

OPERATING DATA REPORT

DOCKET NO. 50-316  
 DATE 2-3-83  
 COMPLETED BY W.T. Gillett  
 TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: DONALD C. COOK 2  
 2. Reporting Period: JANUARY 1983  
 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): 1118  
 7. Maximum Dependable Capacity (Net MWe): 1082  
 8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report. Give Reasons:  
Item (3) licensed thermal power raised from 3391 (Mwt) to 3411 (Mwt)

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	744	44,568
12. Number Of Hours Reactor Was Critical	266.5	266.5	31,079.9
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	186.8	186.8	30,148.5
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	341,534	341,534	96,605,765
17. Gross Electrical Energy Generated (MWH)	103,520	103,520	31,061,090
18. Net Electrical Energy Generated (MWH)	97,163	97,163	29,936,955
19. Unit Service Factor	25.1	25.1	72.1
20. Unit Availability Factor	25.1	25.1	72.1
21. Unit Capacity Factor (Using MDC Net)	12.1	12.1	67.2
22. Unit Capacity Factor (Using DER Net)	11.9	11.9	66.8
23. Unit Forced Outage Rate	12.3	12.3	14.0
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: \_\_\_\_\_  
 26. Units In Test Status (Prior to Commercial Operation):
- |                      | Forecast | Achieved |
|----------------------|----------|----------|
| INITIAL CRITICALITY  | _____    | _____    |
| INITIAL ELECTRICITY  | _____    | _____    |
| COMMERCIAL OPERATION | _____    | _____    |

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-316

UNIT 2

DATE 2-3-83

COMPLETED BY W.T. Gillett

TELEPHONE 616-465-5901

MONTH January 1983

DAY	AVERAGE DAILY POWER LEVEL (MWE-Net)
1	—
2	—
3	—
4	—
5	—
6	—
7	—
8	—
9	—
10	—
11	—
12	—
13	—
14	—
15	—
16	—

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	—
18	—
19	—
20	—
21	—
22	—
23	291
24	457
25	459
26	472
27	94
28	194
29	634
30	685
31	759

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 January, 1983

DOCKET NO. 50-316  
 UNIT NAME D.C. Cook - Unit 2  
 DATE 2-14-83  
 COMPLETED BY B.A. Svensson  
 TELEPHONE 616-465-5901  
 PAGE 1 of 2

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
119	821121	S	531.1	B&C	1	N.A.	ZZ	ZZZZZZ	The unit was removed from service at 0127 on 821121 for scheduled Cycle III - IV refueling and maintenance outage. Low power physics testing was performed on 830120 thru 830122 and the unit was returned to service at 0304 hours on 830123. Total length of the outage was 1513.6 hours.
120	830127	F	18.1	G	3	N.A.	ZZ	ZZZZZZ	Unit tripped from 60% power due to operator error. Operator manipulated turbine reset switch rather than the turbine operating device control switch when increasing turbine load. Cause of trip was low level coincident with steam/feed-water mismatch on No. 23 steam generator. The unit was returned to service the same day.

<sup>1</sup>  
 F: Forced  
 S: Scheduled

<sup>2</sup>  
 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)

<sup>3</sup>  
 Method:  
 1 Manual  
 2 Manual Scram.  
 3 Automatic Scram.  
 4 Other (Explain)

<sup>4</sup>  
 Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (FER) File (NURIG-0161)

<sup>5</sup>  
 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 completely<sup>1</sup>. 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

<sup>1</sup>Note 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 January, 1983

DOCKET NO. 50-316  
 UNIT NAME D.C. Cook - Unit 2  
 DATE 2-14-83  
 COMPLETED BY B.A. Svensson  
 TELEPHONE 616-465-5901  
 PAGE 2 of 2

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
121	830128	F	8.0	H	1	N.A.	ZZ	ZZZZZZ	The unit was removed from service to perform a modification to the turbine speed governor. The speed governor installed during the outage on 830127 prevented the unit load from being increased above 38% power. The unit was returned to service the same day. 100% reactor power was reached for the first time in Cycle IV at 1820 hours on 830202.

<sup>1</sup>  
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 S: Scheduled

<sup>2</sup>  
 Reason:  
 A Equipment Failure (Explain)  
 B Maintenance or Test  
 C Refueling  
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 H Other (Explain)

<sup>3</sup>  
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MONTHLY OPERATING ACTIVITIES - JANUARY 1983

Highlights:

The Unit entered this reporting period in the Refueling Mode (6). The Unit had been shutdown at 0127 hours on November 21, 1982 for it's third Refueling Outage.

The Unit was returned to the "In Service" operating condition during the reporting period. Details of this follows in the Summary.

Total electrical generation for the month was 103,520 MWH.

Summary:

The Reactor Plant entered Mode 5 at 1955 hours January 4, when initial tensioning of Reactor Vessel Head Studs was initiated.

Filling and venting of the Reactor Coolant System was initiated at 1515 hours January 9, and was completed at 1757 hours January 12.

Heatup of the Reactor Coolant System was initiated at 0555 hours January 15 with entry into Mode 4 being made at 0644 hours the same day. Entry into Mode 3 was made at 1608 hours January 16 and normal no load temperature and pressure was obtained at 0200 hours January 17.

With all control rods fully withdrawn, except for Control Band "D" which was positioned at 205 steps, the Reactor Coolant System Boron Content was diluted to 1700 PPM over a 7½ hour period starting at 2137 hours January 18.

Dilution to criticality was initiated at 0510 hours January 20 and criticality was obtained at 0828 hours the same day. Critical Boron Concentration was 1448 PPM.

Low Power Physics Testing was interrupted at 1942 hours January 20 when the Reactor tripped due to Lo Lo Level in #22 Steam Generator. The Reactor was returned to criticality at 2222 hours the same day.

Low Power Physics Testing was completed January 22 and Reactor Power was increased to greater than 5% at 1659 hours in preparation of rolling the Turbine/Generation unit.

The Main Turbine was rolled at 1754 hours January 22 for Overspeed Trip Testing. The Unit was shut down and placed on turning gear when the Overspeed Trip Devices failed to function at the expected speed. Inspection of the Overspeed Trip Devices found some fretting type wear along with a varnish type deposit. The Overspeed Trip Devices were replaced and the Main Turbine was rolled at 0034 hours January 23 and Overspeed Trip Tests were successfully completed.

Docket No.: 50-316  
Unit Name: D. C. Cook Unit 2  
Completed By: R. S. Lease  
Telephone: (616) 465-5901  
Date: 2/11/83  
Page: 2 of 2

The Unit was placed in parallel with the system at 0304 hours January 23 and loaded to 30% power by 0405 hours the same day.

The Unit was loaded to 35% power over a 2 hour ramp starting at 0515 hours January 23.

The Unit was loaded to 48% power over a 4 hour ramp starting at 1615 hours January 23.

Unit loading was initiated at 0120 hours January 27 at the rate of 3% per hour. At 0419 the Unit tripped from 60% power when an incorrect control switch was operated. At the time of this trip control rod H-8 indicated that it failed to insert, the last 25 steps, into the core. Emergency Boration was used to cover this indicated deficiency. Position indication of rod H-8 slowly decayed to zero. This is a reoccurring problem with this particular control rod position indication.

The Reactor was returned to criticality at 1442 hours with turbine roll at 2105 hours and the Unit paralleled to the system at 2225 hours January 27.

The Unit was loaded to 38% power by 0145 hours January 28. The 38% was maximum loading that turbine controls would allow. During the outage of January 27, the Operating Device (Governor) of the Main Turbine had been replaced due to the previous one being somewhat erratic, when used to control unit output.

The Turbine/Generation Unit was shut down over a 1 $\frac{1}{4}$  hour ramp starting at 1230 hours January 28. The Reactor remained critical at less than 10% power. Inspection of the new Operating Device found an internal plug that should have been removed prior to installation. This plug was removed and the Unit was rolled at 1940 hours and paralleled to the system at 2154 hours.

The Unit was loaded to 68% power by 1000 hours January 29.

The Unit was loaded to 80% power over a 4 hour ramp starting at 1405 hours January 31 and remained at that level for the remainder of the reporting period.

The West Component Cooling Water System was inoperable for a 9 $\frac{1}{2}$  hour period January 26 for testing of a system safety valve.

The AB Diesel Generator was inoperable for a 16 $\frac{1}{2}$  hour period January 26 for replacement of an exhaust system expansion joint.

UNIT NAME	D. C. Cook - Unit No. 2
DATE	2-14-83
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901
PAGE	1 of 3

MAJOR SAFETY-RELATED MAINTENANCE

JANUARY, 1983

- M-1 SI-125, isolation valve on the one inch boron injection tank bypass line was leaking. Replaced the valve stem and disc assembly. Lapped the valve seat.
- M-2 Pressurizer power operated relief valve, NRV-151, was leaking by. Replaced the valve seat, plug, stem, stem pin and gaskets. Reassembled valve and had it tested.
- M-3 Component cooling water containment isolation valve, CCW-135, failed to pass the type C leak rate test. Replaced the shaft and disc springs and lapped the discs. Had the valve retested.
- M-4 Boron injection tank discharge isolation valve to loop 1, IMO-51, motor operator housing was broken. Replaced the housing and the bevel gear cover. Reset and tested valve.
- M-5 Containment spray check valve, RH-142, was leaking by. Disassembled valve, cleaned and lapped seat. Reassembled and had valve retested.
- M-6 Safety injection pump discharge crosstie valve, IMO-270, would not open. The operator motor had a fault. Replaced the motor and had the valve tested.
- M-7 A weld leak developed at the branch connection for the pressure instrument on the discharge of the East containment spray pump, IPI-210. The leak was from a crack in the weld. The weld was ground out and rewelded. A second leak developed in the same instrument line downstream of the root valve. The tubing was cut off and rewelded. Necessary NDE was completed.
- M-8 Pressurizer spray control valve, NRV-164, was leaking by. Replaced the valve internals and had the valve tested.
- M-9 Boric acid blender outlet valve, PW-265, was leaking. Replaced the valve body, stem, compressor and diaphragm.
- M-10 The controlled leakage seals on No. 22 reactor coolant pump were inspected. Replaced No. 1 seal insert, No. 2 seal ring, runner and housing and No. 3 seal ring.
- M-11 Isolation valves, CCW-243-72 and CCW-244-72, for component cooling water to penetration cooling coils failed to meet type C leak test criteria. Cleaned the valve internals and lapped the seat and plug. Had the valve retested.

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PAGE	<u>2 of 3</u>

MAJOR SAFETY-RELATED MAINTENANCE

JANUARY, 1983

- M-12 The inlet check valve to the regenerative heat exchanger, CS-321, failed to meet the type C leak rate test criteria. Lapped the valve disc and the faces of the disc hanger bushings. Replaced the bonnet gasket and had valve retested.
- M-13 Letdown isolation valve, QRV-112, had an air leak from the air operator. Replaced the operator diaphragm and had the valve tested.
- M-14 Safety valves, SV-1 and SV-2, for No. 21 steam generator were leaking by. Replaced the valve discs, cleaned and lapped the seats and replaced the flange gaskets. Tested both valves and found setpoints acceptable.
- M-15 Due to a problem identified in Unit 1, the bonnets of main feed-water check valves, FW-118-1, 2, 3 and 4 were removed to check for wall thinning at the bottom of bolt holes in the valve bodies. No significant wall thinning was evident, but the body wall was built up by welding as a precautionary measure. The necessary NDE was performed and the valves were leak tested at operating pressure.
- M-16 Accumulator fill valves, IRV-121 and 131, were leaking by. Lapped the plug and seat in IRV-131. Replaced the internals in IRV-121. Had both valves tested.
- M-17 No. 3 steam generator stop valve dump valve, MRV-232, was leaking by. Replaced the valve stem, plug, seat ring, cage, and gaskets. Had the valve tested.
- M-18 The exhaust expansion joint on AB emergency diesel was leaking. Replaced the expansion joint.
- C&I-1 Lower containment area monitor, ERS-2302, was counting erratically. The detector was replaced to restore proper operation to the monitor.
- C&I-2 Residual heat removal heat exchanger "W", outlet valve IRV-320 failed open, due to a control air line which had become detached. Investigation disclosed that vibration had caused a connector to break. The connector was replaced and the valve was tested satisfactorily.

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PAGE	<u>3 of 3</u>

MAJOR SAFETY-RELATED MAINTENANCE

JANUARY, 1983

C&I-3 During the performance of a control room power load conservation surveillance test, relay 5 X 1-T21B would not trip train "B" battery charger to the "N" train battery. A defective relay, 88X1BCB, was replaced to provide correct trip of the charger.

C&I-4 Steam generator No. 3 stop valve, MRV-230, would not open due to non-closure of its hydraulic bypass valve. A broken wire on solenoid 20-3SG3H(S3) was identified and repaired, after which, operation of the solenoid was verified.