Iowa Electric Light and Power Company

February 15, 1994
NG-94-0504

Mr. John B. Martin
Regional Administrator
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
January 1994 Monthly Operating Report

Dear Mr. Martin:

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report for January 1994. 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/RBW/cc
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File A-118d
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IE24
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OPERATING DATA REPORT

DOCKET NO: 50-0331
DATE: 02/15/94
Unit: Duane Arnold Energy Center
COMPLETED BY: Richard Woodward

OPERATING STATUS

1. Unit Name: Duane Arnold Energy Center
2. Reporting Period: January 1994
3. Licensed Thermal Power (MWth): 1658
4. Nameplate Rating (Gross MWe DER): 565.7 (Turbine)
5. Design Electrical Rating (Net MWe DER): 538
6. Maximum Dependable Capacity (Gross MWe MDC): 545
7. Maximum Dependable Capacity (Net MWe MDC): 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): Not Applicable
10. Reasons for Restrictions, If Any: Not Applicable

		This Month	Year-to-Date	Cumulative
11.	Hours in Reporting Period	744.0	744.0	166,560.0
12.	Number of Hours Reactor Was Critical	744.0	744.0	123,688.6
13.	Reactor Reserve Shutdown Hours	0.0	0.0	192.8
14.	Hours Generator On-Line	744.0	744.0	120,522.7
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1,224,863.2	1,224,863.2	165,683,427.4
17.	Gross Electrical Energy Generated (MWH)	415,081.0	415,081.0	55,495,466.5
18.	Net Electrical Energy Generated (MWH)	391,497.0	391,497.0	52,023,159.9
19.	Unit Service Factor	100.0%	100.0%	72.4%
20.	Unit Availability Factor	100.0%	100.0%	72.4%
21.	Unit Capacity Factor (Using MDC Net)	102.2%	102.2%	62.0%
22.	Unit Capacity Factor (Using DER Net)	97.8%	97.8%	59.3%
23.	Unit Forced Outage Rate	0.0%	0.0%	11.8%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of each): None Scheduled
25. If Shutdown at End of Report Period, Est. Date of Startup: (Not Applicable)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-0331
DATE: 02/15/94
Unit: Duane Arnold Energy Center
COMPLETED BY: Richard Woodward
TELEPHONE: (319) 851-7318

MONTH January 1994

Day	Average Daily Power Level (MWe-Net)
1	528.3
2	518.9
3	532.1
4	531.1
5	529.8
6	535.2
7	530.1
8	528.8
9	528.2
10	528.8
11	531.2
12	528.8
13	530.8
14	529.3
15	528.5

Day	Average Daily Power Level (MWe-Net)
16	528.0
17	494.1
18	526.9
19	526.8
20	527.3
21	528.7
22	529.3
23	529.0
24	529.5
25	529.3
26	530.7
27	527.7
28	529.7
29	529.4
30	482.4
31	529.1

REFUELING INFORMATION

DOCKET NO: 50-0331
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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.**

   February 23, 1995

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

   April 14 - 19, 1995

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. **The number of fuel assemblies (a) in the core, (b) in the spent fuel storage pool**
   a. 368
   b. 1280

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.
   c. 3152 requested by RTS#252, submitted March 26, 1993

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. 1998 under the presently installed storage rack capacity.

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UNIT SHUTDOWNS AND POWER REDUCTIONS
REPORT MONTH: January 1994

(There were no shutdowns or day-to-day power reductions (greater than 20%) in January.)

Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	System Code (4)	Comp. Code (5)	Cause

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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Monthly Operational Overview for January 1994:

The only downpowers during January were brief periods to perform turbine valve testing on January 2 and to perform turbine valve testing, heater bay inspections, and a control rod sequence exchange on January 30. On January 17 a power reduction was performed as a conservative measure (anticipating potential consequences) as a result of a frozen pipe causing flow disruption in the offgas system. Forgone production during these downpowers totaled approximately the equivalent of four hours' generation. Efficiency losses have gradually increased by 4-5 MWe since the October 26-28 outage. Fouling of the Feedwater flow nozzles is suspected. Fouled nozzles would cause the heat balance calculation to indicate more reactor power than is actually being produced.

Production and Loss Statistics for the January:	Electric Output MWe	Capacity Factor % of 565.7 MWe	Clock Hours # of 744 Hours
Actual Electric Output	557.9	98.6%	733.7
Weather (gains)/losses	-2.8	-0.5%	-3.7
Control Rod Movements	1.8	0.3%	2.4
Other Capacity Losses (Avg MWth < 1658)	0.9	0.2%	1.2
Efficiency Losses (Weather Normalized Full Power MWe < 565.7)	7.9	1.4%	10.4
Design Electric Output	565.7	100.0%	744.0

On January 7, 1994 while the plant was operating at 100% power, it was determined that the surveillance test of the Average Power Range Monitor (APRM) high flux scram trip setpoint was inadequate. The test had not been performed at a recirculation flow greater than 100% to ensure that the scram setpoint did not exceed 120% rated power, as required by the Technical Specifications. The APRMs were considered to be inoperable and a six hour to Startup mode Limiting Condition for Operation (LCO) was entered. The test was revised and performed with satisfactory results and the LCO was exited. This condition was caused by a lack of awareness of the requirement to test the "clamping" function on the scram trip setpoint. The test results verified that the "clamping" function had been and is set properly at 120% rated power. There was no effect on safe operation of the plant. (LER 94-01)

On January 12, 1994, during routine surveillance of the Reactor Core Isolation Cooling (RCIC) system, three of the four low steam supply pressure isolation switches were found to have drifted below their allowed values (in the non-conservative direction). These four switches generate Primary Containment Isolation System (PCIS) signals to the RCIC inboard and outboard steam supply valves. The plant was operating at 100% power at the time of the surveillance with no existing limiting conditions for operation (LCOs) in effect. All three pressure switches were recalibrated and returned to service within the allowed out-of-service-times. Increased surveillance frequency, procedure revisions, Instrument Trending Program enhancements, and Engineering evaluations of the Barksdale model B2T-M12SS pressure switches are in progress to preclude the recurrence of this and similar events. There was no effect on continued safe operation of the plant or personnel safety as a result of this event. (LER 94-02 pending)

On January 19, 1994 out-of-service maintenance was performed on Off Gas vent radiation monitors without operation of the Standby Gas Treatment System to establish Secondary Containment integrity within one hour as required by Technical Specifications. The Off Gas vent radiation monitors were successfully returned to service and verified operable on January 21, 1994. A separate Off Gas stack effluent radiation monitor was operable during the maintenance, and no abnormal trends were indicated. There was no effect on the safe operation of the plant. (LER 94-03 pending)

Licensing Action Summary:

Plant Availability:	100.0%	Unplanned Auto Scrams (while/Critical) this month:	0
Number of reportable events:	3	Unplanned Auto Scrams (while/Critical) last 12 months:	1