Iowa Electric Light and Power Company

March 15, 1993
NG-93-1016

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
February 1993 Monthly Operating Report

Dear Mr. Davis:

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for February 1993. 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,

David Wilson

David Wilson
Plant Superintendent, Nuclear

DLW/kJW/cc
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OPERATING DATA REPORT

DOCKET NO: 50-0331
DATE: 03/15/93
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: February 1993
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): 545
7. Maximum Dependable Capacity (Net MWe): 515
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

Notes

		This Month	Year-to-Date	Cumulative
11.	Hours in Reporting Period	672.0	1416.0	158,472.0
12.	Number of Hours Reactor Was Critical	672.0	1291.1	117,272.3
13.	Reactor Reserve Shutdown Hours	0.0	0.0	192.8
14.	Hours Generator On-Line	672.0	1276.1	114,298.6
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1,102,489.2	2,050,269.1	156,133,562.8
17.	Gross Electrical Energy Generated (MWH)	372,331.0	681,272.0	52,306,181.5
18.	Net Electrical Energy Generated (MWH)	351,092.3	641,753.0	49,038,406.8
19.	Unit Service Factor	100.0%	90.1%	72.1%
20.	Unit Availability Factor	100.0%	90.1%	72.1%
21.	Unit Capacity Factor (Using MDC Net)	101.4%	88.0%	61.5%
22.	Unit Capacity Factor (Using DER Net)	97.1%	84.2%	58.9%
23.	Unit Forced Outage Rate	0.0%	0.0%	12.3%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of each): Refueling, July 1993, 59 days

25. If Shutdown at End of Report Period, Est. Date of Startup: N/A

AVERAGE DAILY UNIT POWER LEVEL

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MONTH February 1993

Day	Average Daily Power Level (MWe-Net)	Day	Average Daily Power Level (MWe-Net)
1	501.8	16	526.1
2	518.3	17	524.9
3	531.2	18	524.5
4	530.3	19	526.4
5	530.4	20	525.6
6	530.4	21	499.9
7	522.0	22	525.5
8	528.6	23	525.7
9	529.3	24	525.0
10	528.4	25	526.3
11	507.1	26	523.8
12	492.0	27	526.4
13	525.3	28	523.6
14	523.8		
15	526.2		

REFUELING INFORMATION

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1. Name of facility.

   Duane Arnold Energy Center

2. Scheduled date for next refueling shutdown.

   July 1993

3. Scheduled date for restart following refueling.

   September 1993

4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?

   Yes

5. Scheduled date(s) for submitting proposed licensing action and supporting information.

   Submitted RTS#255, 1/29/93, Revision of Source Range Monitor Functional Test Surveillance Interval

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. The number of fuel assemblies (a) in the core, (b) in the spent fuel storage pool.

   a. 368
   b. 1152

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.

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UNIT SHUTDOWNS AND POWER REDUCTIONS
REPORT MONTH: February 1993

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	System Code (4)	Comp. Code (5)	Cause
	n/a								

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)

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MAJOR/SAFETY RELATED MAINTENANCE
REPORT MONTH: February 1993

DATE	SYSTEM	COMPONENT	DESCRIPTION
2/01/93	BE	ISV	Perform diagnostic tests on motor operated drywell spray motor operated isolation valves. Inspected and lubed gearbox limit switches. Required entering into 30 day Limiting Condition of Operation (LCO) for Loss of Containment Spray. Exited LCO.
2/11/93	EK	DG	A leak developed in the jacket coolant discharge piping of the #11 cylinder liner. Warping of a spool piece had caused a gasket to break and wear through. The engine was not declared inoperable because water could be added to the expansion tank to keep the system full, however the engine was taken out of service for replacement to prevent the leak from increasing.
02/25/93	BC	TIS	During performance of a primary containment isolation instrumentation (main steam line steam leakage detection system) surveillance test procedure, a false turbine building high temperature signal generated a spurious "1/2" Group 1 isolation. No Emergency Safety Function actuation occurred. Instrument Technician checked instrument, wiring, and cabinet for shorts or ground and could not duplicate symptoms. Monitored for 24 hours, received no other spurious signals from this source.

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Monthly Operational Overview for February 1993:

On the first of February, DAEC was operating at 94.7% and increasing reactor power having just completed a 5½ day outage to reinstall one of the two circulating water pumps and fix a steam line leak. The pump had failed November 13, 1992, and the plant had operated 69 days with only one pump before shutting down January 24. Except for a planned surveillance, control rod movements, and a grid disturbance (discussed below), the plant operated at full reactor power throughout the remainder of the month. Gross capacity factor was 97.9% (Design Electrical Rating).

The following table summarizes February plant operation and categorizes losses in terms of average MWe, capacity factor, and full power equivalent hours.

	MWe	Capacity Factor % of 565.7 MWe	No. of Full Power Equivalent Hours
Losses due to control rod movements, surveillance	1.5	0.3%	1.8
Negative losses, i.e., gains from cool weather	-4.4	-0.8%	-5.2
Losses due to degraded heat rate	6.5	1.1%	7.7
Metering inaccuracies	4.2	0.7%	5.0
Power reduction caused by transmission lines icing	2.2	0.4%	2.6
Start-up from Jan Circ Pump repair outage	1.6	0.3%	1.9
Actual Gross Electric output	554.1	97.9%	658.2
Design Gross Electric Output	565.7	100.0%	672.0

Over the night of February 11/12, with the plant operating at 100% power, transmission line icing caused grid disturbances. Both Standby Diesel Generators (SBDGs) automatically started three separate times but were not required to load. The cause of each of the automatic starts was a sensed momentary under-voltage condition on both essential buses which was monitored by bus under-voltage relays that feed the SBDG start logics.

Following verification that the essential buses were being powered from their normal sources, the SBDGs were secured and returned to standby mode. Reactor power was reduced, as a discretionary measure, until the extreme wind conditions abated.

This event had no effect on the safe operation of the plant. (LER#93-01)

Licensing Action Summary:

Plant Availability:	100.0%	Auto-unplanned trips this month:	0
Number of reportable events:	1	Auto-unplanned trips last 12 months:	2