

February 15, 1993
NG-93-0629

Mr. A. Bert Davis
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License DPR-49
January 1993 Monthly Operating Report

Dear Mr. Davis:

Please find enclosed the Duane Arnold Energy Center onthly Operating Report for January 1993. The report has been prepared in accordance with the guidelines of NUREG-0020 and distribution has been made in accordance with DAEC Technical Specifications, Section 6.11.1.c. A revision to the November 1992 report is also enclosed.

Very truly yours,

David Wilson

David Wilson
Plant Superintendent, Nuclear

DLW/RBW/cc
Enclosures
File A-118d
cc:

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OPERATING DATA REPORT

DOCKET NO: 50-0331
 DATE: 02/15/93
 Unit: Duane Arnold Energy Center
 COMPLETED BY: Richard Woodward
 TELEPHONE: (319) 851-7318

OPERATING STATUS

1. Unit Name: Duane Arnold Energy Center
2. Reporting Period: January 1993
3. Licensed Thermal Power (MWt): 1658
4. Nameplate Rating (Gross MWe): 565 (Turbine)
5. Design Electrical Rating (Net MWe): 538
6. Maximum Dependable Capacity (Gross MWe): 545
7. Maximum Dependable Capacity (Net MWe): 515
8. If Changes Occur in Capacity Ratings (Items Number 3 through 7) since the 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	Year-to-Date	Cumulative
11. Hours in Reporting Period	744.0	744.0	157,800.0
12. Number of Hours Reactor Was Critical	619.1	619.1	116,600.3
13. Reactor Reserve Shutdown Hours	0.0	0.0	192.8
14. Hours Generator On-Line	604.1	604.1	113,626.4
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	947,779.9	947,779.9	155,031,073.6
17. Gross Electrical Energy Generated (MWH)	308,941.0	308,941.0	51,933,850.5
18. Net Electrical Energy Generated (MWH)	290,660.8	290,660.8	48,687,314.6
19. Unit Service Factor	81.2%	81.2%	72.0%
20. Unit Availability Factor	81.2%	81.2%	72.0%
21. Unit Capacity Factor (Using MDC Net)	75.9%	75.9%	61.3%
22. Unit Capacity Factor (Using DER Net)	72.6%	72.6%	58.7%
23. Unit Forced Outage Rate	0.0%	0.0%	12.4%
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of each):	Refueling, July 1993, 59 days		
25. If Shutdown at End of Report Period, Est. Date of Startup:	<u>N/A</u>		

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-0331
 DATE: 02/15/93
 Unit: Duane Arnold Energy Center
 COMPLETED BY: Richard Woodward
 TELEPHONE: (519) 851-7318

MONTH January 1993

Day	Average Daily Power Level (MWe-Net)	Day	Average Daily Power Level (MWe-Net)
1	<u>509.1</u>	16	<u>512.2</u>
2	<u>510.4</u>	17	<u>425.1</u>
3	<u>506.1</u>	18	<u>501.7</u>
4	<u>513.5</u>	19	<u>511.9</u>
5	<u>509.4</u>	20	<u>507.5</u>
6	<u>512.4</u>	21	<u>510.8</u>
7	<u>513.2</u>	22	<u>513.1</u>
8	<u>516.1</u>	23	<u>461.2</u>
9	<u>506.1</u>	24	<u>36.8</u>
10	<u>510.6</u>	25	<u>-5.7</u>
11	<u>507.1</u>	26	<u>-5.8</u>
12	<u>510.7</u>	27	<u>-5.8</u>
13	<u>510.7</u>	28	<u>-6.8</u>
14	<u>511.2</u>	29	<u>-10.0</u>
15	<u>509.7</u>	30	<u>135.5</u>
		31	<u>371.6</u>

REFUELING INFORMATION

DOCKET NO: 50-0331
DATE: 02/15/93
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TELEPHONE: (319) 851-7318

1. Name of facility.

Duane Arnold Energy Center

2. Scheduled date for next refueling shutdown.

July 1993

3. Scheduled date for restart following refueling.

September 1993

4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?

Yes

5. Scheduled date(s) for submitting proposed licensing action and supporting information.

Submitted RTS#255 1/29/93 Revision of Source Range Monitor Functional Test Surveillance Interval

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.

.0

7. The number of fuel assemblies (a) in the core, (b) in the spent fuel storage pool.

a. 368
b. 1152

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.

a. 2050 - Licensed Capacity or
b. 1898 under the presently installed storage rack capacity.

9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity.

a. 2000 - Licensed Capacity or
b. 1997 under the presently installed storage rack capacity.

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UNIT SHUTDOWNS AND POWER REDUCTIONS
 REPORT MONTH: January 1993

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	System Code (4)	Comp. Code (5)	Cause
1	01/24/93	S	131.9	B	1		NN	P	Planned 5 1/2 day outage to reconnect circulation water pump
2	01/29/93	S	8.0	F	9				Very cold high winds caused icing of circulating water spray creating potential for damage to the cooling tower fill. Restart following the 1/24 outage was delayed until the winds decreased

1 - F: Forced
 S: Scheduled

2 - Reason:
 A-Equipment Failure
 (Explain)
 B-Maintenance or 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-Automatic Scram
 4-Continued
 5-Reduced Load
 9-Other (Explain)

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

5 - Exhibit 1
 (Same Source)

DOCKET NO: 50-0331
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MAJOR/SAFETY RELATED MAINTENANCE
REPORT MONTH: January 1993

DATE	SYSTEM	COMPONENT	DESCRIPTION
01/04/93	KM	CHU	Control panel contacts failed taking the control building chiller out of service when the motor would not start. Cycling the memory restored the motor to service.
01,25/93	SB	DRN	1/8" diameter hole in 10" Moisture-separator reheater drain tank vent line elbow required pipe and elbow replacement.
01/26/93	NN	P	Removed Circulating Water Pump isolation blank flange to return previously repaired and installed pump to service during planned outage.

DOCKET NO.: 50-0331
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Monthly Operational Overview for January 1993:

During January the DAEC operated at an average gross capacity factor of 73.4% (Design Electrical Rating).

The plant operated at nearly continuous full thermal power until shutting down at 0600 January 24 to reconnect the "A" Circ Pump. The pump had been out of service since November 13. Single circulation pump operation had caused non-seasonal heat rate losses of 18 - 20 MWe. The 5½ day planned outage was completed on schedule, but the restart was delayed 8 hours by cooling tower icing. While shut down, the plant also repaired a steam leak on a moisture-separator-reheater drain line. The plant returned to service at 0151 January 30 and finished the month ramping up to full power. The addition of the second circulation pump permitted the plant to return to full electrical output.

The following table summarizes January plant operation and categorizes losses in terms of average MWe, capacity factor, and full power equivalent hours.

	MWe	% of 565.7 MWe	No. of Full Power Equivalent Hours
Losses due to control rod movements, metering, & normal seasonal losses (negative losses, i.e., gains from cool weather)	-1.7	-0.3%	-2.3
Losses due to degraded heat rate and operating at less than full thermal capacity	19.6	3.4%	25.8
Off-Line to reconnect Circ Pump	100.3	17.7	131.9
Delay of restart due to weather	6.1	1.1	8.0
Testing, surveillances, start-up & other planned losses	26.8	4.7%	35.3
<u>Actual Gross Electric output</u>	<u>415.2</u>	<u>73.4%</u>	<u>546.1</u>
Design Gross Electric Output	565.7	100.0%	744.0

Licensing Action Summary:

Plant Availability: 81.2%
 Number of reportable events: 0

Auto-unplanned trips this month: 0
 Auto-unplanned trips last 12 months: 2

Revised Forced Outage Rate 2/15/93
OPERATING DATA REPORT

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6. Maximum Dependable Capacity (Gross MWe): 545
7. Maximum Dependable Capacity (Net MWe): 515
8. If Changes Occur in Capacity Ratings (Items Number 3 through 7) since the 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	Year-to-Date	Cumulative
11. Hours in Reporting Period	720.0	8,040.0	156,312.0
12. Number of Hours Reactor Was Critical	639.1	6,448.9	115,237.2
13. Reactor Reserve Shutdown Hours	0.0	0.0	192.8
14. Hours Generator On-Line	630.3	6,370.4	112,278.5
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	978,069.6	9,803,475.3	152,857,071.7
17. Gross Electrical Energy Generated	321,847.0	3,255,775.5	51,222,101.5
18. Net Electrical Energy Generated (MWH)	302,636.0	3,051,212.3	48,015,724.4
19. Unit Service Factor	87.5%	79.2%	71.8%
20. Unit Availability Factor	87.5%	79.2%	71.8%
21. Unit Capacity Factor (Using MDC Net)	81.6%	73.7%	61.1%
22. Unit Capacity Factor (Using DER Net)	78.1%	70.5%	58.4%
23. Unit Forced Outage Rate	9.4%	2.5%	12.4%
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of each):	<u>Five day elective shutdown sometime during January through March 1993 to reinstall circulation water pump before Spring.</u>		
25. If Shutdown at End of Report Period, Est. Date of Startup:	<u>N/A</u>		

Revised 2/15/93

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UNIT SHUTDOWNS AND POWER REDUCTIONS
REPORT MONTH: November 1992

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	System Code (4)	Comp. Code (5)	Cause
1	11/13/92	F	65.7	A	3	92-0018	NN	P	High condenser backpressure turbine trip and scram caused by failure of circulating water pump shaft. Failure allowed the flow from the remaining pump to short cycle back to the pump pit and cut off flow to the condenser.
1	11/15/92	S	24.0	F	4		NN	P	Management elected to extend the outage one day in order to install a blank flange to assure complete isolation of the failed circulating water pump and perform other scheduled outage work. The flange installation permitted the plant to operate at near full power during the removal, repair, and reinstallation of the failed pump.

1 - F: Forced
S: Scheduled

2 - Reason:
A-Equipment Failure
(F plain)
B-Maintenance or Test
C-Refueling
D-Regulatory
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E-Operator Training &
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Data Entry Sheets for Licensee
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0161)

5 - Exhibit 1
(Same Source)