

# OPERATING DATA REPORT

DOCKET NO. 50-316  
 DATE 6-3-80  
 COMPLETED BY W. T. Gillett  
 TELEPHONE 616-465-5901

## OPERATING STATUS

1. Unit Name: DONALD C. COOK 2  
 2. Reporting Period: MAY - 1980  
 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	3,647	21,167
12. Number Of Hours Reactor Was Critical	744	3,181.5	14,261.4
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	744	3,096.3	13,598.2
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	2,483,250	10,006,416	42,230,796
17. Gross Electrical Energy Generated (MWH)	815,330	3,292,560	13,446,970
18. Net Electrical Energy Generated (MWE)	787,237	3,176,562	12,943,974
19. Unit Service Factor	100	84.9	73.0
20. Unit Availability Factor	100	84.9	73.0
21. Unit Capacity Factor (Using MDC Net)	97.8	80.5	67.3
22. Unit Capacity Factor (Using DER Net)	96.2	79.2	66.2
23. Unit Forced Outage Rate	0	1.8	11.1

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 6-2-80

COMPLETED BY W. T. Gillett

TELEPHONE 616-465-5901

MONTH MAY 1980

DAY . AVERAGE DAILY POWER LEVEL  
(MWE-Net)

1	<u>1078</u>
2	<u>1081</u>
3	<u>1038</u>
4	<u>1061</u>
5	<u>1057</u>
6	<u>1048</u>
7	<u>1069</u>
8	<u>1063</u>
9	<u>1048</u>
10	<u>1060</u>
11	<u>1070</u>
12	<u>1069</u>
13	<u>1069</u>
14	<u>1068</u>
15	<u>1068</u>
16	<u>894</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>1060</u>
18	<u>1069</u>
19	<u>1070</u>
20	<u>1061</u>
21	<u>1064</u>
22	<u>1067</u>
23	<u>1067</u>
24	<u>1066</u>
25	<u>1067</u>
26	<u>1070</u>
27	<u>1066</u>
28	<u>1067</u>
29	<u>1063</u>
30	<u>1061</u>
31	<u>1051</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 whole megawatt.

# UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH May, 1980

DOCKET NO. 50-316  
 UNIT NAME D.C. Cook-Unit 2  
 DATE 6-11-80  
 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
77	800516	F	0	A	4	N.A.	ZZ	ZZZZZZ	Reactor power reduced to 60% to remove the east main feedpump turbine from service to check for feedpump turbine condenser tube leaks. One tube was plugged. Reactor power returned to 100% 800517.

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

<sup>2</sup>  
 Reason:  
 A-Equipment Failure (Explain)  
 B-Maintenance of 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

(9/77)

## 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:

- 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.

MONTHLY OPERATING ACTIVITIES -- MAY, 1980

**Highlights :**

The Unit operated 100% power the entire reporting period except as detailed in the Summary.

Total electrical generation for the month was 815,330 mwh.

**Summary :**

5/1/80 -- The Turbine Driven Auxiliary Feedwater Pump was inoperable for a 5 hour period for testing of trip and throttle valve.

5/3/80 -- Containment Radiation Monitor R-11 & R-12 were inoperable for a 17 hour period for replacement of the sample pump.

Reactor power was lowered to 96% to return the Reheater Coils to service following an automatic isolation of the Reheater Coils. After several unsuccessful attempts to return the coils to service the Unit was reloaded to 100% power and operated non-reheat. Total time below 100% power was 13.5 hours.

5/5/80 -- Reactor power was again reduced to 96% for a 5 hour period to attempt to return the Reheater Coils to service.

5/6/80 -- Through testing it was determined that there was a tube leak in the north set of Reheater Coils. Unit power was reduced to 96% and the south set of Reheater Coils were placed in service. Total time below 100% power was 8.5 hours.

5/9/80 -- The south set of Reheater Coils were isolated due to a high level in one of the Coil Drain Tanks. Power was reduced to 97% and three unsuccessful attempts were made to return these coils to service. Further testing indicated the coils to have failed tubes. Reactor power was returned to 100%. Total time below 100% was 11.25 hours. Unit operation continues in the non-reheat mode.

5/10/80 -- Reactor power increased to 101% when a non-borated demineralizer was mistakenly valved in to the Reactor Coolant System. Rapid response by the Control Room Operators using control rods and boration reduced the



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5/10/80 -- plant to 100% while the demineralizer was removed  
(cont.) from service.

5/15/80 -- Containment Radiation Monitor R-11 was inoperable  
for a 1.25 hour period due to the filter failing to  
move.

5/16/80 -- The sample pump for Containment Radiation Monitors R-11  
and R-12 failed at 0750. Repairs were made and the mon-  
itors were again operable at 0617, 5/17/80.

Reactor power was reduced to 60% over a 1.25 hour ramp  
starting at 1330 to remove the East Main Feed Pump from  
service so the Condenser for this feed pump could be  
checked for a tube leak. One leak was located and plugged.  
The pump was returned to service and the unit loaded to  
100% power over a 4 hour ramp starting at 2100 the same  
day.

5/20/80 -- ESF Vent Fan 2-HV-AS-2 was inoperable for a 11.75 hour  
period for replacement of the ruffing filter.

The Turbine Driven Auxiliary Feedwater Pump tripped.  
This was while the pump was in it's normal standby  
(not running) condition. The turbine was reset, test,  
run, and declared operable.

5/27/80 -- A review of ISI test data sheets indicated that the  
Turbine Driven Auxiliary Feed Pump had not met the  
minimum required discharge pressure. Since the 72  
hour time interval for an "inoperable pump" specified  
in the Action statement had been exceeded, the pump  
had to be proven operable or the unit placed in hot  
standby within one hour. Unloading of the unit was  
initiated while retesting of the pump was under way.  
Unit unloading was stopped at 97% when the pump was  
proven operable. The unit was reloaded to 100% power.  
Total time below 100% power was 1.25 hours.

5/28/80 -- The Steam Jet Air Ejector Radiation Monitor R-15 was  
removed from service at 1004 for moisture proofing of  
the detector tube. This detector was returned to service  
at 0917, 5/29/80.

5/29/80 -- Vent Stack Radiation Monitor R-25 was inoperable for  
a 4.75 hour period for replacement of the Filter Drive  
Motor.

5/31/80 -- A 1% load reduction was experienced following turbine  
valve testing. The load could not be returned to 100%  
due to a false indication of the turbine operating device





Docket No.: 50-316  
Unit Name: D. C. Cook Unit #2  
Completed By: R. S. Lease  
Telephone: (616) 465-5901  
Date: June 9, 1980  
Page: 3 of 3

5/31/80 -- high limit switch. The load was returned to 100%  
(cont.) by briefly by-passing the switch function. Total  
time at 99% was 13.5 hours.

Condenser halves were taken out of service, one half  
at a time, for a total of 57.5 hours during the report-  
ing period. This was for identification and repairs  
of leaking tubes.



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DOCKET NO.	50 - 316
UNIT NAME	D. C. Cook - Unit No. 2
DATE	6-11-80
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901
PAGE	1 of 2

MAJOR SAFETY-RELATED MAINTENANCE

MAY, 1980

- M-1      Low flow was detected from the sample pump for R-25, containment air particulate detector. Replaced the pump and verified operability.
- M-2      The CCW surge tank east level recorder isolation valve, CLR-410V2 was leaking. Replaced valve and tubing.
- M-3      No. 3 steam generator power relief valve, MRV-233 was leaking by. All gaskets were replaced; disc, pilot disc and pilot seats were machined. The valve was leak tested and operability verified.
- C&I-1    The pressurizer level control system would not maintain the set point level during automatic operation. The reset action of level controller LC-459 was removed and flow controller FC-121 gain was reduced. The control system now responds and maintains pressurizer level at the programmed set point.
- C&I-2    Steam generator level protection set III, steam generator No. 3 level low-low and high level bistable LB-538A1B required replacement due to a drift problem in the high alarm set point. A spare bistable was installed and surveillance test 2 THP 4030 STP.117 was performed to verify the channel's operability.
- C&I-3    Ice condenser temperature recorder SG-017 indicated off scale at the low end of travel. The servo motor, point selector switch and pen drive amplifier card were replaced. The recorder was calibrated per 12 THP 6030 IMP.079 and returned to service.
- C&I-4    The comparator and rate drawer channels for the nuclear instrumentation system displayed a deviation alarm. The alarm was present with the deviation between channels less than the required set point. The bistable card for channel deviation alarm actuation was replaced with a spare card and the calibration of the bistable was performed.
- C&I-5    Radiation Monitoring System Channel R11, containment air particulate monitor, air pump tripped without producing an alarm in the control room. The alarm bulb had been replaced with a neon type which was incorrect. A filament type bulb was installed and operated properly. The air pump was tripping on low air flow. The air flow indication rotometer required replacement. The alarm unit was calibrated for correct set points and the air flow rate was adjusted for 10 cfm flow.



DOCKET NO.	50 - 316
UNIT NAME	D. C. Cook - Unit No. 2
DATE	6-11-80
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901
PAGE	2 of 2

MAJOR SAFETY-RELATED MAINTENANCE

MAY, 1980

C&I-6

The analog rod position indication meter for control rod M-2 was indicating full scale. The panel meter was removed and a spare meter was installed. Correct rod position indication returned.

C&I-7

The pressurizer pressure control hand/automatic station was not operating properly in either position. An out-of-balance condition in the pressurizer pressure master control module PC-455A was discovered. This module tracks the hand/auto station when in the "manual" position, so that change-over to "auto" will not cause a step-change to the spray valve and other controllers following PC-455A. The module was balanced and retracked, and a set point dial calibration was performed. Pressure control then was satisfactory.

