IES Utilities Inc.
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

Office: 319.851.7611
Fax: 319.851.7986
www.alliant-energy.com

July 10, 2000

NG-00-1160

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station 0-P1-17
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center
Docket No: 50-331
Operating License: DPR-49
June 2000 Monthly Operating Report
File: A-118d

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for June 2000. 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,

Richard L. Anderson
Plant Manager-Nuclear

RLA/RBW

Enclosures

IE24

cc:

Mr. James E. Dyer
Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

Ms. Barbara Lewis
McGraw-Hill, Inc.
1200 G Street NW, Suite 1100
Washington, DC 20005

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

Document Control Desk
INPO Records Center
700 Galleria Parkway
Atlanta, GA 30339-5957

Ms. Brenda Mozafari
Project Manager
1 White Flint North
Mail Stop 13D18
11555 Rockville Pike
Rockville, MD 20852

Ms. Lisa Stump
Iowa State Utilities Board
Lucas State Office Building
Des Moines, IA 50319

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

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

Mr. Al Gutterman
Morgan, Lewis, Bockius
1800 M St. NW
Washington, DC 20036-5859

DOCU

NRC Resident Inspector

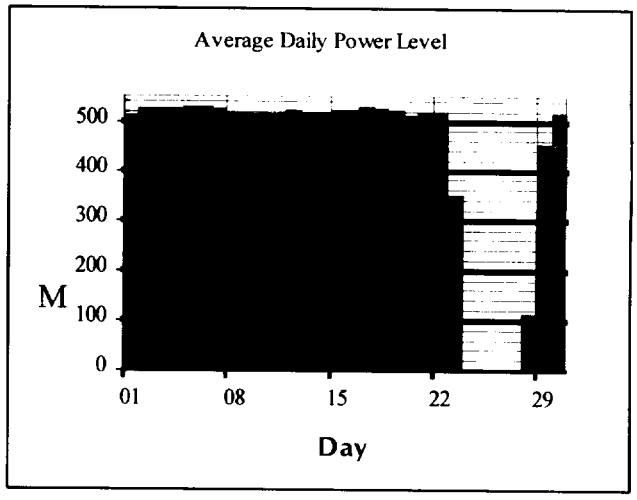
CTS Project

OPERATING DATA REPORT

DOCKET NO: 50-331
DATE: 07/10/2000
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: June 2000
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



		June-00	2000	Cumulative
11.	Hours in Reporting Period	720.0	4,367.0	222,767.0
12.	Number of Hours Reactor Was Critical	677.9	4,226.6	173,964.0
13.	Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14.	Hours Generator On-Line	607.9	4,137.4	170,033.2
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	999,747.2	6,812,492.1	245,202,857.1
17.	Gross Electrical Energy Generated (MWH)	328,022.0	2,297,592.0	82,225,453.6
18.	Net Electrical Energy Generated (MWH)	309,704.0	2,171,440.3	77,230,724.4
19.	Unit Service Factor	84.4%	94.7%	76.3%
20.	Unit Availability Factor	84.4%	94.7%	76.3%
21.	Unit Capacity Factor (Using MDC Net)	82.7%	95.6%	72.8%
22.	Unit Capacity Factor (Using DER Net)	80.0%	92.4%	69.7%
23.	Unit Forced Outage Rate	15.6%	5.3%	9.0%

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

DOCKET NO: 50-331
DATE: 07/10/2000
Unit: Duane Arnold Energy Center
COMPLETED BY: Richard Woodward
TELEPHONE: (319) 851-7318

MONTH June 2000

Day	Average Daily Power Level (MWe-Net)
1	513.4
2	524.3
3	526.6
4	526.8
5	529.3
6	528.3
7	524.6
8	520.5
9	517.2
10	514.3
11	516.3
12	521.3
13	517.3
14	518.4
15	523.3
16	520.9
17	529.1
18	524.6
19	520.8
20	512.9
21	519.6
22	520.1
23	350.0
24	0.0
25	0.0
26	2.5
27	0.0
28	111.9
29	452.7
30	517.3
31	0.0

REFUELING INFORMATION

DOCKET NO: 50-331
DATE: 07/10/2000
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, 2001

3. **Scheduled date for restart following refueling.** Summer, 2001

4. **Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?** Yes, as part of the Extended Power Uprate Project.

5. **Scheduled date(s) for submitting proposed licensing action and supporting information.** October, 2000.

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.** General Electric 14 fuel design, Maximum Extended Load Line Limit Analysis (MELLA).

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	N/A
Discharged from core to Spent Fuel Storage Pool	1776	N/A
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

DOCKET NO: 50-331
DATE: 07/10/2000
Unit: Duane Arnold Energy Center
COMPLETED BY: Richard Woodward
TELEPHONE: (319) 851-7318

UNIT SHUTDOWNS AND POWER REDUCTIONS
REPORT MONTH: June 2000

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	Cause
5	06/23 16:17 - 06/26 01:19	F	57.0	A	3	2000-002	Differential Current Phase 3 Relay trip
6	06/26 04:02 - 06/28 11:08	F	65.1	A	1	N/A	At low power, installed instrumentation revealed the loose connection which had been the root cause of current transformer failure.

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)

DOCKET NO.: 50-331
DATE: 07/10/2000
Unit: Duane Arnold Energy Center
COMPLETED BY: Richard Woodward
TELEPHONE: (319) 851-7318

Monthly Operational Overview for June 2000

At the beginning of the month the DAEC had operated 144 days since its most recent startup.

The DAEC continued operating at nearly full licensed thermal power until a turbine trip and reactor scram at 100% power occurred June 23rd at 16:17. The scram also caused both recirculation pumps to trip as designed. Following the scram, four safety relief valves briefly lifted as designed. Following the scram, reactor level reached 211 inches above the top of active fuel which caused both feedwater pumps to trip on high reactor vessel level.

The cause of the event was a main generator differential current trip in a current transformer. The root cause of the current transformer failure was a loose terminal connection which resulted in a high resistance and a high voltage potential. This resulted in arcing which vaporized the associated lead. (LER# 2000-002 – pending.)

The plant commenced reactor startup at 04:20 on June 25th and became critical at 10:24. At 01:19 June 26th, the main generator was synchronized to the grid. However, instrumentation on the current transformer then pinpointed the loose terminal connection, and the turbine and generator were taken offline for the repair at 04:02. The reactor was maintained critical while the repair proceeded, and the generator was again synchronized to the grid at 11:08 on June 28. Full power was achieved at 01:30 on June 30th.

Allocation of Production & Losses: June 2000	Electrical Output MWe	Capacity Factor % of 571 MWe (Target Output)	Full Power Equivalent Hours (EPH_{eq})
Capacity Losses: PPC/FWC Out of Service: 06/01 20:54 - 06/02 04:26, 06/09 21:43 - 22:03, 06/23 11:10 - 15:46	0.17	0.03%	0.20
Control Rod Adjustment: 06/10 01:02 - 09:15 (following MAPRAT) 06/20 01:02 - 09:15, 06/29 21:13 - 06/30 01:30, 06/30 03:40 - 05:20 & 12:20 - 13:05	0.23	0.04%	0.27
Aborted Startup 06/26 01:19 - 04:02	2.17	0.38%	2.72
HPCI Run 06/14 00:18 - 06/14 01:22	0.00	0.00%	0.01
Ramp-up to full-power: 06/28 11:08 - 06/30 01:30	7.88	1.38%	9.91
Maintain Margin to 1658 MWth Limit	0.17	0.03%	0.18
Efficiency Losses: Circ Water System Flow Limitation	2.18	0.38%	2.74
Steam Cycle Isolation Valve Losses: BV-1: 1.7 MWe, MO1099: 0.3 MWe	2.00	0.35%	2.52
Unidentified Losses	1.24	0.22%	1.73
Average Weather Losses:	+10.40	+1.82%	+13.10
Total On-line Losses:	**26.44**	**4.63%**	**33.38**
Off-Line Losses: 06/23 04:17 - 06/26 01:19, 06/26 04:02 - 06/28 11:08	**88.96**	**15.58%**	**112.14**
Electric Generation:			
Plant House Loads (while on-line)	27.69	4.85%	34.91
Net Electric Output	+427.91	+74.94%	+539.57
Gross Electric Generation	**455.60**	**79.79%**	**574.48**
Target Electric Output, Total %, Total # of clock-hours	**571.00**	**100.00%**	**720.00**

Licensing Action Summary:

Plant Availability:	84.4%		Unplanned Auto Scrams (while/critical) this month:	1
Number of reportable events:	1		Unplanned Auto Scrams (while/critical) last 12 months:	2
			Main Steam Safety and Relief Valve Challenges:	1