

Commonwealth Edison Company  
Zion Generating Station  
101 Shiloh Boulevard  
Zion, IL 60099-2797  
Tel 847-746-2084

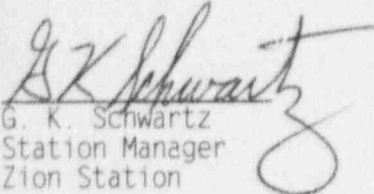


October 10, 1996  
ZAD-96-009

Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Dear Sir:

Attached is the September Operating Status Report.

  
G. K. Schwartz  
Station Manager  
Zion Station

GKS/jlc

Enclosure

cc: Regulatory Assurance  
USNRC Document Control  
H. Keiser  
W. Beach (NRC)  
D. Farrar  
D. R. Eggett  
INPO  
Div. of Enforcement Health  
State of Illinois/IDNS  
F. Yost  
NRC Inspector, Zion  
IDNS Inspector, Zion  
Operating Engrs.  
C. Y. Shiraki  
Master File

IE2411

9610220414 960930  
PDR ADOCK 05000295  
R PDR

ZCLERK-1

A Unicom Company

# OPERATING DATA REPORT

DOCKET NO. 50-295  
 DATE 10/10/96  
 COMPLETED BY J. CYGAN  
 TELEPHONE (847) 746-2084  
X3169

## OPERATING STATUS

1. Unit Name: Zion Unit 1
2. Reporting Period: 0000 090196 to 2400 093096
3. Licensed Thermal Power (Mwt): 3250
4. Nameplate Rating (Gross MWe): 1085
5. Design Electrical Rating (Net MWe): 1040
6. Maximum Dependable Capacity (Gross MWe): 1085
7. Maximum Dependable Capacity (Net MWe): 1040
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons: N/A
9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

Notes

	This Month	Yr-to-Date	Cumulative
11. Hours in Reporting Period	<u>720.0</u>	<u>6,575.0</u>	<u>199,439.0</u>
12. Number Of Hours Reactor Was Critical	<u>325.1</u>	<u>5,255.1</u>	<u>135,294.0</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>2,612.8</u>
14. Hours Generator On-Line	<u>310.4</u>	<u>4,959.7</u>	<u>131,356.9</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
16. Gross Thermal Energy Generated (MWH)	<u>911,170.0</u>	<u>15,731,404.0</u>	<u>387,427,001</u>
17. Gross Electrical Energy Generated(MWH)	<u>298,894.0</u>	<u>5,248,624.0</u>	<u>126,154,697</u>
18. Net Electrical Energy Generated (MWH)	<u>280,218.0</u>	<u>5,029,973.0</u>	<u>120,192,925</u>
19. Unit Service Factor	<u>43.1</u>	<u>75.4</u>	<u>65.9</u>
20. Unit Availability Factor	<u>43.1</u>	<u>75.4</u>	<u>65.9</u>
21. Unit Capacity Factor (Using MDC Net)	<u>37.4</u>	<u>73.6</u>	<u>57.9</u>
22. Unit Capacity Factor (Using DER Net)	<u>37.4</u>	<u>73.6</u>	<u>57.9</u>
23. Unit Forced Outage Rate	<u>56.9</u>	<u>16.4</u>	<u>16.2</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			

25. If Shut Down At End Of Report Period, Estimated Date of Startup: \_\_\_\_\_
26. Units In Test Status (Prior to Commercial Operation):      Forecast      Achieved

INITIAL CRITICALITY  
 INITIAL ELECTRICITY  
 COMMERCIAL OPERATION

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# OPERATING DATA REPORT

DOCKET NO. 50-304  
 DATE 10/10/96  
 COMPLETED BY J. CYGAN  
 TELEPHONE (847)746-2084  
X3169

## OPERATING STATUS

1. Unit Name: Zion Unit 2
2. Reporting Period: 0000 090196 to 2400 093096
3. Licensed Thermal Power (Mwt): 3250
4. Nameplate Rating (Gross MWe): 1085
5. Design Electrical Rating (Net MWe): 1040
6. Maximum Dependable Capacity (Gross MWe): 1085
7. Maximum Dependable Capacity (Net MWe): 1040
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons: N/A
9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

Notes

	This Month	Yr-to-Date	Cumulative
11. Hours In Reporting Period	<u>720.0</u>	<u>6,575.0</u>	<u>193,152.0</u>
12. Number Of Hours Reactor Was Critical	<u>432.5</u>	<u>5,846.4</u>	<u>138,378.7</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>226.1</u>
14. Hours Generator On-Line	<u>432.5</u>	<u>5,688.6</u>	<u>135,098.8</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1,377,370.0</u>	<u>17,631,458.0</u>	<u>402,647,369</u>
17. Gross Electrical Energy Generated(MWH)	<u>453,402.0</u>	<u>5,846,647.0</u>	<u>130,102,951</u>
18. Net Electrical Energy Generated (MWH)	<u>427,792.0</u>	<u>5,618,358.0</u>	<u>124,095,088</u>
19. Unit Service Factor	<u>60.1</u>	<u>86.5</u>	<u>69.9</u>
20. Unit Availability Factor	<u>60.1</u>	<u>86.5</u>	<u>69.9</u>
21. Unit Capacity Factor (Using MDC Net)	<u>57.1</u>	<u>82.2</u>	<u>61.8</u>
22. Unit Capacity Factor (Using DER Net)	<u>57.1</u>	<u>82.2</u>	<u>61.8</u>
23. Unit Forced Outage Rate	<u>00.0</u>	<u>1.3</u>	<u>13.3</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			

Refueling Outage (Z2R14) Starting September 19, 1996 and Lasting 58 days.

25. If Shut Down At End Of Report Period, Estimated Date of Startup: \_\_\_\_\_
26. Units In Test Status (Prior to Commercial Operation): Forecast Achieved

INITIAL CRITICALITY  
 INITIAL ELECTRICITY  
 COMMERCIAL OPERATION

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-295  
 UNIT NAME Zion Unit 1  
 DATE 10/10/96  
 COMPLETED BY J. CYGAN  
 TELEPHONE (847) 746-2084 x3169

REPORT MONTH September 1996

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down <sup>3</sup> Reactor	Licensee Event Report #	System Code 4	Component Code 5	Cause & Corrective Action to Prevent Recurrence
6	8/27/96	F	310.4	A	2				Unit 1 Was Manually Tripped To Repair The PORV Block Valve On 8/27/96. Unit 1 Went Back On Line On 9/18/97 And Remained On Line For The Rest Of The Reporting Period.

1  
 F: Forced  
 S: Scheduled

2  
 Reason:  
 A-Equipment Failure (Explain)  
 B-Maintenance or Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & Licensee Examination  
 F-Administrative  
 G-Operational Error (Explain)  
 H-Other (Explain)

3  
 Method  
 1-Manual  
 2-Manual Trip  
 3-Auto Trip  
 4-Continued  
 5-Reduced Load

4  
 Exhibit G - Instructions  
 for Preparation of Data  
 Entry Sheets for Licensee  
 Event Report (LER) File  
 (NUREG-0161)

5  
 Exhibit 1 - Same Source

## UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-304  
 UNIT NAME Zion Unit 2  
 DATE 10/10/96  
 COMPLETED BY J. CYGAN  
 TELEPHONE (847) 746-2084 x3169

REPORT MONTH September 1996

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down <sup>3</sup> Reactor	Licensee Event Report #	System Code 4	Component Code 5	Cause & Corrective Action to Prevent Recurrence
7	9/19/96	S	432.5	C	1				Unit 2 Went Off-Line For Refueling Outage Z2R14.

1  
 F: Forced  
 S: Scheduled

2  
 Reason:  
 A-Equipment Failure (Explain)  
 B-Maintenance or Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & Licensee Examination  
 F-Administrative  
 G-Operational Error (Explain)  
 H-Other (Explain)

3  
 Method  
 1-Manual  
 2-Manual Trip  
 3-Auto Trip  
 4-Continued  
 5-Reduced Load

4  
 Exhibit G - Instructions  
 for Preparation of Data  
 Entry Sheets for Licensee  
 Event Report (LER) File  
 (NUREG-0161)

5  
 Exhibit 1 - Same Source

# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-295  
 UNIT Zion Unit 1  
 DATE 10/10/96  
 COMPLETED BY J. CYGAN  
 TELEPHONE (847) 746-2084  
x3169

MONTH September 1996

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	<u>-12</u>
2	<u>-12</u>
3	<u>-12</u>
4	<u>-12</u>
5	<u>-12</u>
6	<u>-13</u>
7	<u>-13</u>
8	<u>-13</u>
9	<u>-13</u>
10	<u>-13</u>
11	<u>-13</u>
12	<u>-13</u>
13	<u>-13</u>
14	<u>-14</u>
15	<u>-14</u>
16	<u>-14</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>-14</u>
18	<u>226</u>
19	<u>468</u>
20	<u>916</u>
21	<u>1008</u>
22	<u>1006</u>
23	<u>1010</u>
24	<u>1027</u>
25	<u>1037</u>
26	<u>1036</u>
27	<u>1036</u>
28	<u>1042</u>
29	<u>1042</u>
30	<u>1041</u>
31	<u></u>

## INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-304  
 UNIT Zion Unit 2  
 DATE 10/10/96  
 COMPLETED BY J. CYGAN  
 TELEPHONE (847) 746-2084  
x3169

September 1996

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	<u>1031</u>
2	<u>1030</u>
3	<u>1028</u>
4	<u>1027</u>
5	<u>1023</u>
6	<u>1008</u>
7	<u>1006</u>
8	<u>1007</u>
9	<u>1006</u>
10	<u>999</u>
11	<u>953</u>
12	<u>921</u>
13	<u>1015</u>
14	<u>1004</u>
15	<u>1010</u>
16	<u>1008</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>1008</u>
18	<u>889</u>
19	<u>-13</u>
20	<u>-13</u>
21	<u>-13</u>
22	<u>-13</u>
23	<u>-13</u>
24	<u>-12</u>
25	<u>-12</u>
26	<u>-12</u>
27	<u>-12</u>
28	<u>-12</u>
29	<u>-12</u>
30	<u>-12</u>
31	<u></u>

## INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

September 1996

SUMMARY OF OPERATING EXPERIENCE

UNIT 1

Unit 1 began September off-line because of a continuation of repairs on the pressurizer PORV block valve (valve had stalled and lost indication).

On September 18, 1996 at 0138 hours Unit 1 was back on line and remained on-line for the remainder of the reporting period. Unit 1 concluded the reporting period at 1080 MWe power level (99.9% reactor power) and with an availability factor of 43.1% for the month of September.

UNIT 2

Unit 2 began September on-line at 1084 MWe power level (100% reactor power).

Unit 2 was taken off-line at 0032 on September 19, 1996 for a refueling outage (Z2R14) which is scheduled to last for 58 days.



September 1996

MAJOR MAINTENANCE

<u>EQUIPMENT NAME</u>	<u>WORK PERFORMED</u>
(UNIT 1)	
0B IA COMP	Breaker Inspection/MCC Cubicle Inspection Completed OOS: 08/05/96 - 09/18/96
0B CC PP	Perform Complete Pump Overhaul Completed OOS: 07/07/96 - 09/05/96
1A C/CB PP	Replace Pump Housing Completed OOS: 05/23/96 - 09/20/96
1A SA COMP	Lube Oil Cooler Completed OOS: 09/40/96 - 09/09/96
0B IA COMP	Repair Packing Follower OOS: 09/29/96 - *

COMMENT: \* No return to service date.

September 1996

MAJOR MAINTENANCE

EQUIPMENT NAME

WORK PERFORMED

(UNIT 2)

2B C/CB PP

Perform PM/Change Lubrication  
OOS: 07/30/96 - \*

2B MFW PP

Inspect/Clean/Replace Filter  
Completed  
OOS: 08/26/96 - 09/18/96

2B RHR PP

Motor Meggaring  
Completed  
OOS: 09/04/96 - 09/06/96

2B AFW PP

Lube Oil Cooler  
Completed  
OOS: 09/05/95 - 09/05/96

2A IA COMP

Compressor Replacement  
OOS: 07/14/96 - \*

2B SA COMP

Calibrate 2PSL-SA13  
Completed  
OOS: 09/16/96 - 09/24/96

COMMENT: \* No return to service date.

## REFUELING INFORMATION REQUEST

### QUESTIONS:

1. Name of facility.
2. Scheduled date for next refueling shutdown.
3. Scheduled date for restart following refueling.
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?

If answer is yes, what, in general, will these be?

If answer is no, has the reload fuel design and core configuration been reviewed by your Plant Safety Review Committee to determine whether any unreviewed safety questions are associated with the core reload (Ref. 10 CFR Section 50.59)?

If no such review has taken place, when is it scheduled?

5. Scheduled date(s) for submitting proposed licensing action and supporting information.
6. Important licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures.
7. The number of fuel assemblies: (a) in the core and (b) in the spent fuel storage pool.
8. The present licensed spent fuel pool storage capacity and the size of any increase in licensed storage capacity that has been requested or is planned, in the number of fuel assemblies.
9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity.

## REFUELING INFORMATION REQUEST

### UNIT 1 - ANSWERS:

1. Zion Unit 1.
2. Cycle 15 is scheduled to shutdown April 5, 1997 for refueling.
3. Cycle 16 is scheduled to start up May 25, 1997.
4. The following License Amendments are required to allow resumption of operation after Refueling Outage Z1R15.
  - Increase Steam Generator plugging limit. Required to ensure Unit derating will not be required based on Steam Generator plugging.

The Reload Safety Analysis for cycle 16 will be completed during Z1R15.
5. Projected submittal of License Amendment is the last half of November, 1996.
6. Not applicable.
7. The number of fuel assemblies
  - (a) in the core is 193, and
  - (b) in the spent fuel storage pool from Zion Unit 1 is 932.
8. The present licensed spent fuel pool storage capacity (shared with Zion Unit 2) is 3012 fuel assemblies. Of these 3012 storage locations, 11 are unavailable and 239 are inaccessible pending completion of the Offset Tool Modification (M22-90-0-008A, C).
9. The projected date of the last refueling that can be discharged to the spent fuel pool, assuming the present licensed capacity of 3012 locations (11 out of 3012 are unavailable) is April 2006 (from Z1R21) based on the 1996 Projected ComEd Overhaul Schedule. This assumes the Offset Tool Modification (M22-90-0-008A, C) will be installed prior to June 2003. This projected date is subject to change based on outage durations or Overhaul Schedule changes.

## REFUELING INFORMATION REQUEST

### UNIT 2 - ANSWERS:

1. Zion Unit 2.
2. Cycle 14 is scheduled to shutdown September 19, 1996 for refueling.
3. Cycle 15 is scheduled to start up November 16, 1996.
4. The following outstanding License Amendment Requests are required for startup of Unit 2 following Refueling Outage Z2R14.
  - Appendix J option B - sent to NRC.
  - F\* - sent to NRC.
  - CE Sleeving - Amendment sent to NRC.
5. The following outstanding proposed License Amendments are required for startup from Z2R14.
  - Appendix J option B - allows elimination of ILRT. Initial submittal was August 29, 1996. Submittal was revised October 4, 1996 and September 20, 1996.
  - F\* - Required for Steam Generator re-roll work planned for outage. Initial submittal was August 16, 1996. Submittal was supplemented October 4, 1996.
  - CE Sleeving - Required to support revised methodology to be used in outage. Initial submittal was September 3, 1996.
  - Reload and Core Operating Limits Report (COLR) scheduled for On Site Review September 18, 1996.
6. New fuel to be reloaded into Unit 2 Cycle 15 core will incorporate the following design changes:
  - Selected standard Integral Fuel Burnable Absorber (IFBA) patterns have been updated following a Westinghouse Core Engineering investigation of peripheral IFBA rod loading within the fuel assembly. The net effect of this change is to achieve the most efficient absorber orientation at Beginning of Life (BOL) and for burnups through 5000 MWD/MTU. These patterns provide self-limiting features that mitigate the extent of DNB propagation. In addition, these IFBA patterns provide significant peaking factor and reactivity holddown benefits.

## REFUELING INFORMATION REQUEST

### UNIT 2 - ANSWERS: (Continued)

- IFBA rods will have a nominal B-10 enrichment loading with a reduction in backfill pressure from 200 to 100 psig. The nominal B-10 loading is 1.77 mg/inch. Rod internal gas pressure has an effect on two of the fuel rod design criteria that are evaluated for the reload: Rod internal pressure and clad stress criteria. The Zion Unit 2 Cycle Specific fuel design analysis has been performed and has demonstrated that the design criteria were met.
7. The number of fuel assemblies
    - (a) in the core is 0 (Unit 2 is shutdown for refueling, and Core offload was completed 10/5/96).
    - (b) in the spent fuel storage pool from Zion Unit 2 is 1177 (193 assemblies offloaded from Unit 2 core, plus 76 new fuel assemblies to be reloaded into core, plus previous 908 Unit 2 assemblies residing in the spent fuel pool).
  8. The present licensed spent fuel pool storage capacity (shared with Zion Unit 2) is 3012 fuel assemblies. Of these 3012 storage locations, 11 are unavailable and 239 are inaccessible pending completion of the Offset Tool Modification (M22-90-0-008A, C).
  9. The projected date of the last refueling that can be discharged to the spent fuel pool, assuming the present licensed capacity of 3012 locations (11 out of 3012 are unavailable) is April 2006 (from Z1R21) based on the 1996 Projected ComEd Overhaul Schedule. This assumes the Offset Tool Modification (M22-90-0-008A, C) will be installed prior to June 2003. This projected date is subject to change based on outage durations or Overhaul Schedule changes.