

OPERATING DATA REPORT

DOCKET NO. 50-316
 DATE 12/7/84
 COMPLETED BY CLIMER
 TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: Donald C. Cook Unit 2
2. Reporting Period: November, 1984
3. Licensed Thermal Power (MWe): 3411
4. Nameplate 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 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 | <u>720</u> | <u>8,040</u> | <u>60,624</u> |
| 12. Number Of Hours Reactor Was Critical | <u>632.1</u> | <u>4,959.5</u> | <u>42,744.7</u> |
| 13. Reactor Reserve Shutdown Hours | <u>0</u> | <u>0</u> | <u>0</u> |
| 14. Hours Generator On-Line | <u>622.2</u> | <u>4,864</u> | <u>41,644.1</u> |
| 15. Unit Reserve Shutdown Hours | <u>0</u> | <u>0</u> | <u>0</u> |
| 16. Gross Thermal Energy Generated (MWH) | <u>2,056,182</u> | <u>15,969,740</u> | <u>132,018,862</u> |
| 17. Gross Electrical Energy Generated (MWH) | <u>680,100</u> | <u>5,205,750</u> | <u>43,432,360</u> |
| 18. Net Electrical Energy Generated (MWH) | <u>656,624</u> | <u>5,023,867</u> | <u>41,877,238</u> |
| 19. Unit Service Factor | <u>86.4</u> | <u>60.5</u> | <u>71.5</u> |
| 20. Unit Availability Factor | <u>86.4</u> | <u>60.5</u> | <u>71.5</u> |
| 21. Unit Capacity Factor (Using MDC Net) | <u>86.0</u> | <u>58.9</u> | <u>68.4</u> |
| 22. Unit Capacity Factor (Using DER Net) | <u>82.9</u> | <u>56.8</u> | <u>67.0</u> |
| 23. Unit Forced Outage Rate | <u>13.6</u> | <u>4.1</u> | <u>12.8</u> |

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Surveillances and Maintenance outage scheduled to start
12/22/84. Estimated duration 1 week.

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 | <u> </u> | <u> </u> |
| INITIAL ELECTRICITY | <u> </u> | <u> </u> |
| COMMERCIAL OPERATION | <u> </u> | <u> </u> |

B501230555 841207
 PDR ADOCK 05000316
 R PDR

1/1
 IE24 (1/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-316

UNIT 2

DATE 12/5/84

COMPLETED BY CLIMER

TELEPHONE 616-465-5901

MONTH November

| DAY | AVERAGE DAILY POWER LEVEL (MWE-Net) | DAY | AVERAGE DAILY POWER LEVEL (MWe-Net) |
|-----|--|-----|--|
| 1 | <u>1082</u> | 17 | <u>1075</u> |
| 2 | <u>1083</u> | 18 | <u>1049</u> |
| 3 | <u>1086</u> | 19 | <u>170</u> |
| 4 | <u>1084</u> | 20 | <u>0</u> |
| 5 | <u>1085</u> | 21 | <u>479</u> |
| 6 | <u>1059</u> | 22 | <u>1095</u> |
| 7 | <u>1083</u> | 23 | <u>1098</u> |
| 8 | <u>1077</u> | 24 | <u>1096</u> |
| 9 | <u>1082</u> | 25 | <u>1100</u> |
| 10 | <u>1008</u> | 26 | <u>1102</u> |
| 11 | <u>313</u> | 27 | <u>1078</u> |
| 12 | <u>0</u> | 28 | <u>1101</u> |
| 13 | <u>424</u> | 29 | <u>1098</u> |
| 14 | <u>1046</u> | 30 | <u>1097</u> |
| 15 | <u>1093</u> | 31 | <u></u> |
| 16 | <u>1097</u> | | |

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 1/1000.

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH November, 1984

DOCKET NO. 50-316
 UNIT NAME D.C. Cook - Unit 2
 DATE 12-7-84
 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 |
|-----|--------|-------------------|------------------|---------------------|--|-------------------------|--------------------------|-----------------------------|---|
| 152 | 841111 | F | 48.1 | A | 2 | 84-029-0 | CB | VALVEX | With reactor power being decreased, the reactor was manually tripped from 73% due to decreasing pressurizer pressure caused by a pressurizer spray valve that failed to fully close following partial cycling of the valve. The pressure continued to decrease causing a safety injection. The pressurizer spray valve was checked, and found to remain partially open following cycling. The valve was deactivated in the closed position and will be repaired during an outage of sufficient length. The Unit was returned to service on 841113 and 100% power was reached on 841114. |
| 153 | 841119 | F | 49.7 | H | 3 | 84-030-0 | ZZ | ZZZZZZ | The reactor tripped from 96% power. The cause of the trip was a sensed steam flow/feedwater flow mismatch |

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

UNIT SHUTDOWNS AND POWER REDUCTIONS

INSTRUCTIONS

This report should describe all plant shutdowns during the report period. In addition, it should be the source of explanation of significant dips in average power levels. Each significant reduction in power level (greater than 20% reduction in average daily power level for the preceding 24 hours) should be noted, even though the unit may not have been shut down completely¹. For such reductions in power level, the duration should be listed as zero, the method of reduction should be listed as 4 (Other), and the Cause and Corrective Action to Prevent Recurrence column should explain. The Cause and Corrective Action to Prevent Recurrence column should be used to provide any needed explanation to fully describe the circumstances of the outage or power reduction.

NUMBER. This column should indicate the sequential number assigned to each shutdown or significant reduction in power for that calendar year. When a shutdown or significant power reduction begins in one report period and ends in another, an entry should be made for both report periods to be sure all shutdowns or significant power reductions are reported. Until a unit has achieved its first power generation, no number should be assigned to each entry.

DATE. This column should indicate the date of the start of each shutdown or significant power reduction. Report as year, month, and day. August 14, 1977 would be reported as 770814. When a shutdown or significant power reduction begins in one report period and ends in another, an entry should be made for both report periods to be sure all shutdowns or significant power reductions are reported.

TYPE. Use "F" or "S" to indicate either "Forced" or "Scheduled," respectively, for each shutdown or significant power reduction. Forced shutdowns include those required to be initiated by no later than the weekend following discovery of an off-normal condition. It is recognized that some judgment is required in categorizing shutdowns in this way. In general, a forced shutdown is one that would not have been completed in the absence of the condition for which corrective action was taken.

DURATION. Self-explanatory. When a shutdown extends beyond the end of a report period, count only the time to the end of the report period and pick up the ensuing down time in the following report periods. Report duration of outages rounded to the nearest tenth of an hour to facilitate summation. The sum of the total outage hours plus the hours the generator was on line should equal the gross hours in the reporting period.

REASON. Categorize by letter designation in accordance with the table appearing on the report form. If category H must be used, supply brief comments.

METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER. Categorize by number designation

¹Note that this differs from the Edison Electric Institute (EEI) definitions of "Forced Partial Outage" and "Scheduled Partial Outage." For these terms, EEI uses a change of 30 MW as the break point. For larger power reactors, 30 MW is too small a change to warrant explanation.

in accordance with the table appearing on the report form. If category 4 must be used, supply brief comments.

LICENSEE EVENT REPORT =. Reference the applicable reportable occurrence pertaining to the outage or power reduction. Enter the first four parts (event year, sequential report number, occurrence code and report type) of the five part designation as described in Item 17 of Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161). This information may not be immediately evident for all such shutdowns, of course, since further investigation may be required to ascertain whether or not a reportable occurrence was involved.) If the outage or power reduction will not result in a reportable occurrence, the positive indication of this lack of correlation should be noted as not applicable (N/A).

SYSTEM CODE. The system in which the outage or power reduction originated should be noted by the two digit code of Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161).

Systems that do not fit any existing code should be designated XX. The code ZZ should be used for those events where a system is not applicable.

COMPONENT CODE. Select the most appropriate component from Exhibit I - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161), using the following criteria:

- A. If a component failed, use the component directly involved.
- B. If not a component failure, use the related component: e.g., wrong valve operated through error; list valve as component.
- C. If a chain of failures occurs, the first component to malfunction should be listed. The sequence of events, including the other components which fail, should be described under the Cause and Corrective Action to Prevent Recurrence column.

Components that do not fit any existing code should be designated XXXXXX. The code ZZZZZZ should be used for events where a component designation is not applicable.

CAUSE & CORRECTIVE ACTION TO PREVENT RECURRENCE. Use the column in a narrative fashion to amplify or explain the circumstances of the shutdown or power reduction. The column should include the specific cause for each shutdown or significant power reduction and the immediate and contemplated long term corrective action taken, if appropriate. This column should also be used for a description of the major safety-related corrective maintenance performed during the outage or power reduction including an identification of the critical path activity and a report of any single release of radioactivity or single radiation exposure specifically associated with the outage which accounts for more than 10 percent of the allowable annual values.

For long textual reports continue narrative on separate paper and reference the shutdown or power reduction for this narrative.

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH November, 1984

DOCKET NO. 50-316
 UNIT NAME D.C. Cook - Unit 2
 DATE 12-7-84
 COMPLETED BY B.A. Svensson
 TELEPHONE 616/465-5901
 PAGE 2 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 |
|--------------------|------|-------------------|------------------|---------------------|--|-------------------------|--------------------------|-----------------------------|--|
| 153 (Continued) | | | | | | | | | concurrent with an apparent low steam generator level. The steam generator level bi-stables had previously been tripped due to the erratic level indication. The cause of the steam flow/feedwater flow mismatch signal has not been determined. The Post Trip Review determined that all safety functions operated correctly and there were no safety related equipment failures. The cause for the erratic level indication on No. 3 steam generator was found to be a leaking plug on the level instrument reference leg condensing pot. The Unit was returned to service on 841121 and 100% power was reached on 841122. |

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

UNIT SHUTDOWNS AND POWER REDUCTIONS

INSTRUCTIONS

This report should describe all plant shutdowns during the report period. In addition, it should be the source of explanation of significant dips in average power levels. Each significant reduction in power level (greater than 20% reduction in average daily power level for the preceding 24 hours) should be noted, even though the unit may not have been shut down completely¹. For such reductions in power level, the duration should be listed as zero, the method of reduction should be listed as 4 (Other), and the Cause and Corrective Action to Prevent Recurrence column should explain. The Cause and Corrective Action to Prevent Recurrence column should be used to provide any needed explanation to fully describe the circumstances of the outage or power reduction.

NUMBER. This column should indicate the sequential number assigned to each shutdown or significant reduction in power for that calendar year. When a shutdown or significant power reduction begins in one report period and ends in another, an entry should be made for both report periods to be sure all shutdowns or significant power reductions are reported. Until a unit has achieved its first power generation, no number should be assigned to each entry.

DATE. This column should indicate the date of the start of each shutdown or significant power reduction. Report as year, month, and day. August 14, 1977 would be reported as 770814. When a shutdown or significant power reduction begins in one report period and ends in another, an entry should be made for both report periods to be sure all shutdowns or significant power reductions are reported.

TYPE. Use "F" or "S" to indicate either "Forced" or "Scheduled," respectively, for each shutdown or significant power reduction. Forced shutdowns include those required to be initiated by no later than the weekend following discovery of an off-normal condition. It is recognized that some judgment is required in categorizing shutdowns in this way. In general, a forced shutdown is one that would not have been completed in the absence of the condition for which corrective action was taken.

DURATION. Self-explanatory. When a shutdown extends beyond the end of a report period, count only the time to the end of the report period and pick up the ensuing down time in the following report periods. Report duration of outages rounded to the nearest tenth of an hour to facilitate summation. The sum of the total outage hours plus the hours the generator was on line should equal the gross hours in the reporting period.

REASON. Categorize by letter designation in accordance with the table appearing on the report form. If category H must be used, supply brief comments.

METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER. Categorize by number designation

¹Note that this differs from the Edison Electric Institute (EEI) definitions of "Forced Partial Outage" and "Scheduled Partial Outage." For these terms, EEI uses a change of 30 MW as the break point. For larger power reactors, 30 MW is too small a change to warrant explanation.

in accordance with the table appearing on the report form. If category 4 must be used, supply brief comments.

LICENSEE EVENT REPORT =. Reference the applicable reportable occurrence pertaining to the outage or power reduction. Enter the first four parts (event year, sequential report number, occurrence code and report type) of the five part designation as described in Item 17 of Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161). This information may not be immediately evident for all such shutdowns, of course, since further investigation may be required to ascertain whether or not a reportable occurrence was involved.) If the outage or power reduction will not result in a reportable occurrence, the positive indication of this lack of correlation should be noted as not applicable (N/A).

SYSTEM CODE. The system in which the outage or power reduction originated should be noted by the two digit code of Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161).

Systems that do not fit any existing code should be designated XX. The code ZZ should be used for those events where a system is not applicable.

COMPONENT CODE. Select the most appropriate component from Exhibit I - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161), using the following criteria:

- A. If a component failed, use the component directly involved.
- B. If not a component failure, use the related component; e.g., wrong valve operated through error; lost valve as component.
- C. If a chain of failures occurs, the first component to malfunction should be listed. The sequence of events, including the other components which fail, should be described under the Cause and Corrective Action to Prevent Recurrence column.

Components that do not fit any existing code should be designated XXXXXX. The code ZZZZZZ should be used for events where a component designation is not applicable.

CAUSE & CORRECTIVE ACTION TO PREVENT RECURRENCE. Use the column in a narrative fashion to amplify or explain the circumstances of the shutdown or power reduction. The column should include the specific cause for each shutdown or significant power reduction and the immediate and contemplated long term corrective action taken, if appropriate. This column should also be used for a description of the major safety-related corrective maintenance performed during the outage or power reduction including an identification of the critical path activity and a report of any single release of radioactivity or single radiation exposure specifically associated with the outage which accounts for more than 10 percent of the allowable annual values.

For long textual reports continue narrative on separate paper and reference the shutdown or power reduction for this narrative.

Docket No.: 50-316
Unit Name: D.C. Cook Unit 2
Completed By: D. A. Bruck
Telephone: (616) 465-5901
Date: December 7, 1984
Page: 1 of 2

MONTHLY OPERATING ACTIVITIES - NOVEMBER, 1984

HIGHLIGHTS:

The Unit entered the reporting period in Mode 1 at 100% rated thermal power. The Unit was manually tripped on 11-11-84 due to low pressurizer pressure caused by pressurizer spray valve problems. The Unit tripped automatically on 11-19-84 due to steam flow/feed flow mismatch coincident with low steam generator level. No other major power reductions occurred during this reporting period. The Unit ended the reporting period at 100% rated thermal power.

Total electrical generation for the month was 680,100 MWH.

SUMMARY:

- 11-9-84 The East Component Cooling Water Pump was inoperable at 1415 due to low ΔP . The pump was declared operable at 1935.
- 11-11-84 At 0736, with reactor power being decreased, the Unit was manually tripped from 73% because of low reactor coolant system pressure caused by a partially stuck open pressurizer spray valve.
- 11-13-84 At 0740 the Unit was paralleled to the grid and power was increasing toward 100%. At 1915 the power increase was halted at 85% due to unstable reheater coil drain tank level.
- 11-14-84 At 0249 power was increased to 96% and held for surveillance testing and at 1601 power was increased toward 100%. 100% reactor power was reached at 1825.
- 11-19-84 At 0356, with power at 96%, the reactor tripped on steam flow/feed flow mismatch coincident with low steam generator level.
- 11-20-84 At 1620, with the reactor in mode 3 and the shutdown banks withdrawn, the reactor trip breakers opened from steam generator low level coincident with steam flow/feed flow mismatch signal (steam flow/feed flow mismatch manually inputted for testing).
- 11-20-84 At 2032, with the reactor in mode 3 and the shutdown banks withdrawn, the reactor tripped on a turbine trip when a test signal was inputted simulating greater than 10% power.

Docket No.: 50-316
Unit Name: D.C. Cook Unit 2
Completed By: D. A. Bruck
Telephone: (616) 465-5901
Date: December 7, 1984
Page: 2 of 2

- 11-21-84 At 0540 the Unit was paralleled to the grid. 100% reactor power reached at 0112 on 11-22-84.
- 11-26-27 The West Component Cooling Water Pump was inoperable at 0529 for seal work.
- 11-27-84 The Spare Component Cooling Water Pump was operable at 1540 in place of the West pump.

The Control Room Cable Vault Halon System remains inoperable as of 1707 hours on 4-14-83. The backup CO₂ system remains operable.

| | |
|--------------|--------------------------------|
| DOCKET NO. | <u>50 - 316</u> |
| UNIT NAME | <u>D. C. Cook - Unit No. 2</u> |
| DATE | <u>12-7-84</u> |
| COMPLETED BY | <u>B. A. Svensson</u> |
| TELEPHONE | <u>(616) 465-5901</u> |
| PAGE | <u>1 of 1</u> |

MAJOR SAFETY-RELATED MAINTENANCE

NOVEMBER, 1984

- M-1 Replaced solid state trip device on north control rod MG set motor breaker. Defective ACB trip device was causing false instantaneous trip on breaker close.
- M-2 Replaced failed critical control room power regulating transformer.
- M-3 During performance of STP-180, smoke was detected from the reactor trip breaker "A" closing coil. The shunt trip bar and lever were cleaned. The 10 amp fuses were replaced. A complete inspection of the breaker was performed. Following testing, the breaker was returned to service.
- C&I-1 Pressurizer pressure channels differed by close to 20 PSI. NPP-151 was recalibrated to bring all channels within 10 PSI.
- C&I-2 The pressurizer proportional heaters were staying full on. A bad SCR was found and replaced. Two fuses were blown; all six fuses were replaced. The diode in the defective SCR circuit was also replaced. The heaters were then put into operation and verified operable.
- C&I-3 Rod L13 in shutdown bank "C" would not withdraw. The movable gripper coil circuit was found to be open. The connector at the reactor head was disconnected and reconnected. The coil was measured again and found to have normal resistance. The rod was then tested and worked properly.
- C&I-4 BIT flow indicators IFI-51, 52 and 54 were reading below zero after the SI that occurred on 11/11 was reset. The indicators of IFI-51 and 52, and the transmitters of IFI-52 and 54 were recalibrated.



INDIANA & MICHIGAN ELECTRIC COMPANY

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

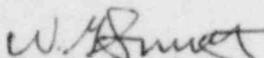
December 7, 1984

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, 1984 is submitted.

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 (NSAC)
R. C. Callen
S. J. Mierzwa
R. F. Kroeger
B. H. Bennett
P. D. Rennix
J. H. Hennigan
Z. Cordero
J. J. Markowsky
J. F. Stietzel
PNSRC File
INPO Records Center
ANI Nuclear Engineering Department

111
IE24