



November 10, 1995  
NG-95-3235

Duane Arnold Energy Center  
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Mr. Hubert J. Miller  
Regional Administrator  
Region II  
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  
October 1995 Monthly Operating Report

Dear Mr. Miller:

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for October 1995. The report has been prepared in accordance with the guidelines of NUREG-0020 and distribution has been made in accordance with DAEC Technical Specifications, Section 6.11.1.c.

Very truly yours,

Gary Van Middlesworth  
Plant Superintendent, Nuclear

GDV/RBW  
Enclosures  
File A-118d  
cc:

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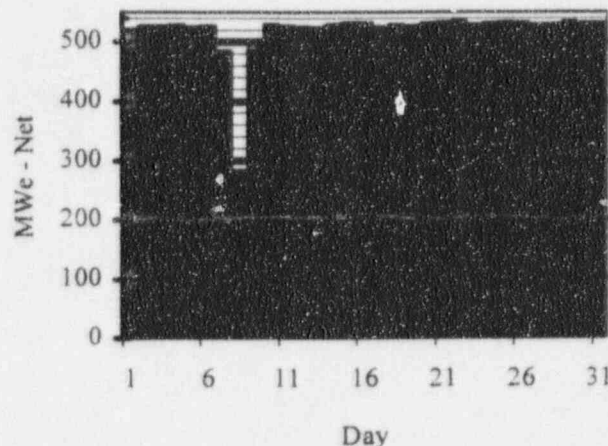
# OPERATING DATA REPORT

DOCKET NO: 50-0331  
 DATE: 11/10/95  
 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: October 1995
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): 545
7. Maximum Dependable Capacity (Net  $MW_e$  MDC): 515
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  $MW_e$ ): Not Applicable
10. Reasons for Restrictions, If Any: Not Applicable

Average Daily Power Level



|     |   | October-95  | 1995        | Cummulative   |
|-----|---|-------------|-------------|---------------|
| 11. | Hours in Reporting Period               | 745.0       | 7,296.0     | 181,872.0     |
| 12. | Number of Hours Reactor Was Critical    | 745.0       | 5,881.2     | 137,061.8     |
| 13. | Reactor Reserve Shutdown Hours          | 0.0         | 0.0         | 192.8         |
| 14. | Hours Generator On-Line                 | 745.0       | 5,790.7     | 133,649.8     |
| 15. | Unit Reserve Shutdown Hours             | 0.0         | 0.0         | 0.0           |
| 16. | Gross Thermal Energy Generated (MWH)    | 1,211,740.0 | 9,331,724.7 | 186,860,084.4 |
| 17. | Gross Electrical Energy Generated (MWH) | 410,153.0   | 3,141,092.0 | 62,588,978.5  |
| 18. | Net Electrical Energy Generated (MWH)   | 387,208.1   | 2,961,325.9 | 58,701,370.2  |
| 19. | Unit Service Factor                     | 100.0%      | 79.4%       | 73.5%         |
| 20. | Unit Availability Factor                | 100.0%      | 79.4%       | 73.5%         |
| 21. | Unit Capacity Factor (Using MDC Net)    | 100.9%      | 78.8%       | 68.2%         |
| 22. | Unit Capacity Factor (Using DER Net)    | 96.6%       | 75.4%       | 65.3%         |
| 23. | Unit Forced Outage Rate                 | 0.0%        | 1.3%        | 10.9%         |

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

DOCKET NO: 50-0331

DATE: 11/10/95

Unit: Duane Arnold Energy Center

COMPLETED BY: Richard Woodward

TELEPHONE: (319) 851-7318

MONTH October 1995

| Day | Average Daily<br>Power Level<br>(MWe-Net) |
|-----|---|
| 1   | 522.5                                     |
| 2   | 528.2                                     |
| 3   | 527.9                                     |
| 4   | 529.4                                     |
| 5   | 525.7                                     |
| 6   | 528.1                                     |
| 7   | 485.4                                     |
| 8   | 283.8                                     |
| 9   | 497.3                                     |
| 10  | 530.6                                     |
| 11  | 528.1                                     |
| 12  | 526.0                                     |
| 13  | 525.3                                     |
| 14  | 530.6                                     |
| 15  | 533.0                                     |
| 16  | 533.8                                     |
| 17  | 526.0                                     |
| 18  | 529.7                                     |
| 19  | 527.8                                     |
| 20  | 532.3                                     |
| 21  | 534.2                                     |
| 22  | 535.9                                     |
| 23  | 529.5                                     |
| 24  | 532.7                                     |
| 25  | 533.9                                     |
| 26  | 533.2                                     |
| 27  | 529.7                                     |
| 28  | 530.9                                     |
| 29  | 557.4                                     |
| 30  | 532.3                                     |
| 31  | 532.6                                     |

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UNIT SHUTDOWNS AND POWER REDUCTIONS  
 REPORT MONTH: October 1995

| No. | Date    | Type<br>(1) | Duration<br>(Hours)                              | Reason<br>(2) | Method of<br>Shutting<br>Down<br>Reactor<br>(3) | Licensee Event<br>Report # | System Code<br>(4)        | Comp.<br>Code<br>(5)            | Cause   |
|-----|---------|-------------|--|---------------|---|----------------------------|---------------------------|---------------------------------|---|
| 7   | 10/7/95 | S           | 0<br>(12.4 full<br>power<br>equivalent<br>hours) | B             | 5   | N/A                        | SJ<br>Feedwater<br>System | FCV<br>Flow<br>Control<br>Valve | Reduced power to 50% to replace the 'A' Feedwater<br>Regulating Valve Actuator, perform control rod<br>sequence exchange, and back seat a Turbine Steam Seal<br>Main Steam Supply Isolation Valve found leaking<br>through its packing. |

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)

4 - Exhibit G- Instructions for  
 Preparation of Data Entry  
 Sheets for Licensee Event  
 Report (LER) File (NUREG-  
 0161)  
 5 - Exhibit I (Same Source)

# REFUELING INFORMATION

DOCKET NO: 50-0331  
 DATE: 11/10/95  
 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.**

Refuel Outage XIV to begin October 10, 1996.

**3. Actual date for restart following refueling.**

November 14, 1996

**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.**

Not applicable

**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.**

No

**7. Current and projected fuel assemblies inventory:**

|   | Number of<br>Fuel<br>Assemblies | Projected date of last<br>refueling that can be<br>discharged |
|---|---------------------------------|---|
| installed in reactor core (following refueling)                                     | 368                             | n/a   |
| previously discharged from core to Spent Fuel<br>Storage Pool (following refueling) | 1408                            | n/a   |
| under present physical capacity of Spent Fuel<br>Storage Pool                       | 2411                            | 2007  |
| under Licensed Capacity of Spent Fuel Storage Pool                                  | 3152                            | 2014  |

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# Monthly Operational Overview for October 1995:

The DAEC operated at full thermal power throughout the month except October 7 - 9 to:

- perform a scheduled control rod sequence exchange,
- replace the 'A' Feedwater Regulating Valve Actuator, and
- back seat a Turbine Steam Seal Main Steam Supply Isolation Valve found leaking through its packing,

and on the evening of October 30:

- to reduce reactor recirculation flow to insert control rods in order to maintain thermal limits margin.

| Allocation of Production & Losses:   | Electrical Output MWe | Capacity Factor % of 565.7 MWe (Design Gross Rating) | Full Power Equivalent Hours |
|--|-----------------------|--|-----------------------------|
| Actual Metered Net Electric Output   | 519.7                 | 91.9%  | 684.5                       |
| Actual Metered Plant Electric Loads  | 30.8                  | 5.4%   | 40.6                        |
| Load Following   | 0.0                   | 0.0%   | 0.0                         |
| Off-Line   | 0.0                   | 0.0%   | 0.0                         |
| Weather losses, ie., condenser pressure > 2.75 In Hg / Circ Water Temp   | 1.1                   | 0.2%   | 1.5                         |
| Planned Capacity Losses: sequence exchange, replace the 'A' Feedwater Regulating Valve Actuator, back-seat MO-1169 | 9.4                   | 1.7%   | 12.4                        |
| Control Rod Drive Exercises: October 30  | 0.1                   | 0.0%   | 0.1                         |
| Unplanned Capacity Loss:   | 0.0                   | 0.0%   | 0.0                         |
| Normal Capacity Losses (Avg MWth < 1658)   | 0.3                   | 0.1%   | 0.4                         |
| Metering Losses (Avg indic MWe - Avg MWHe)   | 2.4                   | 0.4%   | 3.1                         |
| Efficiency Losses (Weather-Norm-Full-Power-MWe < 565.7)  | 1.8                   | 0.3%   | 2.4                         |
| <b>Design Gross Electric Output</b>  | <b>565.7</b>          | <b>100.0%</b>  | <b>745.0</b>                |

At the end of October, the DAEC had operated continuously for 145 consecutive days, its sixth longest operating run.

At 00:47 a.m. on October 20, the 'A' Standby Diesel Generator (SBDG) was declared inoperable when operability testing had to be secured because a High Bearing Temperature alarm was received. Troubleshooting revealed that a malfunctioning temperature controller, incorrectly installed October 10, had caused the inlet fan dampers to fail to open, in turn causing elevated temperatures in the room during the test. Research is currently underway concerning the work planning, equipment calibration, post-maintenance testing, and operability impact of the mis-installed temperature controller. LER #95-11 (pending).

## Licensing Action Summary:

|                              |        |  |   |
|------------------------------|--------|--|---|
| Plant Availability:          | 100.0% | Unplanned Auto Scrams (while/critical) this month:     | 0 |
| Number of reportable events: | 1      | Unplanned Auto Scrams (while/critical) last 12 months: | 1 |