

February 14, 2003

NG-03-0114

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
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Washington, DC 20555-0001

Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Operating License: DPR-49  
January 2003 Monthly Operating Report  
File: A-118d

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report. The report has been prepared in accordance with the guidelines of NRC Generic Letter 97-02: Revised Contents Of The Monthly Operating Report, and distribution has been made in accordance with DAEC Technical Specifications, Section 5.6.4.

Very truly yours,



Mark Peifer  
Site Vice-President

MAP/RBW

Enclosures

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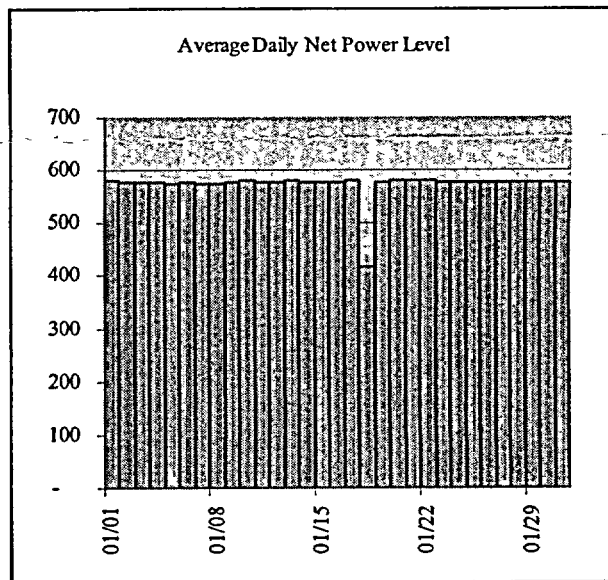
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## OPERATING DATA REPORT

DOCKET NO: 50-331  
 DATE: 02-14-2003  
 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 2003
3. Licensed Thermal Power ( $MW_{th}$ ): 1912  
*Tech. Spec. Amendment 243 and TSCR for extended power uprate was implemented November 7, 2001. Current operating thermal power, as limited by balance-of-plant equipment, is 1790.*
4. Nameplate Rating (Gross  $MW_e$  DER): 676.425  
*Current rated output, adjusted for as-built balance-of-plant conditions is 614.0.*
5. Design Electrical Rating (Net  $MW_e$  DER): 581.4
6. Maximum Dependable Capacity (Gross  $MW_e$  MDC): 593.1
7. Maximum Dependable Capacity (Net  $MW_e$  MDC): 565.5
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  $MW_e$ ): N/A
10. Reasons for Restrictions, If Any: N/A



	Jan-03	2003	Cumulative
11. Hours in Reporting Period	744.0	744.0	245,448.0
12. Number of Hours Reactor Was Critical	744.0	744.0	194,989.8
13. Reactor Reserve Shutdown Hours	0.0	0.0	192.8
14. Hours Generator On-Line	744.0	744.0	190,817.3
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	1,319,495.3	1,319,495.3	280,056,921.4
17. Gross Electrical Energy Generated (MWH)	450,579.0	450,579.0	94,025,391.6
18. Net Electrical Energy Generated (MWH)	426,122.1	426,122.1	88,382,824.4
19. Unit Service Factor	100.0%	100.0%	77.7%
20. Unit Availability Factor	100.0%	100.0%	77.7%
21. Unit Capacity Factor (Using MDC Net)	101.3%	101.3%	70.8%
22. Unit Capacity Factor (Using DER Net)	98.5%	98.5%	68.7%
23. Unit Forced Outage Rate	0.0%	0.0%	8.2%

AVERAGE DAILY UNIT POWER LEVEL

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MONTH January 2003

Day	Average Daily Power Level (MWe-Net)
1	582
2	577
3	578
4	576
5	575
6	577
7	575
8	575
9	577
10	580
11	578
12	577
13	581
14	579
15	579
16	578
17	580
18	417
19	576
20	580
21	580
22	580
23	579
24	576
25	578
26	577
27	577
28	578
29	578
30	577
31	578

## REFUELING INFORMATION

DOCKET NO: 50-331  
 DATE: 02-14-2003  
 Unit: Duane Arnold Energy Center  
 COMPLETED BY: Richard Woodward  
 TELEPHONE: (319) 851-7318

1. Name of facility. Duane Arnold Energy Center
2. Scheduled date for next refueling shutdown. Spring 2003
3. Scheduled date for restart following refueling. Spring 2003
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment? No
5. Scheduled date(s) for submitting proposed licensing action and supporting information. N/A
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. N/A
7. Current fuel assemblies inventory

	Number of Fuel Assemblies	Projected date of last refueling that can be discharged (after allowing margin for maintenance of continuous full-core discharge capability)
In receiving for Reload 18	152	
Installed into reactor core	368	
Discharged from core to Spent Fuel Storage Pool	1912	
Scheduled for transfer to Dry Fuel Storage November 2003	610	
Installed capacity of Spent Fuel Storage Pool	2411	2008
Licensed capacity of Spent Fuel Storage Pool (with re-racking)	2829	2014
Licensed capacity of Spent Fuel Storage Pool and Cask Pool (with reracking)	3152	

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**UNIT SHUTDOWNS AND POWER REDUCTIONS**  
**REPORT MONTH: January 2003**

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	Cause
1	01/18/2003	S	0 (6.6 Effective-full-power hours)	B	5		Turbine control valve testing, Sequence Exchange, Swap-in temporary cooling towers

<b>1 - F: Forced</b> <b>S: Scheduled</b>	<b>2 - Reason</b> 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)	<b>3 - Method:</b> 1-Manual 2-Manual Scram 3-Automatic Scram 4-Continued 5-Reduced Load 9-Other (Explain)
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Monthly Operational Overview for January 2003

At the beginning of January, the DAEC had continuously operated for 113 days.

The following departures from full thermal power (1790 MWth) production occurred during the month:

- brief (< 1 hour) power reductions January 5<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup> and 24<sup>th</sup> to 1700 MWth for control rod movements to adjust load-line
- a six-hour thirty-five minute reduction to 1750 MWth on January 15<sup>th</sup> to calibrate the feedwater flow transmitter and reset the feedwater correction factor
- a twenty-five-hour fifty-five-minute reduction to 1145 MWth on January 18<sup>th</sup> to (a) perform turbine valve testing, (b) to temporarily remove the 'B' cooling tower from service to valve-in the temporary modular cooling towers, and (c) to perform a sequence exchange.

At 22:42 on January 31<sup>st</sup>, the INFLUENT HIGH CONDUCTIVITY annunciator activated and the Abnormal Operating Procedure for Reactor Water / Condensate High Conductivity was entered at 23:09 when hotwell conductivity reached 0.13 µmho. At 00:18 and 00:19 on February 1<sup>st</sup>, the CONDENSER HOTWELL HIGH CONDUCTIVITY and RWCU HIGH CONDUCTIVITY annunciators activated. At 00:23 a reduction in Reactor Recirculation System Flow to 27 million lb/hour was commenced. At 00:54 hotwell conductivity had risen to 10.8 µmho, and an orderly shutdown had commenced. At 02:26, the '1A1' and '1A2' essential 4160KV power supplies were transferred from the Auxiliary Transformer to the Startup Transformer. At 02:33, with power at 1000 MWth, a manual scram was initiated.

(Narrative of shutdown and forced outage will continue in the February monthly report.)

Following is the allocation of production and losses:	Electrical Output MWe	Capacity Factor % of 614 MWe (Target Output)	Full Power Hours Equivalent (FPHeq)
<b>Net Electric Output</b>	<b>572.74</b>	<b>93.28%</b>	<b>694.01</b>
<b>Plant House Loads (while on-line)</b>	<b>+32.66</b>	<b>+5.32%</b>	<b>39.59</b>
<b>Subtotal: Gross Electric Output</b>	<b>605.40</b>	<b>98.60%</b>	<b>733.60</b>
<b>Capacity Losses (departures from full thermal power):</b>			
Sequence Exchange & Turbine Control Valve Testing 01/18 00:21 - 01/19 02:16	5.45	0.89%	6.60
Loadline Adj 01/05 00:22 - 01:09, 01/19 10:05 - 10:58, 01/20 00:35 - 01:20, 01/24 01:00 - 02:02	0.07	0.01%	0.09
Feedwater Flow Instrument Calibration: 01/15 22:14 - 01/16 04:49	0.08	0.01%	0.10
Maintain Margin to 1790 Administrative MWth Limit	0.35	0.06%	0.42
<b>Efficiency Losses (occur even at full thermal power):</b> Principally the stuck-closed 1E-5B FW drain valve	6.64	1.08%	7.99
-/+ Seasonal Effects ( i.e., cold weather increase)	(3.99)	(0.65%)	(4.80)
<b>Subtotal: On-line Losses (Capacity, Efficiency, and Weather):</b>	<b>8.60</b>	<b>1.40%</b>	<b>10.40</b>
<b>Off-Line Losses</b>	<b>0.00</b>	<b>0.00%</b>	<b>0.00</b>
<b>Total: Target Electric Output, %, # of clock-hours</b>	<b>614.00</b>	<b>100.00%</b>	<b>744.00</b>

Licensing Action Summary:

Plant Availability:	100	Unplanned Auto Scrams (while critical) this month:	0
Number of reportable events:	0	Unplanned Auto Scrams (while critical) last 12 months:	0