

September 11, 2001

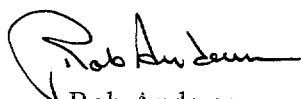
NG-01-1075

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

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for August 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

September 11, 2001

NG-01-1075

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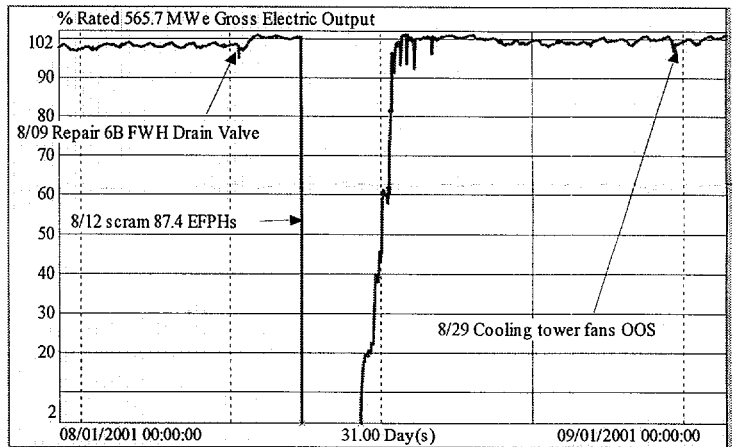
CTS Project - Lic.

OPERATING DATA REPORT

DOCKET NO: 50-331
 DATE: 09/11/2001
 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: August 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



		Aug-01	2001	Cumulative
11.	Hours in Reporting Period	744.0	5,831.0	233,015.0
12.	Number of Hours Reactor Was Critical	695.5	4,796.6	183,177.6
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator On-Line	678.2	4,700.2	179,150.4
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1,092,034.0	7,440,986.8	259,869,489.5
17.	Gross Electrical Energy Generated (MWH)	368,774.0	2,496,256.0	87,140,703.6
18.	Net Electrical Energy Generated (MWH)	347,646.1	2,354,460.3	81,869,450.4
19.	Unit Service Factor	91.2%	80.6%	76.9%
20.	Unit Availability Factor	91.2%	80.6%	76.9%
21.	Unit Capacity Factor (Using MDC Net)	89.9%	77.7%	73.7%
22.	Unit Capacity Factor (Using DER Net)	86.9%	75.1%	70.6%
23.	Unit Forced Outage Rate	8.8%	1.4%	8.6%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of each): N/A
25. If Shutdown at End of Report Period, Estimated Date of Startup: N/A

AVERAGE DAILY UNIT POWER LEVEL

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MONTH August 2001

Day	Average Daily Power Level (MWe-Net)
1	519.8
2	521.6
3	523.0
4	522.4
5	526.1
6	523.5
7	523.9
8	528.7
9	519.8
10	536.7
11	535.9
12	161.6
13	0.0
14	0.0
15	117.8
16	418.1
17	533.7
18	536.0
19	537.2
20	537.3
21	531.3
22	539.8
23	517.8
24	529.1
25	529.9
26	533.7
27	530.1
28	536.1
29	531.9
30	532.2
31	537.4

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)
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: August 2001

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	Cause
9	08/12/01	F	65.77	A	2	2001-003	B Reactor Feed Pump Minimum Flow Valve failed open

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 August 2001

At the beginning of July, the DAEC was sixty-five days into Fuel Operating Cycle 18, operating at licensed limited thermal power.

On August 9th at 09:54, operators lowered power with recirculation flow by 10 MWe to repair the 6B Feedwater Heater drain valve.

On August 12th at 07:46, the reactor operator inserted a manual scram after receiving (and verifying) a Reactor-Water Low-Level Alarm and "B" reactor feed pump (1P001B) trip on low suction pressure. The operator took manual control of feedwater system level control. All control rods fully inserted upon receipt of the manual scram signal.

Reactor water level dropped below 170 inches after the manual scram, resulting in Primary Containment Isolation System (PCIS) Groups 2 through 4 isolations. The Group 2 through 4 isolations functioned as designed. Reactor water level then recovered and increased to the high level trip setpoint which tripped the "A" reactor feed pump (1P001A). At 0747, as the reactor operator was taking the reactor mode switch from RUN to SHUTDOWN, a Group 1 PCIS isolation also occurred. All Main Steam Isolation Valves (MSIVs) closed upon receipt of the Group 1 isolation. The operating crew manually initiated Low Low Set (LLS) to control reactor pressure. Reactor pressure was lowered to 900 psig through Safety Relief Valve (SRV) operation and was controlled by LLS. At 0805 the Group 1 isolation was reset and main steam drains to the condenser were used to control reactor pressure. The reactor high water level trip was reset and 1P001A was returned to service to control RPV level. (LER 2001-003 pending).

The low suction pressure that caused 1P001B to trip was caused by the minimum flow valve for 1P001B failing fully open. The root cause was identified as a failed resistor in the amplifier circuit card of the Flow Indicating Controller (FIC1611) for the 1P001B minimum flow valve. Following repair of the controller, the reactor was taken critical at 08:16 on August 14th, and the generator brought on-line at 01:32 on August 15th. Full licensed limited thermal power was achieved at 23:56 on August 16th.

Electric output was gradually reduced 20 MWe on August 29th between 11:14 and 15:21 to sequentially remove cooling tower fans from service in order to measure the effect on condenser back pressure.

Allocation of Production & Losses: August 2001	Electrical Output MWe	Capacity Factor % of 571 MWe (Target Output)	Full Power Equivalent Hours (FPHeq)
Capacity Losses:			
'6B' FWH Drain Valve repair 08/09 09:54 - 10:50	0.02	0.00%	0.03
Ramp up to full power: 08/15 01:32 - 08/16 23:56	16.62	2.91%	21.65
Five Control Rod Adjustments: 08/16 - 08/20	0.12	0.02%	0.16
Cooling tower fans OOS during condenser testing 08/29 11:14 - 15:21	0.06	0.01%	0.08
Maintain Margin to 1658 MWth Limit	0.25	0.04%	0.33
Other Efficiency Losses:	5.94	1.05%	7.73
Average Weather losses:	10.45	1.83%	13.65
Total On-line Losses:	33.46	5.86%	43.63
Off-Line Losses: Scram 'B' Rx Fd Pmp MinFlow Valve failed open: 08/12 07:46 - 08/15 01:32	50.48	8.84%	65.75
Electric Generation:			
Plant House Loads (while on-line)	21.07	3.69%	27.46
Net Electric Output	465.99	81.61%	607.16
Gross Electric Generation	487.06	90.00%	634.62
Target Electric Output, Total %, Total # of clock-hours	571.00	100.00%	744.00

Licensing Action Summary:

Plant Availability:	91.2%	Unplanned Auto Scrams (while critical) this month:	0
Number of reportable events:	1	Unplanned Auto Scrams (while critical) last 12 months:	0
		Main Steam Safety and Relief Valve Challenges this month:	1