

June 8, 2001

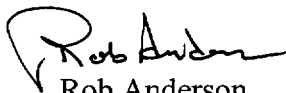
NG-01-0751

U.S. Nuclear Regulatory Commission  
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Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Operating License: DPR-49  
May 2001 Monthly Operating Report  
File: A-118d

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for May 2001. 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,



Rob Anderson  
Plant Manager-Nuclear

RA/RBW

Enclosures

IE24

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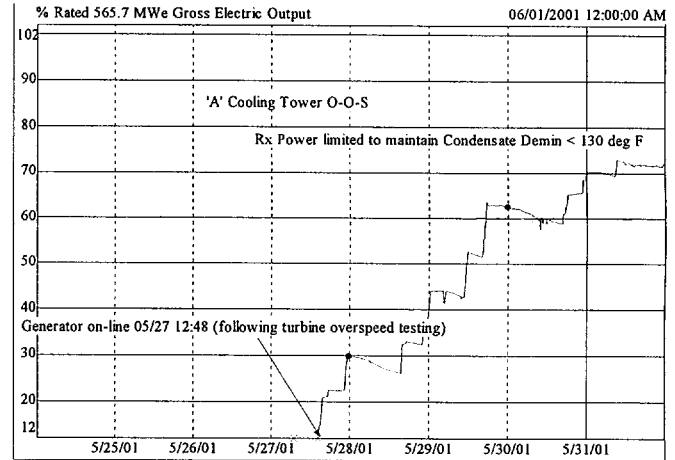
CTS Project

## OPERATING DATA REPORT

DOCKET NO: 50-331  
 DATE: 06/08/2001  
 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: May 2001
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



		May-01	2001	Cumulative
11.	Hours in Reporting Period	744.0	3,623.0	230,807.0
12.	Number of Hours Reactor Was Critical	190.1	2,637.1	181,018.1
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator On-Line	112.2	2,558.0	177,008.2
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	111,165.7	4,110,098.2	256,538,600.9
17.	Gross Electrical Energy Generated (MWH)	30,706.0	1,378,236.0	86,022,683.6
18.	Net Electrical Energy Generated (MWH)	28,535.5	1,301,098.0	80,816,088.1
19.	Unit Service Factor	15.1%	70.6%	76.7%
20.	Unit Availability Factor	15.1%	70.6%	76.7%
21.	Unit Capacity Factor (Using MDC Net)	7.4%	69.1%	73.5%
22.	Unit Capacity Factor (Using DER Net)	7.1%	66.8%	70.4%
23.	Unit Forced Outage Rate	0.0%	0.0%	8.7%

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 May 2001

Day	Average Daily Power Level (MWe-Net)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
23	0.0
24	0.0
25	0.0
26	0.0
27	54.1
28	153.2
29	271.6
30	327.2
31	378.6

## REFUELING INFORMATION

DOCKET NO: 50-331  
DATE: 06/08/2001  
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)
Installed into reactor core	368	
Discharged from core to Spent Fuel Storage Pool	1912	
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: May 2001

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	Cause
3	05/01/01	S	631.8	C	4		Refueling outage

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 May 2001

The DAEC began the month of May eighteen days into the refueling outage that had started April 13<sup>th</sup>. During the outage, 136 spent fuel assemblies were replaced. Modifications were performed on the High-Pressure Turbine and two moisture-separator reheaters to improve performance and efficiency. The two Circulating Water Pumps were also being replaced, and over 350 corrective work actions, 1200 preventive work actions, 180 In-Service Inspections and 270 surveillance tests were performed.

The reactor was taken critical May 24<sup>th</sup> at 01:55. The generator was synchronized to the grid for Turbine Overspeed testing on May 27<sup>th</sup> from 06:02 until the turbine trip at 11:00. After 1 hour 48 minutes off-line, the generator was again synchronized to the grid, marking completion of RFO-17. Outage duration was 44 days 14 hours 1 minute. At the beginning of Cycle 18, power was limited to 70% while planned maintenance proceeded on the out-of-service 'A' Cooling Tower. (The cooling tower was returned to service June 6<sup>th</sup>.)

During May, the DAEC was off line 631.8 hours and produced 53.8 full-power-hours-equivalent electrical generation. The remaining 58.4 available hours were lost to the out-of-service cooling tower generation losses and to the ramp-up in power.

On April 30<sup>th</sup>, during the refueling outage and with the primary containment open for personnel access, an unexpected Group III Primary Containment Isolation System actuation occurred. Operators were attempting to remove 24 VDC battery chargers from service. Instead, the section of the procedure that was used de-energized the Division I 24 VDC bus. As a result, the Offgas system radiation monitor was de-energized, causing an unanticipated Group III PCIS isolation. The components of the system that were in service at the time of the actuation operated as designed upon receipt of the isolation signal.

On May 8<sup>th</sup>, during restoration of the Control Rod Drive (CRD) system, on-going maintenance prevented restoration and opening of the scram discharge volume vents and drains. Leakage slowly filled the volume, and at 16:28 reached the trip set-point and initiated an RPS trip. (LER # 2001 – 001, pending.)

On May 24<sup>th</sup>, during low pressure testing of the High Pressure Coolant Injection system (HPCI), flow indication dropped to only 500 GPM after tripping the turbine, not zero, as it should have. This placed HPCI in a 14-day LCO. Operators vented the HPCI flow instrument and re-ran the surveillance. Flow indication went to zero after the test. (LER # 2001 – 002, pending.)

On May 25<sup>th</sup>, LER #2000 – 002 (having to do with a turbine trip and reactor scram that occurred June 23<sup>rd</sup>, 2000) was revised to correct data that was originally reported in the initial LER. (LER #2000 – 002 – 01)

#### Licensing Action Summary:

Plant Availability:	15.1%	Unplanned Auto Scrams (while critical) this month:	0
Number of reportable events:	3	Unplanned Auto Scrams (while critical) last 12 months:	1
		Main Steam Safety and Relief Valve Challenges this month:	0