

March 14, 2003

NG-03-0186

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
February 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

March 14, 2003

NG-03-0186

Page 2 of 2

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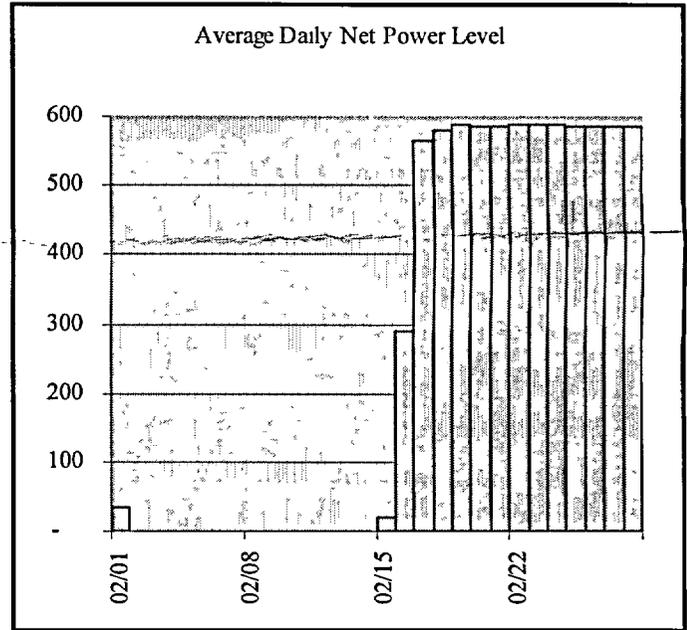
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OPERATING DATA REPORT

DOCKET NO: 50-331
 DATE: 03-14-2003
 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: February 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



	Feb-03	2003	Cumulative
11. Hours in Reporting Period	672.0	1,416.0	246,120.0
12. Number of Hours Reactor Was Critical	351.5	1,095.5	195,341.3
13. Reactor Reserve Shutdown Hours	0.0	0.0	192.8
14. Hours Generator On-Line	324.5	1,068.5	191,141.8
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	546,642.5	1,866,137.8	280,603,563.9
17. Gross Electrical Energy Generated (MWH)	187,261.0	637,840.0	94,212,652.6
18. Net Electrical Energy Generated (MWH)	177,146.7	603,268.8	88,559,971.1
19. Unit Service Factor	48.3%	75.5%	77.7%
20. Unit Availability Factor	48.0%	75.5%	77.7%
21. Unit Capacity Factor (Using MDC Net)	46.6%	75.3%	70.7%
22. Unit Capacity Factor (Using DER Net)	45.3%	73.3%	68.6%
23. Unit Forced Outage Rate	51.7%	24.5%	8.4%

AVERAGE DAILY UNIT POWER LEVEL

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MONTH February 2003

Day	Average Daily Power Level (MWe-Net)
1	35
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	19
16	289
17	566
18	579
19	589
20	587
21	586
22	589
23	590
24	588
25	587
26	587
27	587
28	587
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A

REFUELING INFORMATION

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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: February 2003

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	Cause
2	02/01/2003	F	347.5 (369.8 Effective- full-power hours)	A (Condenser tube puncture)	2	2003-001, pending	Condenser tube puncture due to impact from a failed deflector plate

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)
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Monthly Operational Overview for February 2003

At the beginning of February, a plant shutdown was in progress following leakage of circulating water into the main condenser hotwell through a punctured condenser tube.

At 22:42 on January 31st, 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 1st, the CONDENSER HOTWELL HIGH CONDUCTIVITY and RWCU HIGH CONDUCTIVITY annunciators activated. At 00:23 a reduction in Reactor Recirculation System Flow from 45 million lb/hour 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. Reactor coolant chemistry continued to degrade after the manual scram until the main circulating water system was secured at 1353 and the condensate and feedwater systems were secured at 1356 on February 1st. The plant was placed in Mode 4, Cold Shutdown, at 1620 on February 1, 2003.

The cause of the tube leak was a puncture due to impact from a failed deflector plate, downstream of 1E-5B Low Pressure Feedwater Heater dump valve CV-1340. The deflector plate broke free inside the condenser following approximately four months of continuous use of CV-1340 (versus the drain valve) for heater level control. The broken plate also dented and scored several other tubes, damaged two sections of the steam baffle plates in the condenser, and bent a third section of the steam baffle plates. The puncture allowed impure water to mix with water going into the reactor resulting in the conductivity increasing. Restoring reactor water quality through temporary water cleaning trucks and storage tanks constituted a significant portion of the forced outage. During the forced outage, DAEC also repaired a drywell cooler leak, which had been increasing, and made some additional preparations and validations for the upcoming March-April outage. An extensive analysis performed to determine the overall impact to the reactor and piping system of the conductivity increase did not identify any long term concerns. (LER 2003-001, pending)

Following completion of the repair and restoration of water quality, the plant was taken critical at 11:03 on February 14th, and the turbine synchronized to the grid at 14:02 on February 15th. During the outage, the reactor was sub-critical 320.5 hours, and off-line for 347.5 hours.

Following is the allocation of production and losses:			
	Electrical Output MWe	Capacity Factor % of 614 MWe (Target Output)	Full Power Hours Equivalent (FPHeq)
Net Electric Output	263.59	42.93%	288.51
Plant House Loads (while on-line)	+14.98	+2.44%	16.43
Subtotal: Gross Electric Output	278.63	45.38%	304.94
Capacity Losses (departures from full thermal power):	0.68	0.11%	0.74
Ramp Down: 02/01 00:00 - 02:33 (manual scram)			
Loadline Adj 02/17 17:00 - 2/18 06:00; 02/18 21:40 - 02/19 00:00	0.28	0.05%	0.31
Ramp up: 02/15 14:02 (on-line) - 02/17 15:00	19.74	3.22%	21.61
Maintain Margin to 1790 Administrative MWth Limit	0.16	0.03%	0.17
Efficiency Losses (which occur even at full thermal power):	0.02	(0.01%)	0.04
-/+ Seasonal Effects (i.e., cold weather increase)	(3.01)	(0.49%)	(3.29)
Subtotal: On-line Losses (Capacity, Efficiency, and Weather):	17.87	2.91%	19.58
Off-Line Losses	317.50	51.71%	347.48
Total: Target Electric Output, %, # of clock-hours	614.00	100.00%	672.00

Licensing Action Summary:

Plant Availability:	48.3 %	Unplanned Auto Scrams (while critical) this month:	0
Number of reportable events:	1	Unplanned Auto Scrams (while critical) last 12 months:	0