

04/01/78 - 04/30/78

FILE LEVELS ----- DOC. DATE

50-391 TENNESSEE VALLEY AUTHORITY WATTS BAR #2
 50 03/31/78 ACCESSION NBR: 78097-0235 TASK NBR:
 391 DOCUMENT TYPE: LETTER FICHE NBR :
 C DOCUMENT SIZE: 1P+2P NOTARIZED:
 DOCKET DATE: LPDR:
 REPORT NBR:
 RECP: OREILLY J P RECP AFFILI
 ORG: GILLELAND J E ORG AFFILIA

SUBJECT: EXCESSIVE ERCW SYSTEM HEAD LOSS - N

50 04/03/78 ACCESSION NBR: 77333-0170 TASK NBR:
 391 DOCUMENT TYPE: MEMO FICHE NBR :
 C DOCUMENT SIZE: 1P NOTARIZED:
 DOCKET DATE: LPDR:
 REPORT NBR:
 RECP: VARGA S RECP AFFILI
 ORG: HELTEMES C J ORG AFFILIA

SUBJECT: INPUT FOR WATTS BAR NUCLEAR POWER P
 ASSURANCE.

50 04/03/78 ACCESSION NBR: 78100-0011 TASK NBR:
 391 DOCUMENT TYPE: LETTER FICHE NBR :
 C DOCUMENT SIZE: 1P NOTARIZED:
 DOCKET DATE: LPDR:
 REPORT NBR:
 RECP: VARGA S A RECP AFFILI
 ORG: GILLELAND J E ORG AFFILIA

SUBJECT: ADVISING RESPONSE TO NRC LTR DTD 03
 ANNULUS SEAL RING PROBLEM AND ITS A
 WILL BE SUBMITTED ON OR ABOUT 05/01

IOWA ELECTRIC LIGHT AND POWER COMPANY

DUANE ARNOLD ENERGY CENTER
P. O. Box 351
Cedar Rapids, Iowa 52406
June 13, 1978
DAEC - 78 - 298

Director, Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Monthly Operating Report
File: A-118d

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DISTRICT OFFICE
NRC
SERVICES
BRANCH

1978 JUN 19 AM 10 35

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SERVICES UNIT

Dear Sirs:

Please find enclosed 10 copies of the Duane Arnold Energy Center Monthly Operating Report for May, 1978. The report has been prepared in accordance with the requirements of Regulatory Guide 1.16 and distribution has been made in accordance with Regulatory Guide 10.1.

Very truly yours,

Ellery L. Hammond
Ellery L. Hammond
Chief Engineer
Duane Arnold Energy Center

ELH/JVS/nf
Encl.

cc: D. Arnold
S. Tuthill
J. Wallace
J. Rehnstrom
L. Root
W. Bryant
D. Mineck
D. Wilson
R. Hannen
Dennis Murdock
George Toyne
B. York

REGULATORY DOCKET FILE COPY
Directorate of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137 (1)

Director, Office of Management Information
and Program Control
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555 (2)

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A-118
5/11

OPERATING DATA REPORT

DOCKET NO. 050-0331
 DATE June 13, 1978
 COMPLETED BY J. Van Sickle
 TELEPHONE 319-851-5611

OPERATING STATUS

1. Unit Name: Duane Arnold Energy Center
2. Reporting Period: May
3. Licensed Thermal Power (MWt): 1658
- * 4. Nameplate Rating (Gross MWe): 565 (Turbine Rating)
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 Last Report, Give Reasons:

Notes

9. Power Level To Which Restricted, If Any (Net MWe): _____
10. Reasons For Restrictions, If Any: _____

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	744	3,623	29,183
12. Number Of Hours Reactor Was Critical	740.4	2,673.9	23,227.9
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	632	2,519.4	22,602.1
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	758,664	3,372,528	27,477,744
17. Gross Electrical Energy Generated (MWH)	246,269	1,114,925	9,145,029
18. Net Electrical Energy Generated (MWH)	230,016	1,046,532	8,535,271
19. Unit Service Factor	84.9%	69.5%	77.4%
20. Unit Availability Factor	84.9%	69.5%	77.4%
21. Unit Capacity Factor (Using MDC Net)	60.0%	56.1%	56.8%
22. Unit Capacity Factor (Using DER Net)	57.5%	53.7%	54.4%
23. Unit Forced Outage Rate	10.9%	4.2%	5.1%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):

25. If Shut Down At End Of Report Period, Estimated Date of Startup: N/A

* Turbine Rating: 565.7 MWe
 Generator Rating: 663.5 (MVA) x .90 (Power Factor) = 597 MWe

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 050-0331

UNIT Duane Arnold Energy Center

DATE June 13, 1978

COMPLETED BY J. Van Sickle

TELEPHONE 319-851-5611

MONTH May

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	208
2	194
3	243
4	0
5	0
6	0
7	111
8	267
9	338
10	331
11	351
12	392
13	433
14	423
15	466
16	463

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	462
18	453
19	449
20	390
21	456
22	458
23	457
24	350
25	0
26	138
27	277
28	276
29	326
30	398
31	446

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 050-0331
 UNIT NAME Duane Arnold Energy Center
 DATE June 13, 1978
 COMPLETED BY J. Van Sickle
 TELEPHONE 319-851-5611

REPORT MONTH May

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
10.	780504	F	77.5	B	1		XX	MECFUN	Shutdown to correct alterex bearing vibration problem caused by misaligned generator to alterex coupling. Reactor scrambled on May 5, 1978 during surveillance test on level instrumentation. Startup delayed for removal of main turbine permanent magnet generator.
11.	780524	S	34.5	A	1		XX	VALVOP	Drywell equipment drain sump pump discharge valve would not open. Plant was shutdown to facilitate opening the valve.

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-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

Narrative Summary of Operating Experience

- 5-1 At the beginning of the report period the plant was operating at 265 MWe with control rod withdrawals in progress.
- 5-1 A power reduction was begun due to high vibration in the #10 (alterex) bearing.
- 5-3 During surveillance testing RHR service water pump 1P-22D would not develop the required discharge pressure at rated flow. The pump impeller was adjusted and the pump tested satisfactory.
- RO 78-24
- 5-3 During surveillance testing the "B" containment oxygen analyzer was found inoperable and was repaired.
- 5-4 The main turbine was removed from the line to investigate the cause of the high vibration in the alterex bearing.
- 5-4 The mode switch was placed in startup.
- 5-5 The reactor scrammed during the performance of a surveillance test on reactor water level instrumentation. Preparations were begun to take the reactor critical. Preparations for startup commenced and reactor again critical after approximately four hours.
- 5-6 Short delay in startup activities to repair body to bonnet leak on air ejector valve CV 1364.
- Rolled turbine and placed mode switch in run at 1720 hours.
- Turbine manually tripped at 1740 hours due to overheating of permanent magnet generator (PMG). PMG removed for repair.
- 5-7 Rolled turbine and placed mode switch in run at approximately 0700 hours.
- Generator synchronized to grid at 0802 hours.
- Faulty power supply to APRM Channel F caused half scram. Power supply repaired.
- Reactor power 50% at 2300 hours.
- 5-9 A power reduction from 378 MWe was begun at 2220 hours. The purpose of the power reduction was to facilitate control rod manipulations.
- 5-10 Control rod manipulations were completed and load increases were begun.
- 5-12 During surveillance testing river water supply pump 1P-117D did not meet flow requirements and required impeller adjustment. Technical Specification requirements were satisfied.

5-12 During surveillance testing MSIV leakage control system MOV 8401C would not open when initiated. The close torque switch on the operator was adjusted.

RO 78-027

During surveillance testing MSIV leakage control system FM 8408C failed up-scale. The flow monitor float assembly was sticking and was freed up.

RO 78-026

5-13 Plant was at 465 MWe at 2230 hours.

5-14 Problems were experienced with the "A" feed reg. valve not controlling level properly so the valve was placed in manual control.

5-15 Attempts to pump the drywell equipment drain sump were unsuccessful due to MOV 3725 not opening.

5-17 Plant was at 494 MWe at 0540 hours.

The plant conducted an emergency drill to test both site and offsite response.

During surveillance testing the "B" core spray system sparger pipe break detection alarm card was found pulled. Design reviews were expedited.

RO 78-023

5-19 During surveillance testing the HPCI pump did not reach the required discharge flow rate. Investigation continuing.

RO 78-025

5-23 The HPCI system was tested and declared operable at 2304 hours.

5-24 During normal shift surveillance an operator found the reactor building stack flow instrumentation indicating downscale. The instrument regulated power supply was replaced.

ETSV 78-04

Began decreasing power from 476 MWe for a plant outage to repair MOV 3725.

The main generator was removed from the line and the turbine tripped at 2116 hours.

The mode switch was placed in startup at 2140 hours.

The HPCI turbine was started to help control reactor vessel pressure.

5-25 The condensor water boxes were drained for cleaning.

5-25 During surveillance testing main steam tunnel high temperature TIS 4444 was found out of calibration. The instrument was recalibrated.

RO Investigation Pending

5-25 The circ. water system was placed back in service.

5-26 MOV 3725 was locked in the open position. This valve has no isolation function.

HPCI system was secured.

Preparations for plant startup were begun. Control rod withdrawals were begun to increase reactor power. The turbine was sealed and the SJAE's placed in service.

The mode switch was placed in run and the main turbine rolled at 0714 hours.

The main generator was placed on the line at 0748 hours.

The plant was at 289 MWe at 2250 hours.

5-28 A fuel preconditioning ramp was begun at 1015 hours.

5-30 Problems were experienced with slight reactor water level fluctuations each time recirculation flow was increased.

5-31 Problems were experienced with the second stage reheat drain tank to 6A heater valve, CV 1056, not closing properly. The valve was closed by securing the air supply to it.

A discharge line high temperature alarm was received for PSV 4403. Investigation revealed the problem was a failed thermocouple.

The plant was at 494 MWe at 2245 hours.

Docket No. 050-0331
 Unit Duane Arnold Energy Cent
 Date June 13, 1978
 Completed by J. Van Sickle
 Telephone 319-851-5611

MAJOR SAFETY RELATED MAINTENANCE

DATE	SYSTEM	COMPONENT	DESCRIPTION
5-3-78	RHR System	RHR Service Water Pump 1P-22D	1P-22D was repacked.
5-4-78	RHR System	RHR Service Water Pump 1P-22D	1P-22D impeller was adjusted.
5-4-78	Containment Atmospheric Control	RIT 8102B	Adjusted transmitter high voltage.
5-4-78	Containment Atmospheric Control	AN 8181B	Oxygen analyzer cell was replaced.
5-4-78	Containment Atmospheric Control	AN 8181 A	Oxygen analyzer cell was rejuvenated.
5-7-78	Neutron Monitoring System	APRM F	APRM F power supply was repaired.
5-12-78	MSIV Leakage Control System	FM 8408C	Flow monitor was sticking in the upscale position and was freed up.
5-15-78	River Water Supply System	1P-117D	Impeller was adjusted to meet required flow.
5-19-78	Reactor Protection System	LIS 4534	Level switch was recalibrated.
5-19-78	HPCI System	FIS 2310	Flow switch was calibrated.
5-25-78	MSIV Leakage Control System	MOV 8401C	MOV close torque switch was readjusted.

REFUELING INFORMATION

Docket No. 050-0331
Unit Duane Arnold Energy Center
Date June 13, 1978
Completed by J. Van Sickle
Telephone 319-851-5611

1. Name of facility.
 - A. Duane Arnold Energy Center
2. Scheduled date for next refueling shutdown.
 - A. March 1, 1979
3. Scheduled date for restart following refueling.
 - A. June 1, 1979
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?
 - A. Yes. MCPR and MAPLHGR operating limits as derived from transient and accident analyses.
5. Scheduled date(s) for submitting proposed licensing action and supporting information.
 - A. January, 1979
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.
 - A. The reload will consist of up to 100 8 x 8 2 water rod bundles.
7. The number of fuel assemblies (a) in the core and (b) in the spent fuel storage pool.
 - A. a) 368 in core b) 276
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. a) 480 b) 2050
9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity.
 - A. 1980