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May 10, 2000

NG-00-0808

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
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Subject: Duane Arnold Energy Center
Docket No: 50-331
Operating License: DPR-49
April 2000 Monthly Operating Report
File: A-118d

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for April 2000. 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,

Richard L. Anderson
Plant Manager-Nuclear

RLA/RBW

Enclosures

IE24

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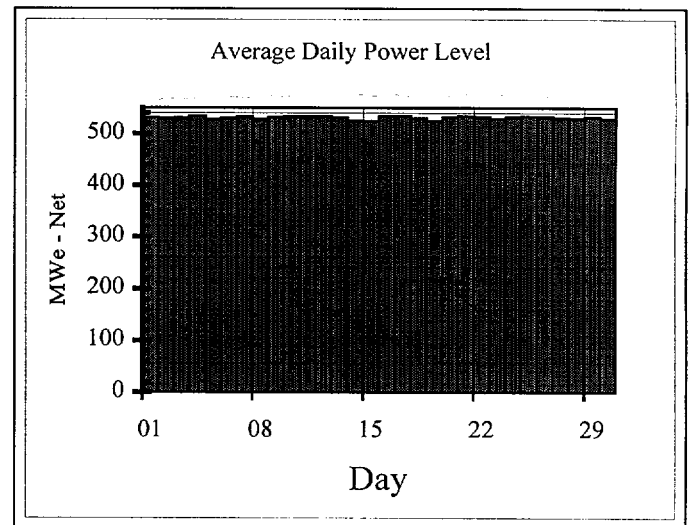
CTS Project

OPERATING DATA REPORT

DOCKET NO: 50-331
 DATE: 05/10/2000
 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: April 2000
3. Licensed Thermal Power (MW_{th}): 1658
4. Nameplate Rating (Gross MW_e DER): 565.7 (Turbine)
5. Design Electrical Rating (Net MW_e DER): 538
6. Maximum Dependable Capacity (Gross MW_e MDC): 550
7. Maximum Dependable Capacity (Net MW_e MDC): 520
8. If Changes Occur in Capacity Ratings (Items Number 3 through 7) since the last report, Give Reasons: Not Applicable
9. Power Level to Which Restricted, If Any (Net MW_e): N/A
10. Reasons for Restrictions, If Any: N/A



		April-00	2000	Cumulative
11.	Hours in Reporting Period	719.0	2,903.0	221,303.0
12.	Number of Hours Reactor Was Critical	719.0	2,804.7	172,542.2
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator On-Line	719.0	2,785.5	168,681.3
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1,190,587.0	4,588,669.6	242,979,034.6
17.	Gross Electrical Energy Generated (MWH)	403,289.0	1,560,048.0	81,487,909.6
18.	Net Electrical Energy Generated (MWH)	381,002.7	1,474,882.3	76,534,166.4
19.	Unit Service Factor	100.0%	96.0%	76.2%
20.	Unit Availability Factor	100.0%	96.0%	76.2%
21.	Unit Capacity Factor (Using MDC Net)	101.9%	97.7%	72.7%
22.	Unit Capacity Factor (Using DER Net)	98.5%	94.4%	69.6%
23.	Unit Forced Outage Rate	0.0%	4.0%	9.0%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of each): None
25. If Shutdown at End of Report Period, Estimated Date of Startup: N/A

AVERAGE DAILY UNIT POWER LEVEL

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MONTH April 2000

Day	Average Daily Power Level (MWe-Net)
1	530.5
2	529.6
3	530.0
4	533.4
5	527.8
6	529.2
7	532.9
8	528.0
9	530.9
10	532.5
11	532.6
12	533.3
13	530.4
14	524.9
15	523.5
16	533.4
17	534.1
18	529.4
19	524.2
20	530.9
21	534.3
22	532.8
23	529.1
24	531.8
25	533.7
26	532.9
27	530.3
28	529.0
29	531.2
30	528.2
31	#N/A

REFUELING INFORMATION

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1. **Name of facility.** Duane Arnold Energy Center
2. **Scheduled date for next refueling shutdown.** Spring, 2001
3. **Scheduled date for restart following refueling.** Summer, 2001
4. **Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?** Yes, as part of the Extended Power Uprate Project.
5. **Scheduled date(s) for submitting proposed licensing action and supporting information.** October, 2000.
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.** General Electric 14 fuel design, Maximum Extended Load Line Limit Analysis (MELLA).
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)
Installed into reactor core	368	N/A
Discharged from core to Spent Fuel Storage Pool	1776	N/A
Installed Capacity of Spent Fuel Storage Pool	2411	2001
Licensed Capacity of Spent Fuel Storage Pool (with reracking)	2829	2007
Licensed Capacity of Spent Fuel Storage Pool and Cask Pool (with reracking)	3152	2011

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UNIT SHUTDOWNS AND POWER REDUCTIONS							
REPORT MONTH: April 2000							
(There were no power changes > 20% during the month.)							
No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	Cause

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 April 2000

At the beginning of the month the DAEC had operated 82 days since its most recent startup. During the month of April, the only departures from licensed full thermal power were:

- April 2nd to reduce power while resetting the clock on the plant process computer; and
- April 7th, 8th, 9th, 14th, and 15th to reduce power for feedwater flow measurement / plant process computer maintenance.

On April 12th final repairs were completed on the last two of the cooling tower cells that had been out-of-service for maintenance since September 3rd, 1999. Each out-of-service cooling tower cell reduces plant output by approximately $\frac{3}{4}$ - 1 MWe. Debris in the Low Pressure Condenser waterboxes continued to reduce Circulating Water System flow, increasing condenser back-pressure and reducing plant output by approximately 2 MWe. Steam cycle losses past two leaking isolation valves dumped the equivalent of approximately 2 MWe to the condenser.

Higher springtime wet bulb temperatures increased average weather related plant output losses by 3 MWe.

Allocation of Production & Losses:

	Electrical Output MWe	% of 571.0 MWe (Target Output)	Full Power Equivalent Hours (FPHeq)
Capacity Losses:			
Daylight Savings Time Change (PPC/FWC Out of Service): 04/02 01:45 - 09:00	0.06	0.01%	0.08
Plant Process Computer & Feedwater Correction Factor out of service: 04/07 21:31 - 04/08 01:00, 04/08 10:00 - 04/09 05:00, 04/14 15:45 - 22:45, 04/15 10:00 - 19:45	0.51	0.09%	0.63
Maintain Margin to 1658 MWth Limit	0.17	0.03%	0.24
Efficiency Losses:			
Cooling Tower Cells out of service -- 04/01-11: 2; 04/12: 3	0.83	0.15%	1.08
Circ Water System Flow Limitation	2.18	0.38%	2.73
Steam Cycle Isolation Valve Losses: BV-1: 1.7 MWe, MO1099: 0.3 MWe	2.00	0.35%	2.52
Unidentified Losses	1.28	0.22%	1.58
Average Weather Losses:	+3.08	+0.54%	+3.86
Total On-line Losses:	10.11	1.77%	12.72
Off-Line Losses:	0.00	0.00%	0.00
Electric Generation:			
Plant House Loads (while on-line)	31.01	5.43%	39.02
Net Electric Output	+529.89	+92.80%	+667.26
Gross Electric Generation	560.89	98.23%	706.28
Target Electric Output, Total %, Total # of clock-hours	571.00	100.00%	719.00

(There were no Licensee Event Reports.)

Licensing Action Summary:

Plant Availability:	100.0%	Unplanned Auto Scrams (while/critical) this month:	0
Number of reportable events:	0	Unplanned Auto Scrams (while/critical) last 12 months:	1
		Main Steam Safety and Relief Valve Challenges:	0