CORE-LOADING DIAGRAMS FOR EBR-II RUNS 4 THROUGH 38

(APRIL 1965 THROUGH MID-DECEMBER 1969)

Compiled by

J. C. Case

EBR-II Project

Argonne National Laboratory

Argonne, Illinois - Idaho Falls, Idaho

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CORE-LOADING DIAGRAMS FOR EBR-II RUNS 4 THROUGH 38
(APRIL 1965 THROUGH MID-DECEMBER 1969)

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INTRODUCTION

This report contains the core-loading diagrams for all runs (Nos. 4 through 38) made by EBR-II between April 1965 and mid-December 1969*, a period of time during which the reactor accumulated 28,760 MWd (thermal) of operation. (The reactor had been operated for an additional 1280 MWd between August 1964 and April 1965).

The loading diagrams appear in numerical, and thus chronological, order. Each diagram is on a righthand page and is faced with a tabulation of additional information pertaining to the run, e.g., core size, dates on which the run started and ended, power generated during the run, and the number and general types of subassemblies that were in the core during the run. At the bottom of each page facing a diagram is a key to the symbols used for the types of subassemblies shown in the diagram.

Locations of the experimental subassemblies are highlighted in each diagram through the use of a black background behind the identifying numbers of the subassemblies. (The first experimental subassembly was placed in the core in the loading for run No. 5.) No other subassemblies are identified by number. The center of the core is identified in each diagram by a dot pattern shading, and the core sectors are identified by the letters A through F around the perimeter of the core diagram.

Current planning calls for issuance of reports similar to this one on an annual basis. The next report will contain the loading diagrams for all reactor runs made between mid-December 1969 and January 1971.

*After the completion of run 38 in October 1969, the reactor was shut down until mid-December 1969 for scheduled maintenance and installation of the instrumented subassembly.

RUN 4

(72-subassembly Core Size)

Chronology

Date Started.	4/24/65
Date Ended	5/ 4/65
Number of Days for Run	10

Power Data

(A) Cumulative MWd(t) at Start of Run . .	1280
(B) Cumulative MWd(t) at End of Run . . .	1631
MWd(t) Generated During Run (B-A)	351

Types of Subassemblies in Core

Blanket	11
Core.	47
Control Rod	12
Safety Rod	2
Experimental (Rows 1-6)	0

Experimental Subassemblies in Row 7. 0

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod

RUN 5

(76-subassembly Core Size)

Chronology

Date Started.	5/10/65
Date Ended.	5/21/65
Number of Days for Run.	11

Power Data

(A) Cumulative MWd(t) at Start of Run . .	1631
(B) Cumulative MWd(t) at End of Run . . .	2003
MWd(t) Generated During Run (B-A)	372

Types of Subassemblies in Core

Blanket	14
Core.	46
Control Rod	12
Safety Rod	2
Experimental (Rows 1-6)	2

Experimental Subassemblies in Row 7. 0

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
X -- Experimental Subassembly

RUN 5

B

RUN 6
(75-subassembly Core Size)

Chronology

Date Started.	5/24/65
Date Ended	6/25/65
Number of Days for Run.	32

Power Data

(A) Cumulative MWd(t) at Start of Run . .	2003
(B) Cumulative MWd(t) at End of Run . . .	2502
MWd(t) Generated During Run (B-A)	499

Types of Subassemblies in Core

Blanket	13
Core.	47
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	1

Experimental Subassemblies in Row 7. 0

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 6

B

RUN 7

(74-subassembly Core Size)

Chronology

Date Started.	7/29/65
Date Ended.	8/15/65
Number of Days for Run.	17

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	2502
(B) Cumulative MWd(t) at End of Run . . .	2927
MWd(t) Generated During Run (B-A)	425

Types of Subassemblies in Core

Blanket	12
Core.	47
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	1

Experimental Subassemblies in Row 7 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 7

B

RUN 8

(74-subassembly Core Size)

Chronology

Date Started	9/ 7/65
Date Ended.	9/19/65
Number of Days for Run	12

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	2927
(B) Cumulative MWd(t) at End of Run	3320
MWd(t) Generated During Run (B-A)	393

Types of Subassemblies in Core

Blanket	12
Core	47
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	1

Experimental Subassemblies in Row 7. 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 8

B

RUN 9
(78-subassembly Core Size)

Chronology

Date Started	10/13/65
Date Ended	10/21/65
Number of Days for Run	8

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	3320
(B) Cumulative MWd(t) at End of Run. . .	3665
MWd(t) Generated During Run (B-A). . . .	345

Types of Subassemblies in Core

Blanket.	15
Core	46
Control Rod.	11
Safety Rod	2
Experimental (Rows 1-6).	3

Experimental Subassemblies in Row 7. 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 10

(79-subassembly Core Size)

Chronology

Date Started.	10/28/65
Date Ended.	11/ 7/65
Number of Days for Run.	10

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	3665
(B) Cumulative MWd(t) at End of Run	3980
MWd(t) Generated During Run (B-A)	315

Types of Subassemblies in Core

Blanket	17
Core.	44
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	4

Experimental Subassemblies in Row 7. 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 11

(79-subassembly Core Size)

Chronology

Date Started.	11/18/65
Date Ended.	11/27/65
Number of Days for Run.	9

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	3980
(B) Cumulative MWd(t) at End of Run . . .	4280
MWd(t) Generated During Run (B-A)	300

Types of Subassemblies in Core

Blanket	17
Core.	44
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	4

Experimental Subassemblies in Row 7. 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 11

RUN 12

(78-subassembly Core Size)

Chronology

Date Started.	11/30/65
Date Ended	12/11/65
Number of Days for Run.	11

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	4280
(B) Cumulative MWd(t) at End of Run	4750
MWd(t) Generated During Run (B-A)	470

Types of Subassemblies in Core

Blanket	16
Core.	44
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	4

Experimental Subassemblies in Row 7. 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 13

(80-subassembly Core Size)

Chronology

Date Started.	12/17/65
Date Ended.	12/24/67
Number of Days for Run.	7

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	4750
(B) Cumulative MWd(t) at End of Run	5050
MWd(t) Generated During Run (B-A)	300

Types of Subassemblies in Core

Blanket	18
Core	43
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	5

Experimental Subassemblies in Row 7. 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 14

(80-subassembly Core Size)

Chronology

Date Started.	1/10/66
Date Ended.	1/22/66
Number of Days for Run.	12

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	5050
(B) Cumulative MWd(t) at End of Run	5570
MWd(t) Generated During Run (B-A)	520

Types of Subassemblies in Core

Blanket	18
Core.	43
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	5

Experimental Subassemblies in Row 7 3

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 15

(77-subassembly Core Size)

Chronology

Date Started.	3/28/66
Date Ended.	4/14/66
Number of Days for Run.	17

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	5570
(B) Cumulative MWd(t) at End of Run	6365
MWd(t) Generated During Run (B-A)	795

Types of Subassemblies in Core

Blanket	16
Core.	42
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	5

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 16

(75-subassembly Core Size)

Chronology

Date Started.	4/17/66
Date Ended.	5/ 8/66
Number of Days for Run.	21

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	6365
(B) Cumulative MWd(t) at End of Run	7140
MWd(t) Generated During Run (B-A)	775

Types of Subassemblies in Core

Blanket	14
Core.	42
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	5

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 17

(77-subassembly Core Size)

Chronology

Date Started.	5/11/66
Date Ended.	5/23/66
Number of Days for Run.	12

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	7140
(B) Cumulative MWd(t) at End of Run	7615
MWd(t) Generated During Run (B-A)	475

Types of Subassemblies in Core

Blanket	16
Core.	41
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	6

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 18

(76-subassembly Core Size)

Chronology

Date Started.	5/26/66
Date Ended.	6/15/66
Number of Days for Run.	20

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	7615
(B) Cumulative MWd(t) at End of Run . . .	8482
MWd(t) Generated During Run (B-A)	867

Types of Subassemblies in Core

Blanket	15
Core.	41
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	6

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 19

(74-subassembly Core Size)

Chronology

Date Started.	6/27/66
Date Ended.	6/29/66
Number of Days for Run	2

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	8482
(B) Cumulative MWd(t) at End of Run . . .	8571
MWd(t) Generated During Run (B-A)	89

Types of Subassemblies in Core

Blanket	13
Core.	41
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	6

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 20

(80-subassembly Core Size)

Chronology

Date Started.	7/19/66
Date Ended.	8/ 7/66
Number of Days for Run.	19

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	8571
(B) Cumulative MWd(t) at End of Run . . .	9270
MWd(t) Generated During Run (B-A)	699

Types of Subassemblies in Core

Blanket	19
Core.	39
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	8

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 21

(80-subassembly Core Size)

Chronology

Date Started,	8/12/66
Date Ended,	8/27/66
Number of Days for Run	15

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	9270
(B) Cumulative MWd(t) at End of Run	9880
MWd(t) Generated During Run (B-A)	610

Types of Subassemblies in Core

Blanket	19
Core	38
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	9

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 22

(78-subassembly Core Size)

Chronology

Date Started	10/20/66
Date Ended.	11/14/66
Number of Days for Run.	25

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	9,880
(B) Cumulative MWd(t) at End of Run	10,925
MWd(t) Generated During Run (B-A)	1,045

Types of Subassemblies in Core

Blanket	17
Core.	39
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	8

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
S -- Safety Rod
X -- Experimental Subassembly

RUN 22

RUN 23

(79-subassembly Core Size)

Chronology

Date Started,	11/16/66
Date Ended,	12/ 3/66
Number of Days for Run,	17

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	10,925
(B) Cumulative MWd(t) at End of Run	11,615
MWd(t) Generated During Run (B-A)	690

Types of Subassemblies in Core

Blanket	18
Core.	38
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	9

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
S -- Safety Rod
X -- Experimental Subassembly

RUN 24

(81-subassembly Core Size)

Chronology

Date Started.	12/ 6/66
Date Ended.	12/31/66
Number of Days for Run.	25

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	11,615
(B) Cumulative MWd(t) at End of Run . . .	12,245
MWd(t) Generated During Run (B-A)	630

Types of Subassemblies in Core

Blanket	20
Core.	38
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	9

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
S -- Safety Rod
X -- Experimental Subassembly

RUN 25A

(88-subassembly Core Size)

Chronology

Date Started,	4/17/67
Date Ended,	6/19/67
Number of Days for Run,	63

Power Data

(A) Cumulative MWd(t) at Start of Run	12,245
(B) Cumulative MWd(t) at End of Run	12,886
MWd(t) Generated During Run (B-A)	641

Types of Subassemblies in Core

Blanket	25
Core	37
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	12

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 25A

B

E

RUN 25B

(86-subassembly Core Size)

Chronology

Date Started.	6/21/67
Date Ended.	6/27/67
Number of Days for Run.	6

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	12,886
(B) Cumulative MWd(t) at End of Run	13,036
MWd(t) Generated During Run (B-A)	150

Types of Subassemblies in Core

Blanket	23
Core.	40
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	9

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 25B

RUN 25C

(86-subassembly Core Size)

Chronology

Date Started.	6/29/67
Date Ended.	7/20/67
Number of Days for Run.	21

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	13,036
(B) Cumulative MWd(t) at End of Run . . .	13,759
MWd(t) Generated During Run (B-A)	723

Types of Subassemblies in Core

Blanket	23
Core.	38
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	11

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 25C

B

E

RUN 25D

(88-subassembly Core Size)

Chronology

Date Started.	7/21/67
Date Ended.	7/22/67
Number of Days for Run.	1

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	13,759
(B) Cumulative MWd(t) at End of Run . . .	13,793
MWd(t) Generated During Run (B-A)	34

Types of Subassemblies in Core

Blanket	25
Core.	38
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	11

Experimental Subassemblies in Row 7 6

Key to Types of Subassemblies Shown in Loading Diagram

C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

B

RUN 25E

(86-subassembly Core Size)

Chronology

Date Started.	7/23/67
Date Ended.	8/18/67
Number of Days for Run.	26

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	13,793
(B) Cumulative MWd(t) at End of Run	13,806
MWd(t) Generated During Run (B-A)	13

Types of Subassemblies in Core

Blanket	23
Core.	38
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	11

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 26A
(88-subassembly Core Size)

Chronology

Date Started.	9/22/67
Date Ended.	9/29/67
Number of Days for Run	7

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	13,806
(B) Cumulative MWd(t) at End of Run	13,893
MWd(t) Generated During Run (B-A)	87

Types of Subassemblies in Core

Blanket	25
Core.	38
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	10

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 26B
(91-subassembly Core Size)

Chronology

Date Started.	10/11/67
Date Ended.	11/20/67
Number of Days for Run	40

Power Data

(A) Cumulative MWd(t) at Start of Run . .	13,893
(B) Cumulative MWd(t) at End of Run . . .	14,922
MWd(t) Generated During Run (B-A)	1,029

Types of Subassemblies in Core

Blanket	27
Core.	38
Control Rod	10
Safety Rod.	2
Experimental(Rows 1-6).	12

Experimental Subassemblies in Row 7 6

Key to Types of Subassemblies Shown in Loading Diagram

C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 26C
(91-subassembly Core Size)

Chronology

Date Started	11/22/67
Date Ended	12/12/67
Number of Days for Run	21

Power Data

(A) Cumulative MWd(t) at Start of Run. .	14,922
(B) Cumulative MWd(t) at End of Run. . .	15,541
MWd(t) Generated During Run (B-A). . . .	619

Types of Subassemblies in Core

Blanket	25
Core.	36
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	16

<u>Experimental Subassemblies in Row 7</u>	6
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Key to Types of Subassemblies Shown in Loading Diagram

C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
X -- Experimental Subassembly

RUN 27A

(91-subassembly Core Size)

Chronology

Date Started	2/2/68
Date Ended	2/29/68
Number of Days for Run	27

Power Data

(A) Cumulative MWd(t) at Start of Run . .	15,541
(B) Cumulative MWd(t) at End of Run. . . .	15,824
MWd(t) Generated During Run (B-A)	283

Types of Subassemblies in Core

Blanket	25
Core	36
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	16

Experimental Subassemblies in Row 7 6

Key to Types of Subassemblies Shown in Loading Diagram

BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 27A

B

E

RUN 27B
(91-subassembly Core Size)

Chronology

Date Started	3/1/68
Date Ended	3/5/68
Number of Days for Run	4

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	15,824
(B) Cumulative MWd(t) at End of Run . . .	16,001
MWd(t) Generated During Run (B-A) . . .	177

Types of Subassemblies in Core

Blanket	25
Core	35
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	17

Experimental Subassemblies in Row 7 6

Key to Types of Subassemblies Shown in Loading Diagram

BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 27C
(90-subassembly Core Size)

Chronology

Date Started	3/7/68
Date Ended	3/11/68
Number of Days for Run	4

Power Data

(A) Cumulative MWd(t) at Start of Run . .	16,001
(B) Cumulative MWd(t) at End of Run. . . .	16,063
MWd(t) Generated During Run (B-A)	62

Types of Subassemblies in Core

Blanket.	25
Core	35
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	16

Experimental Subassemblies in Row 7 6

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

B

RUN 27D

(90-subassembly Core Size)

Chronology

Date Started	3/30/68
Date Ended	4/6/68
Number of Days for Run	7

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	16,063
(B) Cumulative MWd(t) at End of Run. . . .	16,349
MWd(t) Generated During Run (B-A)	286

Types of Subassemblies in Core

Blanket.	25
Core	36
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6).	15

Experimental Subassemblies in Row 7 7

Key to Types of Subassemblies Shown in Loading Diagram

BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 27E
(87-subassembly Core Size)

Chronology

Date Started	4/7/68
Date Ended	4/11/68
Number of Days for Run	4

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	16,349
(B) Cumulative MWd(t) at End of Run. . . .	16,439
MWd(t) Generated During Run (B-A)	90

Types of Subassemblies in Core

Blanket.	22
Core	39
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	12

Experimental Subassemblies in Row 7 7

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 27E

RUN 27F
(86-subassembly Core Size)

Chronology

Date Started	4/13/68
Date Ended	4/16/68
Number of Days for Run	3

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	16,439
(B) Cumulative MWd(t) at End of Run. . . .	16,507
MWd(t) Generated During Run (B-A)	68

Types of Subassemblies in Core

Blanket.	24
Core	39
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	9

Experimental Subassemblies in Row 7 8

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

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RUN 27G
(86-subassembly Core Size)

Chronology

Date Started	4/17/68
Date Ended	4/19/68
Number of Days for Run	2

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	16,507
(B) Cumulative MWd(t) at End of Run. . . .	16,556
MWd(t) Generated During Run (B-A)	49

Types of Subassemblies in Core

Blanket.	25
Core	40
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	7

Experimental Subassemblies in Row 7 4

Key To Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 27G

RUN 27H
(83-subassembly Core Size)

Chronology

Date Started	4/25/68
Date Ended	5/2/68
Number of Days for Run	7

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	16,556
(B) Cumulative MWd(t) at End of Run. . .	16,762
MWd(t) Generated During Run (B-A) . . .	206

Types of Subassemblies in Core

Blanket.	22
Core	42
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	5

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 27H

RUN 27I
(85-subassembly Core Size)

Chronology

Date Started	5/3/68
Date Ended	5/6/68
Number of Days for Run	3

Power Data

(A) Cumulative MWd(t) at Start of Run . .	16,762
(B) Cumulative MWd(t) at End of Run. . .	16,858
MWd(t) Generated During Run (B-A)	96

Types of Subassemblies in Core

Blanket.	24
Core	41
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	6

Experimental Subassemblies in Row 7 4

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

E

RUN 28A
(86-subassembly Core Size)

Chronology

Date Started	5/9/68
Date Ended	5/13/68
Number of Days for Run	4

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	16,858
(B) Cumulative MWd(t) at End of Run. . . .	17,012
MWd(t) Generated During Run (B-A)	154

Types of Subassemblies in Core

Blanket.	25
Core	41
Control Rod.	10
Safety Rod	2
Experimental (Rows 1-6)	6

Experimental Subassemblies in Row 7. 6

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 28B
(88-subassembly Core Size)

Chronology

Date Started	5/15/68
Date Ended	5/27/68
Number of Days for Run	12

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	17,012
(B) Cumulative MWd(t) at End of Run. . . .	17,315
MWd(t) Generated During Run (B-A)	303

Types of Subassemblies in Core

Blanket.	23
Core	41
Control Rod	10
Safety Rod	2
Experimental (Rows 1-6)	10

Experimental Subassemblies in Row 7 10

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 28C
(88-subassembly Core Size)

Chronology

Date Started	5/29/68
Date Ended	6/15/68
Number of Days for Run	17

Power Data

(A) Cumulative MWd(t) at Start of Run .	17,315
(B) Cumulative MWd(t) at End of Run. . .	17,984
MWd(t) Generated During Run (B-A) . . .	669

Types of Subassemblies in Core

Blanket.	23
Core	35
Control Rod.	10
Safety Rod	2
Experimental (Rows 1-6)	16

Experimental Subassemblies in Row 7. 10

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 29A
(87-subassembly Core Size)

Chronology

Date Started	6/26/68
Date Ended	7/5/68
Number of Days for Run	9

Power Data

(A) Cumulative MWd(t) at Start of Run . .	17,984
(B) Cumulative MWd(t) at End of Run. . . .	18,172
MWd(t) Generated During Run (B-A)	188

Types of Subassemblies in Core

Blanket.	23
Core	35
Control Rod.	11
Safety Rod	2
Experimental (Rows 1-6)	15

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
OSC -- Oscillator Rod
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
R -- Stainless Steel Reflector
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 29A

RUN 29B

(89-subassembly Core Size)

Chronology

Date Started	7/9/68
Date Ended	7/11/68
Number of Days for Run	2

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	18,172
(B) Cumulative MWd(t) at End of Run. . .	18,196
MWd(t) Generated During Run (B-A)	24

Types of Subassemblies in Core

Blanket.	25
Core	35
Control Rod.	11
Safety Rod	2
Experimental (Rows 1-6)	15

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

B - Depleted Uranium
BETH - Beryllium Thimble
C - Control Rod
D - Driver Fuel
P - 1/2 Driver Fuel - 1/2 Stainless Steel
R - Stainless Steel Reflector
S - Safety Rod
SSCR - Stainless Steel Control Rod
SST - Stainless Steel Thimble
X - Experimental Subassembly

RUN 29C

(91-subassembly Core Size)

Chronology

Date Started	7/15/68
Date Ended	7/22/68
Number of Days for Run	7

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	18,196
(B) Cumulative MWd(t) at End of Run. . . .	18,401
MWd(t) Generated During Run (B-A)	205

Types of Subassemblies in Core

Blanket.	27
Core	35
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	15

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 29C

RUN 29D
(91-subassembly Core Size)

Chronology

Date Started	7/25/68
Date Ended	8/16/68
Number of Days for Run	22

Power Data

(A) Cumulative MWd(t) at Start of Run . .	18,401
(B) Cumulative MWd(t) at End of Run. . . .	19,111
MWd(t) Generated During Run (B-A).	710

Types of Subassemblies in Core

Blanket	27
Core	35
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	15

Experimental Subassemblies in Row 7 11

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR-- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 30A

(91-subassembly Core Size)

Chronology

Date Started.	8/21/68
Date Ended.	9/5/68
Number of Days for Run	15

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	19,111
(B) Cumulative MWd(t) at End of Run . . .	19,763
MWd(t) Generated During Run (B-A)	652

Types of Subassemblies in Core

Blanket	27
Core.	34
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	16

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 30A

RUN 30B

(91-subassembly Core Size)

Chronology

Date Started	9/7/68
Date Ended	9/11/68
Number of Days for Run	4

Power Data

(A) Cumulative MWd(t) at Start of Run. . .	19,763
(B) Cumulative MWd(t) at End of Run. . . .	19,929
MWd(t) Generated During Run (B-A).	166

Types of Subassemblies in Core

Blanket.	27
Core	34
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6).	16

Experimental Subassemblies in Row 7. 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 30B

RUN 30C

(91-subassembly Core Size)

Chronology

Date Started.	9/11/68
Date Ended.	9/15/68
Number of Days for Run.	4

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	19,929
(B) Cumulative MWd(t) at End of Run	19,981
MWd(t) Generated During Run (B-A)	52

Types of Subassemblies in Core

Blanket	27
Core.	35
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	15

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 30C

RUN 30D
(90-subassembly Core Size)

Chronology

Date Started.	9/17/68
Date Ended.	9/21/68
Number of Days for Run	4

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	19,981
(B) Cumulative MWd(t) at End of Run	20,060
MWd(t) Generated During Run (B-A)	79

Types of Subassemblies in Core

Blanket	28
Core.	40
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	8

Experimental Subassemblies in Row 7 6

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 30E
(89-subassembly Core Size)

Chronology

Date Started.	9/22/68
Date Ended.	9/25/68
Number of Days for Run	3

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	20,060
(B) Cumulative MWd(t) at End of Run . . .	20,139
MWd(t) Generated During Run (B-A)	79

Types of Subassemblies in Core

Blanket	28
Core.	42
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	5

Experimental Subassemblies in Row 7 5

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 31A
(90-subassembly Core Size)

Chronology

Date Started.	9/30/68
Date Ended.	10/4/68
Number of Days for Run.	4

Power Data

(A) Cumulative MWd(t) at Start of Run . .	20,139
(B) Cumulative MWd(t) at End of Run . . .	20,228
MWd(t) Generated During Run (B-A)	89

Types of Subassemblies in Core

Blanket	26
Core.	36
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	14

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 31B
(90-subassembly Core Size)

Chronology

Date Started.	10/11/68
Date Ended.	10/18/68
Number of Days for Run.	7

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	20,228
(B) Cumulative MWd(t) at End of Run . . .	20,387
MWd(t) Generated During Run (B-A)	159

Types of Subassemblies in Core

Blanket	26
Core.	37
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	13

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 31C
(90-subassembly Core Size)

Chronology

Date Started.	10/19/68
Date Ended.	10/22/68
Number of Days for Run	3

Power Data

(A) Cumulative MWd(t) at Start of Run . .	20,387
(B) Cumulative MWd(t) at End of Run . . .	20,471
MWd(t) Generated During Run (B-A)	84

Types of Subassemblies in Core

Blanket	26
Core.	37
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	13

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 31D

(90-subassembly Core Size)

Chronology

Date Started.	10/26/68
Date Ended.	11/3/68
Number of Days for Run	8

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	20,471
(B) Cumulative MWd(t) at End of Run	20,843
MWd(t) Generated During Run (B-A)	372

Types of Subassemblies in Core

Blanket	26
Core.	37
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	13

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 31E
(90-subassembly Core Size)

Chronology

Date Started.	11/4/68
Date Ended.	11/4/68
Number of Days for Run	1 Hour

Power Data

(A) Cumulative MWd(t) at Start of Run . .	20,843
(B) Cumulative MWd(t) at End of Run . . .	20,843
MWd(t) Generated During Run (B-A)	0

Types of Subassemblies in Core

Blanket	26
Core	36
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	14

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 31F
(90-subassembly Core Size)

Chronology

Date Started.	11/5/68
Date Ended.	11/14/68
Number of Days for Run	9

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	20,843
(B) Cumulative MWd(t) at End of Run . . .	21,256
MWd(t) Generated During Run (B-A)	413

Types of Subassemblies in Core

Blanket	26
Core.	36
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	14

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 31G
(90-subassembly Core Size)

Chronology

Date Started	11/15/68
Date Ended	11/17/68
Number of Days for Run	2

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	21,256
(B) Cumulative MWd(t) at End of Run . . .	21,367
MWd(t) Generated During Run (B-A)	111

Types of Subassemblies in Core

Blanket	26
Core	36
Control Rod	12
Safety Rod.	2
Experimental (Rows 1-6)	14

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

NOTE: CONTROL ROD C-1 IS SPECIAL
HALF-WORTH ROD FOR THIS RUN

RUN 31G

RUN 32A
(90-subassembly Core Size)

Chronology

Date Started	11/27/68
Date Ended	12/17/68
Number of Days for Run	20

Power Data

(A) Cumulative MWd(t) at Start of Run .	21,367
(B) Cumulative MWd(t) at End of Run. . .	22,219
MWd(t) Generated During Run (B-A). . . .	852

Types of Subassemblies in Core

Blanket.	26
Core	34
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	16

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 32A

RUN 32B
(90-subassembly Core Size)

Chronology

Date Started.	12/18/68
Date Ended.	12/24/68
Number of Days for Run	6

Power Data

(A) Cumulative MWd(t) at Start of Run . .	22,219
(B) Cumulative MWd(t) at End of Run . . .	22,468
MWd(t) Generated During Run (B-A)	249

Types of Subassemblies in Core

Blanket	26
Core.	34
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	16

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 32B

RUN 32C
(90-subassembly Core Size)

Chronology

Date Started.	12/25/68
Date Ended.	12/27/68
Number of Days for Run	2

Power Data

(A) Cumulative MWd(t) at Start of Run .	22,468
(B) Cumulative MWd(t) at End of Run . .	22,540
MWd(t) Generated During Run (B-A) . . .	72

Types of Subassemblies in Core

Blanket	26
Core	35
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	15

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 32D
(89-subassembly Core Size)

Chronology

Date Started.	12/28/68
Date Ended.	1/2/69
Number of Days for Run.	5

Power Data

(A) Cumulative MWd(t) at Start of Run . .	22,540
(B) Cumulative MWd(t) at End of Run. . . .	22,764
MWd(t) Generated During Run (B-A)	224

Types of Subassemblies in Core

Blanket	27
Core.	37
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	11

Experimental Subassemblies in Row 7 9

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
D -- Driver Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 33A
(90-subassembly Core Size)

Chronology

Date Started	2/25/69
Date Ended	3/29/69
Number of Days for Run	32

Power Data

(A) Cumulative MWd(t) at Start of Run. .	22,764
(B) Cumulative MWd(t) at End of Run. . .	23,364
MWd(t) Generated During Run (B-A). . . .	600

Types of Subassemblies in Core

Blanket.	25
Core	33
Control Rod.	11
Safety Rod	2
Experimental (Rows 1-6).	18

Experimental Subassemblies in Row 7 8

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
C -- Control Rod
D -- Driver Fuel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

E

RUN 33B
(91-subassembly Core Size)

Chronology

Date Started.	4/7/69
Date Ended.	4/22/69
Number of Days for Run	15

Power Data

(A) Cumulative MWd(t) at Start of Run .	23,364
(B) Cumulative MWd(t) at End of Run . .	23,940
MWd(t) Generated During Run (B-A) . . .	576

Types of Subassemblies in Core

Blanket	26
Core.	32
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	19

Experimental Subassemblies in Row 7 10

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
C -- Control Rod
D -- Driver Fuel
Ni -- Nickel-corrosion Subassembly
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 34A

(91-subassembly Core Size)

Chronology

Date Started	4/25/69
Date Ended	5/13/69
Number of Days for Run	18

Power Data

(A) Cumulative MWd(t) at Start of Run. .	23,940
(B) Cumulative MWd(t) at End of Run. . .	24,762
MWd(t) Generated During Run (B-A). . . .	822

Types of Subassemblies in Core

Blanket.	26
Core	30
Control Rod.	11
Safety Rod	2
Experimental (Rows 1-6).	21

Experimental Subassemblies in Row 7 11

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
Ni -- Nickel-corrosion Subassembly
S -- Safety Rod
70% -- Driver Fuel Enriched to 70% ^{235}U
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

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RUN 34B

(91-subassembly Core Size)

Chronology

Date Started.	5/14/69
Date Ended.	5/21/69
Number of Days for Run	7

Power Data

(A) Cumulative MWd(t) at Start of Run . .	24,762
(B) Cumulative MWd(t) at End of Run . . .	25,072
MWd(t) Generated During Run (B-A)	310

Types of Subassemblies in Core

Blanket	26
Core.	30
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	21

Experimental Subassemblies in Row 7. 11

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
Ni -- Nickel-corrosion Subassembly
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 35

(91-subassembly Core Size)

Chronology

Date Started.	5/29/69
Date Ended.	6/26/69
Number of Days for Run	28

Power Data

(A) Cumulative MWd(t) at Start of Run . .	25,072
(B) Cumulative MWd(t) at End of Run . . .	26,274
MWd(t) Generated During Run (B-A)	1,202

Types of Subassemblies in Core

Blanket	25
Core.	30
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	22

Experimental Subassemblies in Row 7 11

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
EBU -- Extended-burnup Subassembly
Ni -- Nickel-corrosion Subassembly
MK II -- Mark-II Fuel
S -- Safety Rod
70% -- Driver Fuel Enriched to 70% ^{235}U
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 35

B

E

RUN 36A
(91-subassembly Core Size)

Chronology

Date Started.	6/30/69
Date Ended.	7/20/69
Number of Days for Run	20

Power Data

(A) Cumulative MWd(t) at Start of Run . .	26,274
(B) Cumulative MWd(t) at End of Run . . .	27,074
MWd(t) Generated During Run (B-A)	800

Types of Subassemblies in Core

Blanket	24
Core.	32
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	21

Experimental Subassemblies in Row 7 12

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
EBU -- Extended-burnup Subassembly
MK II -- Mark-II Fuel
Ni -- Nickel-corrosion Subassembly
S -- Safety Rod
70% -- Driver Fuel Enriched to 70% ^{235}U
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

2

RUN 36B
(91-subassembly Core Size)

Chronology

Date Started.	7/22/69
Date Ended.	7/31/69
Number of Days for Run	9

Power Data

(A) Cumulative MWd(t) at Start of Run . .	27,074
(B) Cumulative MWd(t) at End of Run . . .	27,474
MWd(t) Generated During Run (B-A)	400

Types of Subassemblies in Core

Blanket	24
Core.	32
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	21

Experimental Subassemblies in Row 7 12

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
EBU -- Extended-burnup Subassembly
MK II -- Mark-II Fuel
Ni -- Nickel-corrosion Subassembly
S -- Safety Rod
70% -- Driver Fuel Enriched to 70% ²³⁵U
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 36B

RUN 37

(89-subassembly Core Size)

Chronology

Date Started.	8/2/69
Date Ended	8/30/69
Number of Days for Run	28

Power Data

(A) Cumulative MWd(t) at Start of Run . .	27,474
(B) Cumulative MWd(t) at End of Run . . .	28,670
MWd(t) Generated During Run (B-A)	1196

Types of Subassemblies in Core

Blanket	23
Core.	34
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	18

Experimental Subassemblies in Row 7 10

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
EBU -- Extended-burnup Subassembly
MK II -- Mark-II Fuel
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 37

RUN 38A
(89-subassembly Core Size)

Chronology

Date Started.	9/10/69
Date Ended.	9/28/69
Number of Days for Run	18

Power Data

(A) Cumulative MWd(t) at Start of Run . .	28,670
(B) Cumulative MWd(t) at End of Run . . .	29,440
MWd(t) Generated During Run (B-A)	770

Types of Subassemblies in Core

Blanket	28
Core.	42
Control Rod	11
Safety Rod.	2
Experimental (Rows 1-6)	5

Experimental Subassemblies in Row 7 7

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
Ni -- Nickel-corrosion Subassembly
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly

RUN 38B
(90-subassembly Core Size)

Chronology

Date Started.	10/3/69
Date Ended.	10/16/69
Number of Days for Run	13

Power Data

(A) Cumulative MWd(t) at Start of Run . . .	29,440
(B) Cumulative MWd(t) at End of Run	30,040
MWd(t) Generated During Run (B-A)	600

Types of Subassemblies in Core

Blanket	25
Core.	32
Control Rod	11
Safety Rod	2
Experimental (Rows 1-6)	19

Experimental Subassemblies in Row 7 10

Key to Types of Subassemblies Shown in Loading Diagram

B -- Depleted Uranium
BETH -- Beryllium Thimble
C -- Control Rod
CF -- Controlled-flow Subassembly
D -- Driver Fuel
MK II -- Mark-II Fuel
Ni -- Nickel-corrosion Subassembly
P -- 1/2 Driver Fuel - 1/2 Stainless Steel
S -- Safety Rod
70% -- Driver Fuel Enriched to 70% ²³⁵U
SSCR -- Stainless Steel Control Rod
SST -- Stainless Steel Thimble
X -- Experimental Subassembly