



INDIANA & MICHIGAN ELECTRIC COMPANY

DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106
(616) 465-5901

August 12, 1983

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 July, 1983 is submitted.

Sincerely,

W. G. Smith, Jr.
W. G. Smith, Jr.
Plant Manager

WGS:ab

Attachments

cc: R. S. Hunter
J. E. Dolan
M. P. Alexich
R. W. Jurgensen
NRC Region III
E. R. Swanson
R. O. Bruggee (NSAC)
R. C. Callen
S. J. Mierzwa
R. F. Kroeger
H. L. Sobel
J. D. Huebner
J. H. Hennigan
A. F. Kozlowski
R. F. Hering
J. F. Stietzel
PNSRC File
INPO Records Center

OPERATING DATA REPORT

DOCKET NO. 50-316
 DATE 8-2-83
 COMPLETED BY A. Might
 TELEPHONE (616) 465-5901

OPERATING STATUS

1. Unit Name: DONALD C. COOK 2
2. Reporting Period: JULY 1983
3. Licensed Thermal Power (MWt): 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:
ITEM 6 CHANGED FROM 1118 TO 1100, ITEM 7 CHANGED FROM 1082 TO 1060
DUE TO CHANGE IN THERMAL POWER. ALL CHANGES ARE INCLUDED IN THE YEAR TO DATE AND
CUMULATIVE COLUMN.
9. Power Level To Which Restricted, If Any (Net MWe): _____
10. Reasons For Restrictions, If Any: _____

Notes

| | This Month | Yr.-to-Date | Cumulative |
|--|------------|-------------|-------------|
| 11. Hours In Reporting Period | 744 | 5087 | 48,911 |
| 12. Number Of Hours Reactor Was Critical | 535.1 | 4230.2 | 35,043.6 |
| 13. Reactor Reserve Shutdown Hours | 0 | 0 | 0 |
| 14. Hours Generator On-Line | 530.5 | 4145.9 | 34,107.6 |
| 15. Unit Reserve Shutdown Hours | 0 | 0 | 0 |
| 16. Gross Thermal Energy Generated (MWH) | 1,711,373 | 11,858,599 | 109,834,203 |
| 17. Gross Electrical Energy Generated (MWH) | 543,510 | 4,467,720 | 35,425,470 |
| 18. Net Electrical Energy Generated (MWE) | 523,453 | 4,313,546 | 34,153,338 |
| 19. Unit Service Factor | 71.3 | 81.5 | 74.0 |
| 20. Unit Availability Factor | 71.3 | 81.5 | 74.0 |
| * 21. Unit Capacity Factor (Using MDC Net) | 66.4 | 80.0 | 70.0 |
| 22. Unit Capacity Factor (Using DER Net) | 64.0 | 77.1 | 68.9 |
| 23. Unit Forced Outage Rate | 0 | 1.2 | 12.6 |
| 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: | Forecast | Achieved |
|--|----------|----------|
| 25. Units in Test Status (Prior to Commercial Operation): | | |
| INITIAL CRITICALITY | _____ | _____ |
| INITIAL ELECTRICITY | _____ | _____ |
| COMMERCIAL OPERATION | _____ | _____ |

* ADJUSTED BACK TO 1-1-83 DUE TO CHANGE IN ITEM 7

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-316

UNIT 2

DATE 8-2-83

COMPLETED BY A. Might

TELEPHONE (616)465-5901

MONTH JULY, 1983

| DAY | AVERAGE DAILY POWER LEVEL (MWE-Net) | DAY | AVERAGE DAILY POWER LEVEL (MWe-Net) |
|-----|--|-----|--|
| 1 | | 17 | 1041 |
| 2 | | 18 | 1046 |
| 3 | | 19 | 1049 |
| 4 | | 20 | 1060 |
| 5 | | 21 | 1048 |
| 6 | | 22 | 1049 |
| 7 | | 23 | 1027 |
| 8 | | 24 | 1045 |
| 9 | | 25 | 1060 |
| 10 | 631 | 26 | 1081 |
| 11 | 958 | 27 | 1053 |
| 12 | 1064 | 28 | 1035 |
| 13 | 1059 | 29 | 1039 |
| 14 | 1050 | 30 | 1011 |
| 15 | 1040 | 31 | 373 |
| 16 | 997 | | |

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

REPORT MONTH JULY, 1983

DOCKET NO. 50-316
 UNIT NAME D.C. Cook - Unit 2
 DATE 8-12-83
 COMPLETED BY B.A. Svensson
 TELEPHONE 616/465-5901
 SHEET 1 of 1

| 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 |
|-----|--------|-------------------|------------------|---------------------|--|-------------------------|--------------------------|-----------------------------|--|
| 128 | 830623 | F&S | 213.5 | A&B | 3 | N.A. | ZZ | ZZZZZZ | The unit entered the reporting period in Mode 5 with the RCS at half-loop. The reason for the outage was to plug a leaking tube in S/G No. 23 and perform ice condenser basket weighing. One leaking tube was plugged at location Row 1, Column 72. The tube was plugged by Westinghouse using a mechanical type plug. The unit was returned to service 830709 and brought to 100% power on 830711. Reactor power reduced to 30% to permit repair of steam leak on the right inner turbine control valve below seat drain line. Reactor power returned to 100% 830801. |
| 129 | 830731 | F | 0 | B | 4 | N.A. | ZZ | ZZZZZZ | |

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 (NURIG 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 50 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:

- If a component failed, use the component directly involved.
- If not a component failure, use the related component, e.g., wrong valve operated through error; list valve as component.
- 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: R. S. Lease
Telephone: (616) 465-5901
Date: 8/5/83
Page: 1 of 3

MONTHLY OPERATING ACTIVITIES - JULY 1983

Highlights:

The Unit entered the reporting period in Mode 5 with the RCS at half loop operation. Major reasons for the outage was to locate and plug a leaking tube in #23 Steam Generator and perform required Ice Condenser Surveillance.

The Unit was returned to 100% power operation on July 11.

There were six minor load changes and one significant load change during the remainder of the reporting period as detailed in the summary.

Total electrical generation was 543,510 MWH.

Summary:

- 7/1/83 Vent Stack Iodine Radiation Monitors R-31 and R-32 were inoperable for a 6½ hour period while the Tritium Collector was relocated.
- 7/5/83 Vent Stack Gaseous and Particulate Radiation Monitors R-25 and R-26 were inoperable for a 29 hour period starting at 1029 hours while the sample pump was replaced.
- The Reactor Coolant System was filled and vented by 1355 hours.
- 7/7/83 Reactor Coolant System Heatup was initiated and the Unit entered Mode 4 at 0244 hours.
- 7/8/83 The Unit entered Mode 3 at 0229 hours.
- 7/9/83 The Reactor was critical at 1655 hours.
- The Turbine/Generator was rolled at 1930 hours and followed with parallel to the system at 2130 hours.
- 7/10/83 Power was increased to 69% by 0858 hours and held at this point due to low system demand.
- 7/11/83 The Unit was loaded to 100% power over a 5-1/3 hour ramp.
- The AB Emergency Diesel Generator was inoperable for a 5-2/3 hour period while an air valve was replaced on the rack trip cylinder.

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Unit Name: D. C. Cook Unit 2
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- 7/13/83 Unit power was reduced to 95% to place the Reheater Steam Coils in service and then returned to 100%. Total time below 100% was 5½ hours.
- 7/14/83 The Reheater System Coils were removed from service at 1538 hours.

Unit power was reduced to 95% with the intent to return six of the eight Reheater Steam Coils to service. The interlocks on the two Reheater Steam Coils that were to remain out of service had not been properly bypassed. The Unit power was returned to 100% without any Reheater Coils in service. Total time below 100% was 4½ hours.
- 7/15/83 Power was again reduced to 95% to return the six Reheater Steam Coils to service. This was delayed due to a malfunctioning Coil Steam Inlet Valve, however the power was returned to 100% with the six Reheater Coils in service after 16½ hours.
- 7/16/83 The Steam Supply to the six operating Reheater Steam Coils automatically isolated at 1820 hours due to a high coil drain tank level.

Unit power was reduced to 95% to place the six Reheater Steam Coils in service. Total time below 100% was 6½ hours.
- 7/23/83 Unit power was reduced to 98% for testing of turbine valves. During the testing the "B" set of stop and control valves operated in reverse sequence. Proper sequence is for the control valve to close first to be followed by the stop valve. The control valve limit switch and associated relay were exercised. The valve retested satisfactorily. Total time below 100% was 10½ hours.
- 7/27/83 The Offsite Emergency Power Source was out of service for a ½ hour period while an Offsite Circuit was test energized.
- 7/28/83 The North Half of "B" Condenser was out of service for a 9½ hour period for checking of tube leaks.
- 7/30/83 Unit power was reduced to 98% for testing of turbine valves. Total time below 100% was 4½ hours.

The North Half of "A" Condenser was out of service for a 16 hour period for checking of tube leaks.
- 7/31/83 Unit power was reduced to 30% over a 6½ hour ramp for repair to a steam leak on a turbine valve leakoff line. Reload of the Unit was initiated at 1625 hours. Unit load was held at 48% power starting at 2028 hours due to an indicated Quadrant Power Tilt. Unit loading was again initiated at 2150

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Completed By: R. S. Lease
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hours. Unit power was 65% at the close of the reporting period and 100% was reached at 0730 hours on August 1, 1983.

The Control Room Cable Vault "Halon" Fire Suppression System remained inoperable the entire reporting period. This system is being evaluated for required modifications. The backup CO₂ System remains operable.

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|--------------|--------------------------------|
| DOCKET NO. | <u>50 - 316</u> |
| UNIT NAME | <u>D. C. Cook - Unit No. 2</u> |
| DATE | <u>8-12-83</u> |
| COMPLETED BY | <u>B. A. Svensson</u> |
| TELEPHONE | <u>(616) 465-5901</u> |
| PAGE | <u>1 of 2</u> |

MAJOR SAFETY-RELATED MAINTENANCE

JULY, 1983

- M-1 The #4 reactor coolant pump controlled leakage seals required frequent make-up water to maintain the level in the standpipe. Inspected the #2 and #3 seals. Replaced the #3 seal ring and runner and the #2 seal ring.
- M-2 #2 steam generator stop valve dump valve, MRV-221, was leaking by. Replaced the valve seat ring, stem, disc pin and gaskets. Had the valve tested.
- M-3 The #2 steam generator blowdown system containment isolation valve, DCR-320, failed due to separation of the valve stem and the air operator stem. Replaced the valve stem, stem pin and gasket. Also, repacked the valve and had it tested.
- C&I-1 Reactor coolant system loop 2 wide-range cold leg resistance-temperature detector, NTR-220, which open-circuited 13 April 1983, was replaced with a new one, S/N N60098. The corresponding electronics signal processing modules and chart recorder were recalibrated.
- C&I-2 Steam generator #2, channel #1, steam flow indicator MFC-121, read 500,000 lb/hour when flow rate was zero. The transmitter was reading 0.6 ma. high and was recalibrated. The system was refilled and valved-in. Correct steam flow readings were verified.
- C&I-3 Control rod position indicators were greater than 12 steps out of synchronism with rod demand. Positions of rods J-3, L-e, N-11, C-5, C-9, N-7, C-7, N-9, C-11, K-8, and H-6 were determined by performing Instrument Maintenance Procedure .048. Positions of rods J-3 and L-3 were determined by monitoring the stationary rod gripper coil voltage while the rods were stepping. During troubleshooting, an "urgent failure" alarm was received on shut-down bank D, which required replacement of a fuse. A spurious "urgent failure" alarm was received on S/D bank C.
- C&I-4 Unit vent air particulate and radiogas monitors, R25 and R26, sample flow system and pump were checked over. The pump was replaced and all loose connections were tightened. Operation of the sample flow system was monitored for 24 hours to verify operation.

| | |
|--------------|--------------------------------|
| DOCKET NO. | <u>50 - 316</u> |
| UNIT NAME | <u>D. C. Cook - Unit No. 2</u> |
| DATE | <u>8-12-83</u> |
| COMPLETED BY | <u>B. A. Svensson</u> |
| TELEPHONE | <u>(616) 465-5901</u> |
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MAJOR SAFETY-RELATED MAINTENANCE

JULY, 1983

- C&I-5 Emergency diesel generator, 2AB, had a control air leak at the fuel rack trip cylinder shuttle valve. The shuttle valve air exhaust device was replaced to correct the air leak.
- C&I-6 Refueling water storage tank purification system heater #2 would not operate in the "automatic" mode. Temperature switch ITS-900 circuit had failed due to a shorted transistor. The setpoint was adjusted properly to 145°F and the system was returned to service. The temperature stayed between 80°F and 100°F. Technical Specifications were not exceeded.
- C&I-7 Control rod, H-8, position indicator deviated greater than 12 steps from rod demand. The rod position determination procedure, IMP.048, was performed. The deviation was verified to be only 6 steps, well within the Technical Specification limit.
- C&I-8 Steam generator #4, steam flow instrument channel #2, failed low. The appropriate bistables were placed in the trip mode within the 1-hour limit. A calibration problem attributed to instrument drift was identified and corrected on the channel #2 square-root extractor. Channel #2 was returned to service and the bistables were placed in "normal".