

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH November, 1985

DOCKET NO. 50-316
 UNIT NAME D.C. Cook - Unit 2
 DATE 12-6-85
 COMPLETED BY B.A. Svensson
 TELEPHONE 616/465-5901
 PAGE 1 of 2

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
165 Cont'd	851029	F	178.1	A	3	85-035-00	ZZ	ZZZZZZ	The Unit tripped on 851029 at which time reactor trip breaker "A" failed to open. The reactor trip breaker problem was thoroughly investigated, corrective action taken and the results reported to the NRC in our letter, AEP:NRC:0962, to Mr. James G. Keppler, dated, November 6, 1985. The Unit was returned to service at 1008 hours on 851108 and reactor power increased to 80% on 851109. An administrative power limit of 80% is being maintained to minimize steam generator tube degradation.
166	851113	F	20.0	F	3	85-037-00	ZZ	ZZZZZZ	A reactor trip occurred at 1458 hours on 851113 due to a steam flow/feedwater flow mismatch coincident with low level in steam generator #2.

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

(9/77)

8602180044 851130
 PDR ADOCK 05000316
 R PDR

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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
166 Cont'd.									The mismatch signal was as a result of removing steam generator #2 pressure transmitter from service and placing the associated bistables in a tripped condition. Removing the pressure transmitter from service resulted in a decrease in the steam flow signal due to loss of the pressure compensation. The control system "sensing" the steam flow decrease reacted by closing the feedwater regulating valve which resulted in an actual low steam generator level, thus completing the coincidence circuit for the reactor trip signal. To prevent recurrence, appropriate procedures will be revised. The Unit was returned to service at 1058 hours on 851114 and reactor power increased to 80% on 851115.

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Docket No.: 50-316
Unit Name: D.C. Cook Unit 2
Completed By: D. A. Bruck
Telephone: (616) 465-5901
Date: December 9, 1985
Page: 1 of 2

MONTHLY OPERATING ACTIVITIES - NOVEMBER, 1985

HIGHLIGHTS:

The reporting period began with the reactor coolant system in Mode 3 and 538°F temperature.

On 11-07-85, the reactor was taken critical and on 11-08-85, at 1008 hours the main generator was paralleled to the grid. On 11-09-85, reactor power was increased to 80%. (An administrative limit of 80% has been imposed in an effort to minimize steam generator tube degradation).

On 11-13-85, at 1458, the reactor tripped from 80% power due to steam flow/feed flow mis-match coincident with low steam generator level.

On 11-14-85, the reactor was taken critical and the generator was paralleled to the grid at 1058 hours. Reactor power was increased to 80% on 11-15-85.

The reactor remained at 80% for the rest of the reporting period.

Gross electrical generation for the month of November is 436,050 MWH.

SUMMARY:

11-07-85 At 2239, the reactor became critical.

11-08-85 At 0613, the reactor entered Mode 1.

At 1008, the main generator was paralleled to the grid.

At 1055, a reactor power increase to 30% was begun.

At 2000, Chemistry was meet and a power increase to 50% began at 2015.

11-09-85 At 0310, a reactor power increase to 80% was begun.

At 1315, the power increase was stopped at 79%.

11-10-85 At 0156, an inadvertant Engineered Safety Features actuation occurred due to a high alarm on containment radiation monitor ERS-2401.

11-13-85 At 1458, the reactor tripped on steam generator number 2 steam flow/feed flow mis-match coincident with low steam generator level.

Docket No.: 50-316
Unit Name: D.C. Cook Unit 2
Completed By: D. A. Bruck
Telephone: (616) 465-5901
Date: December 9, 1985
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11-14-85 At 0514, the reactor became critical.

At 0804, the reactor entered Mode 1.

At 1058, the generator was paralleled to the grid.

At 1220, the reactor power increase was stopped at approximately 30% for Chemistry.

At 1615, a reactor power increase to 50% was begun.

At 2045, the power increase was stopped at 49%.

11-15-85 At 0736, a reactor power increase to 80% begun.

At 1300, the power increase was stopped at 80.5%.

11-17-85 At 0043, an Engineered Safety Features actuation occurred due to high alarm on containment area monitor 021.01.

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COMPLETED BY	<u>B. A. Svensson</u>
TELEPHONE	<u>(616) 465-5901</u>
PAGE	<u>1 of 1</u>

MAJOR SAFETY-RELATED MAINTENANCE

NOVEMBER, 1985

- C&I-1 Tcold wide range RTD loop 2 (NTR-220) was reading 15° higher than the other 3 loops. The RTD was replaced and loop 2 now reads the same as the other 3 loops.
- C&I-2 Containment isolation valves, VCR-10 and 20, on the glycol system closed when controls were in "auto" position. HFA relay H3X1-GET was found burned out. The relay was replaced and correct operation of the valves in "auto" was verified.

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH October, 1985

DOCKET NO. 50-316
 UNIT NAME D.C. Cook, Unit 2
 DATE 11/8/85
 COMPLETED BY B.A. Svensson
 TELEPHONE 616/465-5901
 PAGE 1 of 2

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
164	850824	F	545.2	A&B	1	N.A.	CC	HTEXCH	The Unit was removed from service on 850824 for steam generator tube leak repairs and to perform required design changes. The Unit was returned to service on 851023 at 1712 hours EDT. During power ascension from the previous outage, a reactor trip occurred from 79% power. The trip was triggered by a spurious indicated low-flow condition in R.C. Loop 2 due to a momentary drop in the output voltage from vital instrument bus, CRID II. The voltage drop is believed to have been caused by a component failure in radiation monitor, ERS-2300. Following the reactor trip it was discovered that reactor trip breaker "A" failed to open. The trip was accomplished through reactor trip
165	851029	F	58.0	A	3	85-035-0	ZZ	ZZZZZZ	

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REPORT MONTH October, 1985

DOCKET NO. 50-316
 UNIT NAME D.C. Cook, Unit 2
 DATE 11/8/85
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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
165	(Continued)								breaker "B". The Unit remained shut down at the end of the month (RCS in Mode 3) pending resolution of the reactor trip breaker problem.

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⁵
 Exhibit I - Same Source

(9/77)



INDIANA & MICHIGAN ELECTRIC COMPANY

Donald C. Cook Nuclear Plant
P.O. Box 458, Bridgman, Michigan 49106

December 6, 1985

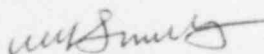
Director, Office Of Management Information
and Program Control
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Gentlemen:

Pursuant to the requirements of Donald C. Cook Nuclear Plant Unit 2
Technical Specification 6.9.1.6, the attached Monthly Operating Report
for the Month of November, 1985 is submitted.

Also attached please find a copy of the Unit shutdown and power re-
duction form for the month of October, 1985, which has been updated
to show the Licensee Event Report Number for Outage No. 165.

Sincerely,


W. G. Smith, Jr.
Plant Manager

WGS:ab

Attachments

cc: J. E. Dolan
M. P. Alexich
R. W. Jurgensen
NRC Region III
B. L. Jorgensen
R. O. Bruggee
R. C. Callen
S. J. Mierzwa
F. S. VanPelt, Jr.
P. D. Rennix
D. R. Hahn
Z. Cordero
J. J. Markowsky
J. F. Stietzel
PNSRC File
INPO Records Center
ANI Nuclear Engineering Department

IE24
11

N.R.C. OPERATING DATA REPORT

DOCKET NO. 50-316
 DATE 12/3/85
 COMPLETED BY CLIMER
 TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name D. C. Cook Unit 2 -----
 2. Reporting Period NOV 85 :notes :
 3. Licensed Thermal Power (MWt) 3411 :
 4. Name Plate Rating (Gross MWe) 1133 :
 5. Design Electrical Rating (Net MWe) 1100 :
 6. Maximum Dependable Capacity (GROSS MWe) 1100 :
 7. Maximum Dependable Capacity (Net MWe) 1060 -----
 8. If Changes Occur in Capacity Ratings (Items no. 3 through 7) Since Last Report Give Reasons -----

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

	This Mo.	Yr. to Date	Cumm.
11. Hours in Reporting Period	720.0	8116.0	69384.0
12. No. of Hrs. Reactor Was Critical	539.2	5204.8	48284.8
13. Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14. Hours Generator on Line	521.9	5111.0	47109.6
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Therm. Energy Gen. (MWH)	1372641	16173202	149251263
17. Gross Elect. Energy Gen. (MWH)	436050	5249820	49035250
18. Net Elect. Energy Gen. (MWH)	416770	5058301	47276035
19. Unit Service Factor	72.5	63.0	70.4
20. Unit Availability Factor	72.5	63.0	70.4
21. Unit Capacity Factor (MDC Net)	54.6	58.8	66.7
22. Unit Capacity Factor (DER Net)	52.6	56.7	65.3
23. Unit Forced Outage Rate	27.5	35.7	16.0

24. Shutdowns Scheduled over Next Six Months (Type, Date, and Duration):
 REFUELING OUTAGE SCHEDULED TO START 3/1/85, EXPECTED DURATION 90 DA

25. If Shut Down At End of Report Period, Estimated Date of Startup: -----

26. Units in Test Status (Prior to Commercial Operation):
 Forecast Achieved

INITIAL CRITICALITY
 INITIAL ELECTRICITY
 COMMERCIAL OPERATION

AVERAGE DAILY POWER LEVEL (MWe-Net)

DOCKET NO. 50-316
UNIT TWO
DATE 12/3/85
COMPLETED BY CLIMER
TELEPHONE 616-465-5901

MONTH NOV 85

DAY	AVERAGE DAILY POWER LEVEL	DAY	AVERAGE DAILY POWER LEVEL
1	0	17	841
2	0	18	852
3	0	19	846
4	0	20	845
5	0	21	850
6	0	22	850
7	0	23	851
8	131	24	853
9	677	25	852
10	813	26	848
11	828	27	851
12	837	28	855
13	519	29	854
14	165	30	851
15	657	31	0
16	839		