

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9006210515 DOC.DATE: 90/05/31 NOTARIZED: NO DOCKET #
 FACIL:50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331
 AUTH.NAME AUTHOR AFFILIATION
 TRAN,H. Iowa Electric Light & Power Co.
 HANNEN,R.L. Iowa Electric Light & Power Co.
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: Monthly operating rept for May 1990 for Duane Arnold Energy
 Ctr.W/900615 ltr.

DISTRIBUTION CODE: IE24D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 7
 TITLE: Monthly Operating Report (per Tech Specs)

NOTES:

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PD3-3 LA	3 3	PD3-3 PD	1 1
HALL,J.R.	1 1		
INTERNAL: ACRS	10 10	AEOD/DOA	1 1
AEOD/DSP/TPAB	1 1	IRM TECH ADV	2 2
NRR/DLPQ/LPEB10	1 1	NRR/DOEA/OEAB11	1 1
<u>REG FILE</u> 01	1 1	RGN3	1 1
EXTERNAL: EG&G STUART,V.A	1 1	LPDR	1 1
NRC PDR	1 1	NSIC	1 1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM PI-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 27 ENCL 27

R
I
D
S
/
A
D
D
S

R
I
D
S
/
A
D
D
S

Iowa Electric Light and Power Company

June 15, 1990
DAEC-90-0446

Mr. A. Bert Davis
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License DPR-49
May 1990 Monthly Operating Report

Dear Sirs:

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for May, 1990. The report has been prepared in accordance with the guidelines of Regulatory Guide 1.16 and distribution has been made in accordance with DAEC Technical Specifications, Section 6.11.1.c.

Very truly yours,

Rick L. Hannen 6-14-90
Rick L. Hannen
Plant Superintendent - Nuclear

RLH/ht
Enclosures
File A-118d

cc: Dir. of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D. C. 20555

Mr. J. R. Hall
Project Manager
1 Whiteflint North
Mail Stop 13E21
11555 Rockville Pike
Rockville, MD 20852

INPO Records Center
1100 Circle 75 Parkway
Suite 1500
Atlanta, GA 30339-3064

Mr. Steve Brown
Iowa State Utilities Board
Lucas State Office Building
Des Moines, IA 50319

Mr. William Loveless
U. S. NRC
Maryland National Bank Building
Mail Stop 7602
Washington, D.C. 20555 (2)

NRC Resident Inspector

Mr. Dennis Murdock
Central Iowa Power Cooperative
Box 2517
Cedar Rapids, IA 52406

Mr. Dale Aherns
Corn Belt Power Cooperative
1300 13th Street North
Humboldt, IA 50548

Dr. William R. Jacobs, Jr.
GDS Associates, Inc.
Suite 720
1850 Parkway Place
Marietta, Georgia 30068-8237

9006210515 900531
PDR ADOCK 05000331
R PDC

OPERATING DATA REPORT

DOCKET NO. 050-0331
DATE 6-15-90
COMPLETED BY Hai Tran
TELEPHONE (319) 851-7491

OPERATING STATUS

Notes

1. Unit Name: Duane Arnold Energy Center
2. Reporting Period: May 1990
3. Licensed Thermal Power (MWt): 1658
4. Nameplate Rating (Gross MWe): 565 (Turbine)
5. Design Electrical Rating (Net MWe): 538
6. Maximum Dependable Capacity (Gross MWe): 565
7. Maximum Dependable Capacity (Net MWe): 538

8. If Changes Occur in Capacity Ratings (Items Number 3 through 7) Since the Last Report, Give Reasons: N/A

9. Power Level to Which Restricted, If Any (Net MWe): N/A

10. Reasons for Restrictions, If Any: N/A

	This Month	Yr-to-Date	Cumulative
11. Hours in Reporting Period	<u>744.0</u>	<u>3623.0</u>	<u>134375.0</u>
12. Number of Hours Reactor Was Critical	<u>744.0</u>	<u>3546.5</u>	<u>97416.1</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>192.8</u>
14. Hours Generator On-Line	<u>744.0</u>	<u>3533.9</u>	<u>94741.9</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (NWH)	<u>1012252.8</u>	<u>5426880.0</u>	<u>125507714.8</u>
17. Gross Electrical Energy Generated (MWH)	<u>331710.0</u>	<u>1820241.0</u>	<u>42155761.0</u>
18. Net Electrical Energy Generated (MWH)	<u>310802.4</u>	<u>1712934.8</u>	<u>39519064.4</u>
19. Unit Service Factor	<u>100.0</u>	<u>97.5</u>	<u>70.5</u>
20. Unit Availability Factor	<u>100.0</u>	<u>97.5</u>	<u>70.6</u>
21. Unit Capacity Factor (Using MDC Net)	<u>77.6</u>	<u>87.9</u>	<u>56.9</u>
22. Unit Capacity Factor (Using DER Net)	<u>77.6</u>	<u>87.9</u>	<u>54.7</u>
23. Unit Forced Outage Rate	<u>0.0</u>	<u>2.5</u>	<u>14.0</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of each: <u>Cycle 10/11 refuel outage June 28, 1990 - 69 days</u>)			
25. If Shutdown at End of Report Period, Est. Date of Startup: <u>N/A</u>			

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 050-0331
DATE 6-15-90
COMPLETED BY Hai Tran
TELEPHONE (319) 851-7491

MONTH May 1990

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>378</u>
2	<u>400</u>
3	<u>423</u>
4	<u>418</u>
5	<u>427</u>
6	<u>394</u>
7	<u>422</u>
8	<u>419</u>
9	<u>422</u>
10	<u>427</u>
11	<u>423</u>
12	<u>423</u>
13	<u>426</u>
14	<u>420</u>
15	<u>419</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

16	<u>419</u>
17	<u>426</u>
18	<u>421</u>
19	<u>420</u>
20	<u>422</u>
21	<u>429</u>
22	<u>417</u>
23	<u>427</u>
24	<u>424</u>
25	<u>423</u>
26	<u>422</u>
27	<u>396</u>
28	<u>413</u>
29	<u>411</u>
30	<u>421</u>
31	<u>420</u>

REFUELING INFORMATION

DOCKET NO. 50-0331
DATE 6-15-90
COMPLETED BY Hai Tran
TELEPHONE (319) 851-7491

1. Name of facility.
 - a. Duane Arnold Energy Center
2. Scheduled date for next refueling shutdown.
 - a. June 28, 1990
3. Scheduled date for restart following refueling.
 - a. September, 1990
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?

Technical Specification change has been submitted to the NRC for approval.

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.

104 GE-10 fuel bundles have arrived at DAEC for loading during upcoming refueling outage.

7. The number of fuel assemblies (a) in the core and (b) in the spent fuel storage pool (c) in the dry storage vault.
 - a. 368 b. 1045 c. 3
8. The present licensed spent fuel pool storage capacity and the size of any increase in licensed storage capacity that has been requested or is planned, in number of fuel assemblies.
 - a. 2050 - Licensed Capacity or
 - b. 1898 under the presently installed storage rack capacity.
9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity.
 - a. 2000 - Licensed Capacity or
 - b. 1997 under the presently installed storage rack capacity.

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: May 1990

Docket No.: 050-0331

Unit: Duane Arnold Energy Center

Date: 06-15-90

Completed By: Hai Tran

Telephone: (319) 851-7491

No.	Date	Type(1)	Duration (Hours)	Reason(2)	Method of Shutting (3) Down Reactor	Licensee Event Report #	System Code (4)	Comp. Code (5)	Cause
1	05-01-90	F	0.0	A	5	N/A	SB	ISV	Reactor power was reduced to approximately 83% due to the "A" Main Steam Line isolation since 4-22-90. The reason for the isolation was the "A" Inboard Main Steam Isolation Valve failing surveillance testing.

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 1-
Same Source

MAJOR/SAFETY RELATED MAINTENANCE

Docket No.: 050-0331

Unit: Duane Arnold Energy Center

Date: 6-15-90

Completed By: Hai Tran

Telephone: (319) 851-7491

DATE	SYSTEM	COMPONENT	DESCRIPTION
05-01-90	Residual Heat Removal (RHR) System	Pressure Differential Indicator and Controller for "A" RHR Heat Exchanger	The controller was calibrated per maintenance procedure due to instrument drift.
05-07-90	RHR Service Water System	"C" Pump for RHR SW System	The packing of the pump was retightened due to its leaking.
05-07-90	Standby Gas Treatment System	Differential Temperature Indicator and Controller for SBT prefilter	The controller was recalibrated per maintenance procedure due to instrument drift.
05-22-90	Main Steam Isolation Valve - Leakage Control System "D" Line	Inboard Bleed Valve	The valve failed to show proper indication. The relay was replaced.

NARRATIVE SUMMARY OF OPERATING EXPERIENCE

DOCKET NO. 050-0331
DATE 6-15-90
COMPLETED BY Hai Tran
TELEPHONE (319) 851-7491

- 05-01-90 At the beginning of the month the plant operating at 74.7 percent of rated thermal power with 377.7 MWe-net being delivered to customers connected to the grid. The reduction in power was due to the "A" Main Steam Line isolation. There was one 10 CFR 50.73 reportable event and one future voluntary reportable event during the month.
- 05-19-90 With the plant operating at 82.9% MWth, during an inspection of the Drywell air gap to look for the source of leakage into the torus area, one control rod drive (CRD) withdraw line was found to be leaking and a CRD insertion line appeared to have a circumferential crack with water in evidence. The leakage does not impact safe operation at this time and a complete inspection of CRD lines found no additional problems. The leaking lines will be replaced during the upcoming refuel outage. A for-information LER will be submitted at that time.
- 05-19-90 At 2351 hours, a control rod pattern adjustment was performed at approximately 75.0% power due to the leakage found earlier on the control rod drive (CRD) lines. The rod with the leaking CRD withdraw line and three symmetric rods were inserted.
- 05-25-90 At 1349 hours, the plant was operating at 83.1% MWth. Investigation of a deviation between recirculation flow indications and the Average Power Range Monitoring (APRM) flow units determined that the APRM flow-biased trip setpoints for the Reactor Protection System were non-conservative. The deviation was the result of the flow units being calibrated to the recirculation pump loop flows required to achieve 100% power during initial plant operation. Over the years the loop flow required to achieve 100% power increased but the flow units were not adjusted accordingly. The result was a deviation of about 5% between the required RPS flow-biased trip setpoint and the actual setpoint. As an immediate corrective action, the Gain Adjustment Factor (GAF) was adjusted 6% upward to correct the flow units to a proper and more conservative value. The long term corrective action is to revise the flow-bias calibration procedure.
- (LER 90-005)
- 05-31-90 At the end of the month the plant was operating at 82.4 percent of rated thermal power with 420.0 MWe-net being delivered to customers connected to the grid.