



October 15, 1998

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NG 98-1717

Mr. James L. Caldwell
Regional Administrator (acting)
Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

Subject: Duane Arnold Energy Center
Docket No: 50-331
Operating License: DPR-49
September 1998 Monthly Operating Report
File: A-118d

Dear Mr. Caldwell:

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for September 1998. 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,

Gary VanMiddlesworth
Plant Manager-Nuclear

GDV/RBW

Enclosures

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Mr. James L. Caldwell
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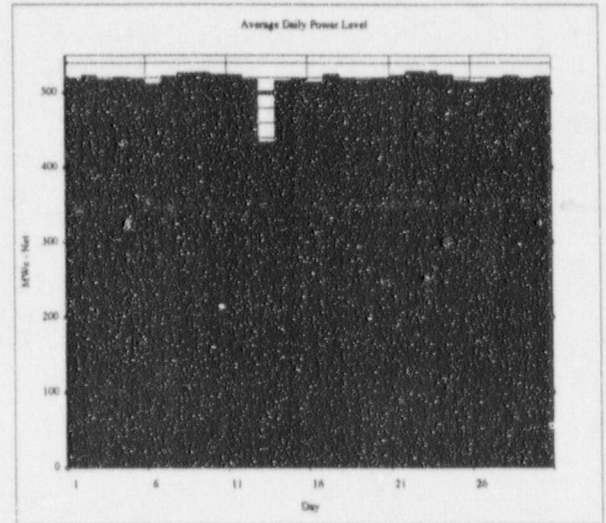
CTS Project

OPERATING DATA REPORT

DOCKET NO: 50-0331
 DATE: 10/15/98
 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: September 1998
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



	September-98	1998	Cumulative
11. Hours in Reporting Period	720.0	6,551.0	207,431.0
12. Number of Hours Reactor Was Critical	720.0	5,471.8	160,238.3
13. Reactor Reserve Shutdown Hours	0.0	0.0	192.8
14. Hours Generator On-Line	720.0	5,386.2	156,535.3
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	1,186,891.2	8,730,170.4	223,436,212.6
17. Gross Electrical Energy Generated (MWH)	395,011.0	2,914,615.0	74,907,301.6
18. Net Electrical Energy Generated (MWH)	373,131.6	2,749,960.7	70,321,048.9
19. Unit Service Factor	100.0%	82.2%	75.5%
20. Unit Availability Factor	100.0%	82.2%	75.5%
21. Unit Capacity Factor (Using MDC Net)	99.7%	80.7%	71.3%
22. Unit Capacity Factor (Using DER Net)	96.3%	78.0%	68.3%
23. Unit Forced Outage Rate	0.0%	0.0%	9.5%

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 September 1998

Day	Average Daily Power Level (MWe-Net)
1	520.3
2	523.5
3	517.9
4	521.4
5	518.3
6	512.4
7	522.7
8	526.9
9	527.5
10	525.1
11	524.4
12	518.2
13	434.2
14	516.1
15	518.6
16	514.3
17	525.4
18	519.8
19	517.9
20	520.5
21	523.5
22	529.3
23	529.5
24	524.7
25	516.6
26	514.3
27	519.1
28	523.1
29	519.6
30	522.2
31	#N/A

REFUELING INFORMATION

DOCKET NO: 50-0331
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1. **Name of facility.** Duane Arnold Energy Center
2. **Scheduled date for next refueling shutdown.** October 8, 1999
3. **Scheduled date for restart following refueling.** November 13, 1999
4. **Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?** Yes - Technical Specification change to support next fuel reload with GE12 fuel design.
5. **Scheduled date(s) for submitting proposed licensing action and supporting information.**
January 31, 1999
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.** See items 4 & 5 above
7. **Current and projected 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 in reactor core	368	N/A
Previously discharged from core to Spent Fuel Storage Pool	1648	N/A
Installed Capacity of Spent Fuel Storage Pool	2411	2001
Licensed Capacity of Spent Fuel Storage Pool (with reracking)	2829	2006
Licensed Capacity of Spent Fuel Storage Pool and Cask Pool (with reracking)	3152	2010

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(There were no daily average power reductions greater than 20% during the month.)

UNIT SHUTDOWNS AND POWER REDUCTIONS							
REPORT MONTH: September 1998							
No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	Cause
5	09/12-13/98	S	0	B	5	N/A	Control Rod Sequence Exchange

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 September 1998

During the month of September, the DAEC operated at its 1658 MW_{th} licensed limit except for the following departures from full power:

Allocation of Production and Losses	Electric Output MWe	Capacity Factor % of 565.7 MWe (Design Rating)	Full Power Equivalent Hours (FPH _{eq})
Plant Process Computer maintenance (Year 2000 testing): 09/02 21:28 – 09/03 05:19, 09/14 13:00 – 16:00, 9/16 08:00 – 12:30, 09/18 08:43 – 09:40)	0.08	0.01%	0.10
Control Rod Sequence Exchange: 09/12 23:00 – 09/13 20:00	3.06	0.54%	3.89
Reduced recirculation flow to pull control rods to increase load line (Rod Pull): 09/14 04:00 – 05:15, 09/15 03:00 – 04:00, 09/21 08:45 – 16:30	0.07	0.01%	0.09
High Pressure Coolant Injection (HPCI) Testing: 09/30 21:50 – 23:00	0.00	0.00%	0.01
Average Margin to 1658 MW _{th} Limit	0.25	0.04%	0.32
Subtotal: Capacity Losses	3.47	0.61%	4.41
'B' Moisture Separator Reheater Performance Loss	1.20	0.21%	1.53
Feedwater flow measurement nozzle fouling	2.85	0.50%	3.63
Other Losses, as yet unidentified	1.45	0.26%	1.84
Subtotal: Efficiency Losses	5.50	0.97%	6.99
Weather Losses	8.11	1.50%	10.30
Total Losses	17.08	3.08%	21.71
Net Electric Output	518.24	91.52%	659.59
Plant Electric Loads (while on-line)	30.39	5.40%	38.70
Total Electric Generation	548.62	96.92%	698.29
Design Electric Rating, Total %, Total # of clock-hours	565.70	100.00%	720.00

On September 16 the "A" control building chiller was declared inoperable due to the discovery that loss of a 'common' instrument air supply would, under some circumstances, close the chilled water supply valve to the cooling coil of the 'A' Control Building Air Conditioning Unit. The chilled water system and the air conditioning units provide temperature control to maintain an acceptable working environment for plant operators and control building equipment. Loss of instrument air concurrent with loss of the normal plant service air system would stop flow of chilled water to the control building air conditioning unit. As specified in plant procedures, compensatory actions (using the adjacent computer room air conditioner, air handling units and fans; opening doors, shutting off heaters; and turning down the humidifier) can maintain the control room temperature at a comfortable level. The normal plant service air system is highly reliable, and it is unlikely that a loss of coolant accident (LOCA) coincident with a loss of normal plant service air would occur at the same time the instrument air system is out of service. A modification has been completed to change the air supply source to ensure that the Control Room HVAC will perform its safety function of controlling plant temperatures. This event is reportable because the condition had existed longer than the Technical Specifications required 30 day Limiting Condition for Operation (LCO). LER 98-08 (pending).

Licensing Action Summary:

Plant Availability	100%	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:	0