



Commonwealth Edison
Zion Generating Station
101 Shiloh Blvd.
Zion, Illinois 60099
Telephone 312/746-2084

November 2, 1989

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Dear Sir:

Enclosed please find the Operating Status Report for
the month of October, 1989 for Zion Generating Station.

Sincerely,

T. P. Joyce
Station Manager
Zion Station

TPJ/JT/sac

Enclosure

cc: T. Maiman
A. B. Davis (NRC)
L. D. Butterfield
H. E. Bliss
M. Finn
L. J. Anastasia
INPO
Div. of Eng. Health
State of IL
Tech Staff File
Director, Office of Inspection
and Enforcement
Master File

LEDA
11

OPERATING DATA REPORT

DOCKET NO. 50-295
 DATE 11/02/89
 COMPLETED BY J. Thomas
 TELEPHONE (708)746-2084

OPERATING STATUS

1. Unit Name: Zion Unit 1
2. Reporting Period: 0000 891001 to 2400 891031
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

Notes

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

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	745.0 *	7,296.0	138,816.0
12. Number Of Hours Reactor Was Critical	0.0	5,268.3	98,101.4
13. Reactor Reserve Shutdown Hours	0.0	0.0	2,621.8
14. Hours Generator On-Line	0.0	5,152.0	95,301.4
15. Unit Reserve Shutdown Hour	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	0.0	15,620,439	273,461,029
17. Gross Electrical Energy Generated (MWH)	0.0	5,224,653	89,082,809
18. Net Electrical Energy Generated (MWH)	0.0	4,999,460	88,110,549
19. Unit Service Factor	0.0	78.6	69.0
20. Unit Availability Factor	0.0	78.6	69.0
21. Unit Capacity Factor (Using MDC Net)	0.0	73.4	61.4
22. Unit Capacity Factor (Using DER Net)	0.0	73.4	61.4
23. Unit Forced Outage Rate	0.0	20.7	12.8

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Refueling Unit 1 Shutdown date: 9/7/89 for approximately 10 wks.

25. If Shut Down At End Of Report Period, Estimated Date of Startup: 11/26/89

26. Units In Test Status (Prior to Commercial Operation):	Forecast	Achieved
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____

* 744 hours in month plus 1 hour daylight savings time. (9/77)

OPERATING DATA REPORT

DOCKET NO. 50-304
 DATE 11/02/89
 COMPLETED BY J. Thomas
 TELEPHONE (708) 746-2084

OPERATING STATUS

1. Unit Name: Zion Unit 2
2. Reporting Period: 0000 891001 to 2400 891031
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

Notes

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

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	745.0 *	7,296.0	132,529.0
12. Number Of Hours Reactor Was Critical	745.0	6,869.9	94,024.7
13. Reactor Reserve Shutdown Hours	0.0	0.0	226.1
14. Hours Generator On-Line	745.0	6,824.8	96,036.1
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	2,352,951	19,636,561	280,110,705
17. Gross Electrical Energy Generated (MWH)	788,959	6,579,323	87,654,220
18. Net Electrical Energy Generated (MWH)	763,454	6,302,729	86,065,517
19. Unit Service Factor	100.0	93.5	72.5
20. Unit Availability Factor	100.0	93.5	72.5
21. Unit Capacity Factor (Using MDC Net)	98.5	83.1	62.4
22. Unit Capacity Factor (Using DER Net)	98.5	83.1	62.4
23. Unit Forced Outage Rate	0.0	6.7	14.4

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):

INITIAL CRITICALITY
 INITIAL ELECTRICITY
 COMMERCIAL OPERATION

Forecast	Achieved
_____	_____
_____	_____
_____	_____

* 744 hours in month plus 1 hour daylight savings time

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-295

UNIT Zion Unit 1

DATE 11/2/89

COMPLETED BY J. Thomas

TELEPHONE (708)746-2084

MONTH October

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>-10</u>	17	<u>-10</u>
2	<u>-10</u>	18	<u>-10</u>
3	<u>-10</u>	19	<u>-10</u>
4	<u>-10</u>	20	<u>-10</u>
5	<u>-10</u>	21	<u>-10</u>
6	<u>-10</u>	22	<u>-10</u>
7	<u>-10</u>	23	<u>-10</u>
8	<u>-10</u>	24	<u>-10</u>
9	<u>-10</u>	25	<u>-10</u>
10	<u>-10</u>	26	<u>-10</u>
11	<u>-10</u>	27	<u>-10</u>
12	<u>-10</u>	28	<u>-10</u>
13	<u>-10</u>	29	<u>-11</u>
14	<u>-10</u>	30	<u>-10</u>
15	<u>-10</u>	31	<u>-10</u>
16	<u>-10</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 11-02-89

COMPLETED BY J. Thomas

TELEPHONE (708)746-2084

MONTH October

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1047	17	948
2	1047	18	1019
3	1046	19	1045
4	1050	20	1046
5	1049	21	1045
6	1047	22	1046
7	1049	23	961
8	1049	24	1046
9	1044	25	1045
10	1047	26	1045
11	1048	27	1042
12	1048	28	1032
13	1029	29	816
14	1043	30	988
15	1044	31	1042
16	959		

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.

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-295
UNIT NAME Zion Unit 1
DATE 11-01-89
COMPLETED BY I. Thomas
TELEPHONE (708)746-2084

REPORT MONTH October

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	License Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
7	890907	S	745.0	C	1				Unit 1 Shutdown for refueling, Cycle XI-XII

¹
F: Forced
S: Scheduled

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

³
Method
1-Manual
2-Manual Scram
3-Auto Scram
4-Continued
5-Reduced Load
9-Other

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

⁵
Exhibit I - Same Source

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-304
UNIT NAME Zion Unit 2
DATE 11-01-89
COMPLETED BY J. Thomas
TELEPHONE (708)746-2084

REPORT MONTH October

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
There were no shutdowns or power reductions for the month of October									

¹
F: Forced
S: Scheduled

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

³
Method
1-Manual
2-Manual Scram
3-Auto Scram
4-Continued
5-Reduced Load
9-Other

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

⁵
Exhibit I - Same Source

OCTOBER

SUMMARY OF OPERATING EXPERIENCE

UNIT 1

The Unit entered the reporting period in cold shutdown for the continuation of the scheduled refueling outage. The unit remained offline the entire month.

UNIT 2

The Unit entered the report period at a power level of 1078 MWe (99% reactor power). The unit remained on line the entire report period ending at a power level of 1070 MWe (99% reactor power) and having an availability factor of 100.0%.

OCTOBER

MAJOR SAFETY RELATED MAINTENANCE

Equipment Name

Work Performed

(UNIT 1)

None - Unit in Refueling Outage

(UNIT 2)

"O" D/G went through 5 year major overhaul and surveillance. The Generator was found faulty and replaced.

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 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.

Unit 1 - Answers

1. Zion Unit 1
2. The current refueling outage began on September 7, 1989.
3. Cycle 12 is scheduled to go on-line November 17, 1989.
4. One Technical Specification change was made for the next cycle (Amendment No. 114). The completed change involves line and valve assignment changes associated with the recently approved Tech Spec change for the Boron Injection Tank (BIT) removal. A revised section 14.2.5.1 of the Zion U.F.S.A.R. was submitted in support of this Tech Spec change.

The reload safety evaluation was held on June 1, 1989. The On-site Review for the Z1C12 reload design is being prepared.

5. None
6. None
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 708.
8. The present licensed spent fuel pool storage capacity (shared with Zion Unit 2) is 2112 fuel assemblies.
9. Zion Station will lose full core discharge capability (for both units) in May 1993, at the end of Unit 2 Cycle 13, based on the latest Nuclear Stations Refueling Schedule. Full core discharge capability for a single core will be lost in November, 1994, at the end of Unit 2 Cycle 14.

Unit 2 - Answers

1. Zion Unit 2
2. Cycle 11 is scheduled to shut down for refueling on March 22, 1990.
3. Cycle 12 is scheduled to start up May 31, 1990.
4. The reload safety evaluation meeting for Cycle 12 is scheduled for December 6, 1989. The on-site review will be held after this meeting.
5. None
6. None
7. The number of fuel assemblies
 - a) in the core is 193, and
 - b) in the spent fuel storage pool from Zion Unit 2 is 664.
8. The present licensed spent fuel pool storage capacity (shared with Zion Unit 1) is 2112 fuel assemblies.
9. Zion Station will lose full core discharge capability (for both units) in May 1993, at the end of Unit 2 Cycle 13, based on the latest Nuclear Stations Refueling Schedule. Full core discharge capability for a single core will be lost in November, 1994, at the end of Unit 2 Cycle 14.

ODCM REVISION

The following pages are an addendum to the previous Monthly Operating Report. The prior report contained a section describing revisions (Revision 11A) made in the ODCM. However, the revised pages were not included in that report. The ensuing pages are the aforementioned.

Revisions to the Offsite Dose Calculation Manual (ODCM) are reportable to the NRC in accordance with stations' technical specifications. The document contains the models for the public dose assessment from gaseous effluents, liquid discharges, and direct radiation. In 1988, in response to the NRC's request to make the ODCM a more readable document as well as to incorporate certain changes, Commonwealth Edison rewrote its ODCM. This document renumbered to Revision 0, March, 1989, will be submitted under separate cover. This summary describes the principal non-edited changes.

MAJOR CHANGE

The NRC, in NuReg 0472, Rev. 3, Draft 7, has identified the child's thyroid and not in infant's as the most sensitive organ from the inhalation of airborne effluents. Dresden, LaSalle, and Quad Cities Stations' 10CFR20 instantaneous release rate limits have been revised to restrict the dose rate to the child's thyroid to less or equal to 1500 mrem/yr.

Hydrogen addition to the primary coolant increases the boiling water reactors' turbine N-16 skyshine by a magnitude of 5. This phenomenon is now included in the ODCM formulation. In addition the sky shine calculation is written for LaSalle County Station as well as revised in Dresden and Quad Cities.

MINOR CHANGES

Most of the ODCM documentation has been either clarified, corrected or deleted. Plume depletion, terrain factors and heat content were not accounted for in the original for D/Q, X/Q and plume rise calculations. They are described in the revised document.

It was implied that the X/Q dose factors were calculated assuming a monoenergetic gamma energy having an average gamma ray energy per disintegration for each radionuclide. Also, it was assumed that the corrected tissue absorptions were made using a tissue energy absorption coefficient equivalent to this same average gamma ray energy for each radionuclide. Actually, the dose factors and the tissue energy absorption coefficients referenced were calculated using the photon energy spectra for each radionuclide. The tissue energy absorptions coefficients are negligible and have been deleted from the text.

Formulas and parameters for determining the maximum permissible concentrations (MPC's) have been eliminated from the section on radioactivity in storage tanks. The maximum limits, in curies, are found in the site specific sections.

The potential direct radiation dose from stations' interim radwaste storage facilities is discussed. The radwaste containers will have a contact dose rate of 5 R/hr and the expected radiation levels will be minimal at the site boundary.

The distance dependent parameters were adjusted to the values reported in the '88 census for nearest residents and/or nearest milk animal. This also affected the D/Q tables and BWR turbine N-16 skyshine calculation.

The time of travel from the station liquid discharge to the nearest community water supply was reevaluated for Braidwood and Quad Cities.

It has been determined that the change will not reduce the accuracy or reliability of dose calculations or set point determinations.

ODCM Revision 0, March 1989 has received approvals by all six on-site review committees and the CECO offsite review per the Technical Specifications. Changes to the ODCM computer program required by this document are in the process of being implemented now and should be fully available by November 1, 1989.