.9420	5.1192	16..
15	7.0356	17.8523	5.2865	13.2364	7.6145	15.7800	6.2462	13.8804	16..
16	8.7742	0.0	15.1400	0.5334	14.9238	0.0	16.5091	0.3307	16..
17	7.5519	15.2140	5.5975	17.2463	7.8756	15.7982	5.4302	16.9337	19..
18	10.0720	0.4501	14.8256	0.6266	15.1129	0.4652	16.6990	5.9897	15..
19	5.4461	19.6608	7.8782	16.0876	6.4413	16.7690	13.5398	19.8840	0..
20	15.1303	0.0	10.3525	18.6626	10.5283	0.3407	7.8285	15.8538	0..
21	8.2769	14.9103	7.7549	0.4034	16.6415	19.5425	15.9733	0.0	0..
22	11.9570	0.2989	17.6395	16.7231	21.3681	0.0	0.0	0.0	0..
23	7.4546	18.1245	19.5448	16.8605	0.0	0.0	0.0	0.0	0..
24	17.1097	16.9174	0.0	0.0	0.0	0.0	0.0	0.0	0..

ALL CYCLES AVERAGE EXPOSURE TOTAL EXPOSURE NUMBER C

0.1072E 02 -216- 0.4964E 04

(FIG. 12)

BY CHANNL

.	8	9	10	11	12	13	14
.0	0.0	12.8093	17.2006	7.0727	17.1769	7.2242	12.1282
.8056	16.1542	17.1948	17.3990	17.3957	7.9365	17.5124	7.9753
.5216	17.0438	16.1480	3.9389	0.3522	16.1098	0.4422	16.1190
.(.7	7.7106	0.3005	9.2908	9.8235	6.8906	9.5371	8.0981
.0332	17.2203	6.6826	16.3522	7.7271	16.3835	0.5471	15.0607
.0701	0.0	15.3686	0.0	14.6494	6.9734	7.4070	4.7269
.7611	20.0242	7.9993	20.4701	6.1308	19.5551	8.0262	16.5259
.2586	0.5949	12.8733	0.6120	9.3768	0.5713	9.5756	0.6226
.0683	17.2089	7.3099	14.8083	7.4721	19.8469	7.4808	13.0337
.6918	0.6254	14.6181	0.0	14.6796	0.0	14.4913	0.0
.9515	14.9184	7.4838	14.4433	7.1855	15.4769	7.0964	19.3667
.6331	0.6012	14.6289	0.0	14.3310	0.6035	10.9294	0.5715
.9237	14.6642	7.3308	17.9006	7.2189	19.7339	7.7685	17.9850
.8086	0.5631	11.0830	0.0	14.4679	0.5569	14.2373	0.6067
.7766	13.6386	7.2601	14.6880	7.2957	18.7675	7.5077	16.9413
.1745	0.5973	19.8810	0.0	8.2878	0.0	8.4545	0.0
.8452	19.4913	7.4736	19.4284	7.6437	13.5422	7.5598	20.3300
.7928	0.6025	10.1054	0.5575	10.2078	0.4862	15.2137	0.5362
.8226	9.1448	5.7021	13.5216	5.5463	19.5909	5.5534	10.6672
.9910	0.0	10.2833	0.6444	14.1315	0.0	15.3439	0.0
.8377	19.1262	6.9452	15.0740	2.7179	15.2898	8.0187	15.3913
.[illegible]24	7.6797	15.3890	0.4223	12.1830	0.4220	12.0735	0.3597
.[illegible]87	19.1910	7.1779	20.4068	7.5095	16.9721	7.8301	16.7966
.0	0.0	16.8661	7.0549	16.3708	7.2875	13.0900	7.3964

.0	0.0	0.0	0.0
.0	0.0	0.0	0.0
.0	0.0	0.0	0.0
7.8704	0.0	0.0	0.0
6.7941	0.0	0.0	0.0
7.8050	16.5599	0.0	0.0
8.1973	20.4070	7.5558	0.0
8.3932	6.6977	14.3578	0.0
6.9694	15.9096	16.2024	15.1925
4.3058	0.4009	16.2424	7.3338
6.1446	15.9004	8.0803	13.6946
1.8861	0.3984	16.2435	7.3258
4.9037	15.8377	8.0847	17.1117
1.9420	5.1192	16.3677	7.0661
6.2462	13.6804	16.3093	15.4320
6.[illegible]91	0.3307	16.3897	15.4444
5.[illegible]302	16.9337	19.9045	0.0
6.6990	5.9897	15.6655	0.0
3.5398	19.8840	0.0	0.0
7.8285	15.8538	0.0	0.0
5.9733	0.0	0.0	0.0
0.[illegible]	0.0	0.0	0.0
0.[illegible]	0.0	0.0	0.0
0.0	0.0	0.0	0.0

OSURE	NUMBER OF ASSEMBLIES	NUMBER OF NONFUEL CHANNELS
E 04	464.00	1.00

DRESDEN 1 CYCLE 9 EXPOSURE ACCOUNTING ROC.9A Sept 1, 1974

FIG. 13

EXPOSURE 0.3930 CYCLE 0 E(I,J) BY CHANNEL

I (J)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.3600	21.6261	22.0789	22.9796	22.9912	22.0059
2	0.0	0.0	0.0	0.0	0.0	0.0	21.8297	20.8987	17.1999	17.7990	17.3997	7.9363	17.9129	7.9753
3	0.0	0.0	0.0	0.0	0.0	20.9901	16.9236	17.0939	16.1980	3.9309	9.3528	16.1078	0.9922	16.1190
4	0.0	0.0	0.0	21.2009	20.7769	18.6008	17.0267	17.1775	0.3009	7.3900	9.8238	5.9909	9.3371	3.0981
5	0.0	0.0	20.0769	21.1589	6.9989	16.1026	7.8332	17.8203	6.6826	16.3971	0.0713	16.3838	0.3472	13.0607
6	0.0	0.0	21.1999	16.8919	11.9097	0.9703	11.0701	8.9715	18.3696	0.6180	19.4999	4.9738	7.9993	9.7269
7	0.0	21.1620	18.9767	16.7972	6.8772	16.7877	19.7618	20.0243	7.9070	20.9707	4.1308	19.3951	8.0267	16.5260
8	0.0	16.6776	20.2267	8.2996	11.8375	0.6039	8.2186	19.9037	12.8733	7.7106	7.3708	7.7878	7.3756	7.8209
9	21.9929	13.9852	6.7310	13.5091	6.9021	18.1920	6.0683	17.2849	7.3099	19.8009	7.9723	19.0070	7.4008	12.0137
10	22.6828	16.0176	19.7057	8.3601	19.8879	8.6259	13.6738	7.9370	19.6101	7.0778	19.6798	7.3899	19.9913	7.1907
11	22.7720	19.6787	6.9190	16.2378	6.6322	19.9336	7.7318	19.9189	7.7038	19.9913	7.1895	13.9769	7.0749	19.3667
12	21.0703	16.2291	8.3718	12.3676	10.7909	8.6011	11.6330	7.3891	19.6870	7.1779	19.3310	7.0737	19.9299	7.2792
13	19.9273	16.0991	6.7350	19.7599	6.3699	19.6317	7.9237	19.6098	7.3308	17.9006	7.2169	19.7330	7.7689	17.9890
14	18.7836	6.8891	12.3709	8.3172	13.0767	0.3633	13.8094	7.9931	11.0030	7.0399	19.9679	7.2368	19.2379	7.3958
15	15.1926	16.1297	6.9261	16.7093	6.5679	19.0796	7.7766	13.6386	7.8631	19.6566	7.2957	13.7675	7.3077	16.9919
16	15.9009	16.1942	18.8359	8.9363	19.2897	0.7973	20.1798	7.8804	19.8818	7.2075	9.2078	7.3095	8.9399	7.9596
17	0.0	16.9721	7.9597	18.5888	7.0178	19.1982	9.6032	19.9713	7.9736	19.8208	7.6837	13.5022	7.9398	20.3301
18	0.0	15.6901	7.8353	18.7998	11.9703	0.8949	21.7920	0.6029	19.1899	7.0377	10.2078	7.7349	13.2137	7.8293
19	0.0	0.0	21.1766	18.8791	6.9988	19.0297	19.8226	9.1598	7.7381	13.3736	9.9063	19.9909	5.5539	10.6672
20	0.0	0.0	0.0	18.6338	11.0293	0.9031	13.9910	8.9319	20.8633	0.6999	18.1223	0.9062	13.3939	0.5388
21	0.0	0.0	0.0	16.3039	10.9131	21.9975	8.2851	19.2268	6.9952	19.0790	8.7178	13.2918	8.0187	13.3013
22	0.0	0.0	0.0	0.0	16.3883	19.1102	18.2229	7.6778	19.3090	0.9223	12.1630	0.9329	11.0739	0.3997
23	0.0	0.0	0.0	0.0	0.0	0.0	16.0208	19.1910	20.1707	29.9260	18.9337	18.9722	7.8201	16.7766
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9661	17.2006	16.3709	17.1769	17.6167	17.3263

I (J)	1	2	3	4	5	6	7	8	9	10
1	22.8189	22.8629	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	17.7518	17.9999	20.9382	22.8600	0.0	0.0	0.0	0.0	0.0	0.0
3	8.3197	16.3030	7.8993	20.9238	20.8209	22.7183	0.0	0.0	0.0	0.0
4	9.9816	0.9711	17.9339	17.7918	18.0736	20.8876	22.7863	0.0	0.0	0.0
5	6.0859	13.7703	8.3657	17.7989	6.1000	16.7903	20.7999	0.0	0.0	0.0
6	19.8691	0.6227	7.9737	9.8103	10.2607	0.9328	17.8709	0.0	0.0	0.0
7	7.7710	20.9791	8.8994	13.9918	6.2608	16.3216	18.1979	26.9660	0.0	0.0
8	19.6201	7.3510	8.0768	9.6977	8.1996	8.9379	18.3932	20.4070	21.8279	0.0
9	7.3232	20.9067	7.2738	13.9208	20.0017	13.0797	6.9695	6.6777	27.6934	0.0
10	19.9303	7.3238	19.9879	7.8050	19.7398	0.3973	19.2050	13.9096	16.2029	22.2396
11	7.2917	18.2238	7.3393	13.8358	8.3099	17.7916	6.1046	8.9009	16.2789	22.9272
12	19.9829	9.9813	19.9998	7.7718	18.7379	7.3290	11.8863	15.9029	8.0903	23.9938
13	7.2849	17.3288	6.8279	13.0988	9.6349	17.3363	8.3777	8.7189	16.2935	12.8093
14	19.7963	7.9938	13.3253	7.8639	11.9971	7.0061	11.9920	13.8377	8.0907	17.1187
15	7.9356	17.8589	8.7363	13.7369	7.6193	19.7808	6.2962	3.1192	16.3578	13.0942
16	8.7793	7.7958	13.3980	9.9308	19.9238	0.9379	16.5091	13.8809	16.3093	13.9320
17	7.9919	13.7160	8.9913	17.3963	7.0736	13.7982	16.3397	8.2107	16.3897	15.9493
18	10.0720	7.0702	19.8238	2.6087	19.1129	0.9632	16.9971	21.0594	19.9093	0.0
19	3.9981	19.6408	8.9256	20.0079	6.9914	10.7670	13.3300	3.9897	15.6633	0.0
20	11.1303	0.9101	10.3953	18.3626	10.7262	3.3007	19.8036	19.8898	0.0	0.0
21	8.8769	19.9103	16.7992	0.9039	16.6917	19.3925	15.9730	13.8538	0.0	0.0
22	11.7318	0.8787	17.6239	16.7731	21.3681	0.0	0.0	0.0	0.0	0.0
23	16.7318	18.3295	19.5498	14.8605	0.0	0.0	0.0	0.0	0.0	0.0
24	17.1017	16.9173	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EOC 9B

EXPOSURES

FIG. 14

DRESDEN 1 EXPOSURE ACCOUNTING ECC

EXPOSURE 2.7640 CYCLE 20 S(I,J) BY CHANNL

(0)	1	2	3	4	5	6	7	8	9	
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2250	0.
2	0.0	0.0	0.0	0.0	0.0	0.0	0.2187	0.3446	0.4526	0.
3	0.0	0.0	0.0	0.0	0.0	0.2665	0.4108	0.5510	0.7008	0.
4	0.0	0.0	0.0	0.2182	0.3469	0.4042	0.5988	0.6553	1.1079	1.
5	0.0	0.0	0.2270	0.3812	0.4691	0.6952	0.8709	0.8911	1.1582	1.
6	0.0	0.0	0.4704	0.5472	0.7793	1.0637	1.0133	1.2660	1.1120	1.
7	0.0	0.2938	0.4793	0.6745	0.9604	0.9948	1.0616	1.0610	1.2652	1.
8	0.0	0.3941	0.5920	1.0482	1.0790	1.3879	1.2884	1.4807	1.2757	1.
9	0.3476	0.5300	0.8508	0.9892	1.2116	1.4757	1.3651	1.2308	1.3888	1.
10	0.3458	0.7125	0.7987	1.2774	1.1693	1.4753	1.2768	1.5532	1.3099	1.
11	0.5093	0.6905	0.9702	1.0158	1.2573	1.1392	1.3476	1.2939	1.4238	1.
12	0.4623	0.6676	1.1116	1.0882	1.2054	1.4774	1.3033	1.5573	1.3244	1.
13	0.5266	0.6692	0.9956	1.0558	1.2710	1.2662	1.2536	1.2094	1.4215	1.
14	0.3883	0.7765	0.9064	1.3147	1.1613	1.4572	1.1733	1.4609	1.3819	1.
15	0.4541	0.6323	0.9256	1.0332	1.2418	1.1262	1.3217	1.2933	1.4232	1.
16	0.2652	0.6443	0.7443	1.1483	1.1442	1.4421	1.2393	1.5287	1.2343	1.
17	0.0	0.4265	0.7739	0.8621	1.1579	1.1531	1.3357	1.1886	1.3939	1.
18	0.0	0.2762	0.6530	0.9780	0.9632	1.3209	1.1892	1.4957	1.3631	1.
19	0.0	0.0	0.3535	0.5672	0.8788	0.6866	0.6889	1.2467	1.3472	1.
20	0.0	0.0	0.0	0.3959	0.6927	0.9892	0.6582	1.3198	1.1905	1.
21	0.0	0.0	0.0	0.2361	0.5332	0.6267	0.8093	0.8385	1.0443	1.
22	0.0	0.0	0.0	0.0	0.2212	0.3436	0.4293	0.7311	0.7769	1.
23	0.0	0.0	0.0	0.0	0.0	0.0	0.2324	0.3854	0.6399	1.
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2599	1.
1	0.3156	0.3373	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	0.5989	0.5093	0.4111	0.2664	0.0	0.0	0.0	0.0	0.0	
3	1.0167	0.7598	0.8219	0.4995	0.4679	0.2646	0.0	0.0	0.0	
4	1.1230	1.1551	0.8620	0.8181	0.5252	0.5366	0.2668	0.0	0.0	
5	1.2475	1.0765	1.1023	0.9180	0.6925	0.6379	0.4165	0.0	0.0	
6	1.2159	1.4320	1.3021	1.3713	1.0054	1.0096	0.6826	0.3324	0.0	
7	1.3429	1.1599	1.3903	1.1696	1.2087	0.8659	0.6429	0.4448	0.3344	
8	1.2963	1.5388	1.3767	1.4737	1.2270	1.2659	0.7890	0.7097	0.4025	
9	1.3990	1.1960	1.3468	1.1765	1.0256	1.0636	0.9567	0.6851	0.4834	
10	1.3063	1.5416	1.2250	1.4336	1.6177	1.3208	0.9817	0.9948	0.5811	
11	1.4069	1.2158	1.2380	1.0912	1.2131	1.0133	1.1224	0.8548	0.7215	
12	1.3192	1.5577	1.1527	1.3545	1.0725	1.3474	1.0541	1.0494	0.8361	
13	1.4214	1.2661	1.3775	1.1368	1.2454	1.0574	0.9725	0.8395	0.7135	
14	1.3260	1.6059	1.4204	1.5168	1.1843	1.3687	1.0395	0.9305	0.5908	
15	1.4361	1.2902	1.4691	1.2891	1.2837	1.0955	1.1060	0.7895	0.5374	
16	1.4321	1.6140	1.2936	1.5060	1.6668	1.3370	0.9258	0.9336	0.4790	
17	1.4240	1.2952	1.3969	1.1608	1.2061	0.9994	0.9452	0.6149	0.3546	
18	1.3808	1.5227	1.1971	1.3727	1.0377	1.0946	0.6960	0.6279	0.2487	
19	1.3954	1.1192	1.1636	0.9670	0.9803	0.7830	0.6114	0.3544	0.0	
20	1.1681	1.3608	1.0484	0.8140	0.6015	0.6303	0.5351	0.2291	0.0	
21	1.1429	0.9756	0.9179	0.9193	0.5519	0.3861	0.2376	0.0	0.0	
22	0.8962	0.9693	0.6047	0.4838	0.2939	0.0	0.0	0.0	0.0	
23	0.7373	0.4425	0.3512	0.2271	0.0	0.0	0.0	0.0	0.0	
24	0.3231	0.2237	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

(FIG. 14)

xPOSURE ACCOUNTING ECC 98 SEPT. 1,1975

Y CHANNL

	8	9	10	11	12	13	14
	0.0	0.2250	0.1884	0.4726	0.3756	0.5270	0.4530
37	0.3446	0.4526	0.6537	0.6259	0.7675	0.6661	0.7572
68	0.5510	0.7008	0.9631	1.0909	0.9266	1.1246	0.8340
38	0.6553	1.1079	1.0905	1.1311	1.2006	1.1890	1.1742
09	0.8911	1.1582	1.0742	1.2360	1.1408	1.4545	1.1667
12	1.2680	1.1120	1.4249	1.1948	1.3342	1.3695	1.3952
16	1.0610	1.2652	1.1373	1.3635	1.1812	1.3660	1.2391
84	1.4807	1.2757	1.5270	1.3570	1.5424	1.3840	1.5686
53	1.2308	1.3838	1.2810	1.2653	1.0986	1.3930	1.3359
58	1.5532	1.3099	1.5869	1.1864	1.4427	1.3038	1.5907
76	1.2939	1.4606	1.3315	1.4209	1.3025	1.4527	1.2568
33	1.5573	1.3244	1.6185	1.3430	1.6059	1.4017	1.5966
06	1.2094	1.4215	1.2938	1.4271	1.2429	1.4203	1.2782
33	1.4609	1.3819	1.6340	1.3331	1.5805	1.3200	1.5782
07	1.2933	1.4232	1.3454	1.4591	1.2676	1.3047	1.1790
93	1.5287	1.2341	1.6205	1.4769	1.6323	1.3277	1.4823
57	1.1886	1.3939	1.2699	1.4603	1.3656	1.4306	1.2373
92	1.4957	1.3631	1.5949	1.4168	1.6091	1.3565	1.5938
89	1.2417	1.3473	1.2643	1.4377	1.2338	1.4416	1.3587
87	1.3198	1.1905	1.4235	1.2457	1.5094	1.2294	1.4941
95	0.8385	1.0443	1.0729	1.3532	1.1276	1.2278	1.0902
93	0.7311	0.7769	1.0896	0.9724	1.1791	0.9785	1.1366
24	0.3854	0.6399	0.6068	0.8470	0.7596	0.8304	0.6808
	0.0	0.2599	0.4689	0.4014	0.5714	0.5130	0.5303

	0.0	0.0	0.0
	0.0	0.0	0.0
	0.0	0.0	0.0
68	0.0	0.0	0.0
65	0.0	0.0	0.0
26	0.3324	0.0	0.0
29	0.4448	0.3344	0.0
90	0.7097	0.4025	0.0
67	0.6851	0.4834	0.2375
17	0.9948	0.5811	0.4288
24	0.8548	0.7215	0.4257
41	1.0494	0.6361	0.4932
25	0.8395	0.7135	0.3484
95	0.9305	0.5908	0.4432
80	0.7895	0.5374	0.2847
58	0.9336	0.4790	0.2654
52	0.6149	0.3546	0.0
60	0.6279	0.2407	0.0
14	0.3544	0.0	0.0
51	0.2251	0.0	0.0
37	0.0	0.0	0.0
	0.0	0.0	0.0
	0.0	0.0	0.0
	0.0	0.0	0.0

Fig. 15

DISCHARGED FUEL FOR CYCLES 9A and 9B

Assembly Serial No.	Reason Discharged	Past Locations = Cycle 9B	Cycle 9A	Cycle 8
G-037	E	-	5219	0772
G-093	E	-	6425	1873
G-053	E	-	1873	1872
G-091	E	-	1574	0358
G-009	E	-	1451	0872
G-092	E	-	2072	2369
G-090	E	-	0753	1674
G-081	E	-	1551	1473
G-016	E	-	1651	1173
G-007	E	-	1751	2564
G-026	E	-	1674	1352
G-088	E	-	1774	1552
G-022	E	-	1973	2563
G-032	E	-	2271	0259
G-070	E	-	2370	0362
G-110	E	-	2566	0973
G-006	E	-	2468	0571
G-008	E	-	2565	1652
G-062	E	-	2563	2565
G-021	E	-	2562	1972
G-043	E	-	2561	0360

G-071	E	-	2560	0357
G-004	E	-	2559	1252
G-012	E	-	2457	2054
G-074	E	-	2254	2370
G-013	E	-	2053	2560
G-067	E	-	2154	0264
E-091	E	-	1574	0358
G-023	E	-	2255	1673
G-038	E	-	2467	0468
G-047	E	-	2458	0952
G-002	E	-	2356	1051
G-075	E	-	2368	0754
G-041	E	-	2270	0556
G-055	E	-	2369	1374
G-018	E	-	2171	2467
E-025	E	0265	0265	1452
E-049	E	0259	0259	2308
E-072	E	6225	0262	2270
E-094	E	0672	0672	0456
E-114	E	0571	0571	1651
E-131	E	0368	0368	2464
F-004	E	0366	0366	0873
XE-022	E	1374	1374	0455
XE-050	E	5707	5707	0568
XE-104	E	0457	0457	0570

E-052	E	0266	0266	2255
E-059	E	5307	6302	0953
E-073	E	6525	6402	2460
E-075	E	6025	0260	2358
E-095	E	2269	2269	0971
E-109	E	0261	0261	0654
E-118	E	0054	0554	0263
E-155	E	0357	0357	2071
E-156	E	0852	0852	0361
E-160	E	0455	0455	1752
E-161	E	2256	2256	1871
DU-013	L	1871	1871	1254
DU-088	L	7209	0361	0555
UN-085	E	6917	6917	0767
UN-090	E	5910	5910	2163
UN-092	E	6217	6217	1371
UN-094	E	6313	6313	0757
UN-002	E	6409	6409	1961
UN-003	E	5615	5615	1860
UN-007	L, E	6019	6019	1761
Un-015	E	6617	6617	1705
UN-019	E	6813	6813	1664
UN-020	E	6009	6009	1557
UN-025	L	6407	6407	2254
UN-040	L	6623	6623	1868

UN-050	E	5809	5809	1365
UN-052	E	6415	6415	1369
UN-054	L	6609	6609	0460
UN-058	L	6209	6209	1072
UN-061	L	6417	6417	0464
UN-064	E	6619	6619	1965
UN-072	E	5613	5613	1068
UN-074	E	5819	5819	0961
UN-075	E	6607	6607	0965
UN-078	E	6219	6219	0864
UN-079	E	6207	6207	0761
UN-081	L	6419	6419	0458
UN-100	L	7017	7017	6817
UN-107	L	6308	6308	6308
UN-120	L	6516	6516	1957
UN-135	L	5914	5914	5615
UN-139	L	6312	6312	6015
UN-165	L	6508	6508	6423
UN-176	L	6110	6110	6305
UN-302	L	6717	6717	5910
UN-205	L	6515	6515	6621
UN-234	L	5717	5717	6605
UN-246	L	6121	0218	6209
UN-250	L	6705	6208	5912
UN-261	L	6523	6523	7206

UN-277	L	5822	6018	6120
JN-290	L	5909	5909	6112
UN-294	L	5513	5513	6205
UN-308	L	7022	6618	7017
UN-362	L	6622	6622	6622
UN-299	D	7319	6612	6612

Key for reasons: E= high exposure

L=leaker

D=damaged

NOTE: Bundle locations prior to Cycle 8 require an extensive data search