

OPERATING DATA REPORT

DOCKET NO. 50-316  
 DATE 9/7/82  
 COMPLETED BY A. Micht  
 TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: Donald C. Cook 2
2. Reporting Period: August, 1982
3. Licensed Thermal Power (MWt): 3391
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:

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	5831	40,895
12. Number Of Hours Reactor Was Critical	329.3	4922.4	28,947.4
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	315	4887.3	28,108.3
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	1,011,517	16,073,367	90,134,188
17. Gross Electrical Energy Generated (MWH)	323,640	5,261,650	28,969,450
18. Net Electrical Energy Generated (MWH)	311,569	5,077,043	27,921,184
19. Unit Service Factor	42.3	83.8	73.3
20. Unit Availability Factor	42.3	83.8	73.3
21. Unit Capacity Factor (Using MDC Net)	38.7	80.5	68.8
22. Unit Capacity Factor (Using DER Net)	38.0	79.1	68.0
23. Unit Forced Outage Rate	57.7	16.2	14.6

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):  
Refueling Outage Nov & Dec 1982

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 9-1-82

COMPLETED BY Ann Might

TELEPHONE 616-465-5901

MONTH August, 1982

DAY	AVERAGE DAILY POWER LEVEL (MWE-Net)
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	0
18	344
19	1035
20	1047
21	1049
22	1051
23	1051
24	367
25	703
26	1050
27	1051
28	1058
29	1058
30	1058
31	1058

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 August, 1982

DOCKET NO. 50-316  
 UNIT NAME D.C. Cook - Unit 2  
 DATE 9-13-82  
 COMPLETED BY B.A. Svensson  
 TELEPHONE 616-465-5901

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
113	820801	F	415.3	B	1	N.A.	CC	HTEXCH	The Unit was removed from service due to primary to secondary leakage. The calculated leak rate was 0.17 gpm. A single tube located in Row 1, Column 71, Steam Generator 2-1 was identified as leaking. Eddy current testing showed an indication in the Row 1, Column 72 tube. Both tubes were plugged using mechanical plugs. The Unit was returned to service on 820818 and reached 100% reactor power on 820819.
114	820824	F	13.7	A	3		ED	INSTRU	Reactor/Turbine trip due to failure of vital bus CRID IV inverter. The inverter was found to have a defective oscillator board which was replaced. The Unit was returned to service the same day and reached 100% reactor power on 820825.

<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 (LER) File (NUREG-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.

MONTHLY OPERATING ACTIVITIES - AUGUST 1982

Highlights: The Unit entered the reporting period at 100% power. On July 31, 1982, the primary to secondary leak rate was calculated to be 0.17 GPM. The Unit was shut down to Mode 5. Testing of the number 21 steam generator determined that tube number 71 in row 1 was leaking; this tube was plugged. The Unit was restarted and paralled to the grid on August 18, 1982. One hundred percent power was reached at 0504 hours, August 19, 1982. On August 24, 1982, the Unit tripped from a reactor trip caused by loss of CRID IV inverter (vital instrument power supply). Repairs were made to the inverter and the Unit was paralled to the grid at 2225 hours, August 24, 1982. The Unit reached 100% power at 2000 hours, August 25, 1982, and has remained at this power level.

Total electrical generation for the month was 1,011,517 MWH.

Summary:

0145 hours	7/31/82	Determined a primary to secondary leak to be approximately 0.17 GPM.
0315 hours	7/31/82	Unit started down.
0158 hours	8/01/82	Tripped the Turbine/Generator.
0211 hours	8/01/82	The reactor was tripped.
0656 hours	8/01/82	Mode 4.
1500 hours	8/01/82	Mode 5.
0600 hours	8/03/82	The reactor coolant system was depressurized and drained to half loop.
1035 hours	8/14/82	Started filling and venting the reactor cooling system following repair of the steam generator tube leak.
2059 hours	8/16/82	Mode 4.
0504 hours	8/17/82	Mode 3.
0138 hours	8/18/82	Reactor was made critical.
0225 hours	8/18/82	Reactor trip due to lo-low level in number 23 steam generator.
0532 hours	8/18/82	Reactor made critical again.
0918 hours	8/18/82	Paralled the Unit to the grid.
0504 hours	8/19/82	One hundred percent power was reached.

Monthly Operating Activities - August 1982

September 8, 1982

Page 2

Summary (Continued):

0841 hours	8/24/82	The Unit tripped from CRID IV failure.
1251 hours	8/24/82	Reactor made critical.
2225 hours	8/24/82	The Unit was paralled to the grid.
2000 hours	8/25/82	The Unit reached 100% power.

DOCKET NO.	50 - 316
UNIT NAME	D. C. Cook - Unit No. 2
DATE	9-13-82
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901
PAGE	1 of 2

MAJOR SAFETY-RELATED MAINTENANCE

AUGUST, 1982

- M-1 RHR cooldown motor-operated containment isolation valve, ICM-111, had a body-to-bonnet leak. Replaced the bonnet gasket and had the valve tested.
- M-2 CVCS letdown system regulating valves QRV-160 and 162, had body-to-bonnet leaks. Inspected valve internals and had bonnet studs inspected. Replaced the gaskets and had the valves tested.
- M-3 Auxiliary pressurizer spray regulating valve, QRV-51, had a body-to-bonnet leak. Replaced the valve gaskets and the bonnet studs and nuts. Had the valve tested.
- M-4 The vent valve for the South seal water injection filter, CS-343S, was leaking by. Replaced the valve bonnet and stem. Repacked the valve.
- M-5 CVCS letdown regulating valve, QRV-161, had a body-to-bonnet leak. Replaced the valve gaskets and had the valve tested.
- C&I-1 Reactor coolant loop 3 overtemperature  $\Delta T$  setpoint had drifted high. Troubleshooting the modules comprising the system disclosed that gain adjustment K1 of module TY-431L had drifted. The module was replaced with a new unit and was recalibrated to specifications.
- C&I-2 Unit vent air particulate radiation monitor R-25, sample pump, could not be started from the control room. Investigation revealed that the paper drive motor connecting wires had shorted together and had burned off, tripping the circuit breaker. The wires were repaired and the breaker was reset without further incident.
- C&I-3 Containment sump level indication loops, NLA-310 and NLI-311, had their transmitters purged of entrapped air which had entered from the sensing line fill with Dow Corning 702 oil. It is felt that several such purges will eliminate incorrect indications on these instruments as the entrained air is released from solution slowly over several weeks' period and must be purged out.
- C&I-4 Boron injection tank temperature indication was erratic and giving a spurious high temperature alarm. The resistance to current converter module in the resistance temperature detector circuit was replaced to restore correct temperature readout to the BIT.

DOCKET NO.	50 - 316
UNIT NAME	D. C. Cook - Unit No. 2
DATE	9-13-82
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901
PAGE	2 of 2

MAJOR SAFETY-RELATED MAINTENANCE

AUGUST, 1982

- C&I-5 Source range detector, N-31, was indicating a neutron level and was bringing in a "high flux at shutdown" alarm while the unit was at 100% power. During the outage the N-31 high voltage power supply was replaced, and H.V. cable, signal cable and detector cable end terminations were replaced to eliminate noise on the N-31 channel. Proper plateaus were run on the high voltage and discriminator voltage to verify operability.
- C&I-6 Containment air particulate monitor, R-11, "filter paper not in motion" alarm was received. Repairs were made to the paper drive mechanism. A subsequent check verified that the filter paper was spooling properly.
- C&I-7 Valve QRV-62, normal charging line to reactor coolant loop 4 cold leg could not be closed from the control room. When the emergency air station was connected, QRV-62 closed properly. Upon investigation, the cover plate and retaining caps were found to be missing from actuating solenoid valve, XS0-510. When these parts were replaced, QRV-62 functioned correctly.
- C&I-8 Control room instrument power distribution Bus IV, power inverter failed. The inverter oscillator circuit board and fuses were replaced to restore operability to CRID IV inverter.
- C&I-9 Battery charger, 2-AB-2, would not enter the "equalize charge" mode of operation. The problem was traced to a defective "equalize charge" timer. Replacement of the timer returned the charger to operability.
- C&I-10 In the "steam pressure" mode of operation, the steam dump control was erratic in "automatic". Electro-pneumatic transducer, EPT-110, was recalibrated and the controller for the three cooldown valves was aligned. Proper operation of the steam dump control was verified as the unit was being brought up to power.