

December 15, 2003

NG-03-0843
10 CFR 50.4

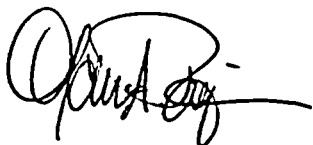
Office of Nuclear Reactor Regulation
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DUANE ARNOLD ENERGY CENTER
DOCKET 50-331
LICENSE No. DPR-49
NOVEMBER 2003 MONTHLY OPERATING REPORT

Please find enclosed the Duane Arnold Energy Center Monthly Operating Report. 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.

This letter makes no new commitments or changes to any existing commitments.

Sincerely,



Mark A. Peifer
Site Vice President, Duane Arnold Energy Center

CC Regional Administrator, USNRC, Region III
Project Manager, USNRC, NRR
NRC Resident Inspector (DAEC)

Enclosure: OPERATING DATA REPORT

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OPERATING DATA REPORT

DOCKET NO. 50-331
UNIT NAME Duane Arnold 1
DATE December 9, 2003
COMPLETED BY Richard Woodward
TELEPHONE (319) 851-7318

REPORTING PERIOD: November 2003

1. Design Electrical Rating (MWe) 581.40
2. Maximum Dependable Capacity (MWe-Net) 565.50

	<u>This Month</u>	<u>Yr-to-Date</u>	<u>Cumulative</u>
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UNIT SHUTDOWNS

No.	Date	Type F: Forced S: Scheduled	Duration (Hours)	Reason ¹	Method of Shutting Down ²	Cause & Corrective Action Comments
4	11/03/03	S	86.35	B	1	Condenser tube leak repair
5	11/07/03	F	59.38	A	2	Reactor water conductivity increase due to resin intrusion – LER pending
6	11/18/03	S	165.95	B	1	Repair condenser in-leakage
7	11/25/03	F	128.58	A	2	Degrading condenser vacuum due to air in-leakage – LER pending

¹Reason:

- A Equipment Failure (Explain)
- B Maintenance or Test
- C Refueling
- D Regulatory Restriction
- E Operator Training & License Examination
- F Administration
- G Operational Error (Explain)
- H Other (Explain)

²Method:

- 1 Manual
- 2 Manual Trip/Scram
- 3 Automatic Trip/Scram
- 4 Continuation
- 5 Other (Explain)

NARRATIVE SUMMARY

At the beginning of November, the DAEC had operated 194 days since completion of Refueling Outage 18.

At 15:55 on November 2, operators commenced a planned shutdown to repair a condenser tube leak. (This tube leak was previously identified during Cycle 19 operation, however the impact on plant chemistry was less and the leak did not remain active.) The generator was taken off-line November 3 at 03:10, and the reactor taken sub-critical at 04:55. The repair was completed, and the reactor was taken critical at 01:21 on November 6 and synchronized to the grid at 17:31.

During the power ascension, at approximately 46% power, reactor conductivity increased, indicating a possible resin intrusion from the condensate demineralizers. Operators inserted a manual scram at 01:34 on November 7. During the shutdown, the resin intrusion cause for this outage was not substantiated. The targeted condensate demineralizer beds were retested and the results were inconclusive. The reactor was taken critical at 20:47 on November 8 and the generator synchronized to the grid on November 9 at 12:57.

Reactor power level was held at approximately 27% due to condenser air in-leakage. Helium testing indicated several areas in the condenser around the condenser-turbine expansion joint where in-leakage was occurring. The air in-leakage hole was estimated to be approximately ½ inch in size. The decision was made to continue operating at approximately 27% power (as limited by condenser pressure) due to grid demand and to await the arrival of repair parts and specialized contractor assistance. Just prior to shutting down, reactor power was increased from 27% power to 35% power with the "E" condensate demineralizer in service. This resulted in reactor water conductivity increasing. The "E" condensate demineralizer was then removed from service and conductivity decreased, confirming the source of the resin intrusion. The generator was taken off-line on November 18 at 13:43, and the reactor taken sub-critical at 14:37.

Following the expansion joint repair, reactor startup commenced at 12:02 on November 24. The reactor was taken critical at 14:18, and the generator was synchronized to the grid on November 25 at 11:40. At 15:22 on November 25, the plant was manually scrammed due to degrading condenser vacuum caused by air in-leakage.

While the search for the source of the condenser air in-leakage continued, the reactor was taken critical on November 27 at 03:53, maintaining power level at approximately 5%, in order to facilitate further condenser in-leakage testing. On November 29, water testing confirmed that the welded joint (seam) in the high

December 15, 2003
Enclosure to NG-03-0843
Page 4 of 4

pressure condenser loop seal was the source of the in-leakage. At 00:12 on November 30, the reactor was shut down.

At the beginning of December, plant priorities were to perform condenser repairs.