

# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-315

UNIT 1

DATE 11-1-78

COMPLETED BY W. T. Gillett

TELEPHONE 616-465-5901

MONTH October 1978

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>1,034</u>
2	<u>1,029</u>
3	<u>1,033</u>
4	<u>1,034</u>
5	<u>1,035</u>
6	<u>735</u>
7	<u>817</u>
8	<u>1,035</u>
9	<u>1,037</u>
10	<u>1,032</u>
11	<u>1,036</u>
12	<u>1,037</u>
13	<u>1,033</u>
14	<u>1,038</u>
15	<u>1,040</u>
16	<u>1,040</u>

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	<u>1,037</u>
18	<u>1,033</u>
19	<u>1,037</u>
20	<u>1,040</u>
21	<u>1,044</u>
22	<u>1,041</u>
23	<u>1,042</u>
24	<u>1,039</u>
25	<u>1,042</u>
26	<u>1,045</u>
27	<u>1,043</u>
28	<u>225</u>
29	<u>681</u>
30	<u>1,039</u>
31	<u>1,043</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.

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(9/77)

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# OPERATING DATA REPORT

DOCKET NO. 50-315  
 DATE 11-2-78  
 COMPLETED BY W. T. Gillett  
 TELEPHONE 616-465-5901

## OPERATING STATUS

1. Unit Name: Donald C. Cook 1
2. Reporting Period: October 1978
3. Licensed Thermal Power (MWt): 3,250
4. Nameplate Rating (Gross MWe): 1,089
5. Design Electrical Rating (Net MWe): 1,054
6. Maximum Dependable Capacity (Gross MWe): 1,080
7. Maximum Dependable Capacity (Net MWe): 1,044
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>745</u>	<u>7,296</u>	<u>33,600</u>
12. Number Of Hours Reactor Was Critical	<u>731.6</u>	<u>5,289.2</u>	<u>25,911.9</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>463</u>
14. Hours Generator On-Line	<u>729.9</u>	<u>5,159.7</u>	<u>25,129.5</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>321</u>
16. Gross Thermal Energy Generated (MWH)	<u>2,290,261</u>	<u>15,793,815</u>	<u>67,350,008</u>
17. Gross Electrical Energy Generated (MWH)	<u>758,590</u>	<u>5,203,030</u>	<u>21,968,120</u>
18. Net Electrical Energy Generated (MWH)	<u>731,344</u>	<u>5,012,926</u>	<u>21,063,140</u>
19. Unit Service Factor	<u>98.0</u>	<u>70.7</u>	<u>77.7</u>
20. Unit Availability Factor	<u>98.0</u>	<u>70.7</u>	<u>77.7</u>
21. Unit Capacity Factor (Using MDC Net)	<u>94.0</u>	<u>65.8</u>	<u>67.7</u>
22. Unit Capacity Factor (Using DER Net)	<u>93.1</u>	<u>65.2</u>	<u>63.5</u>
23. Unit Forced Outage Rate	<u>2.0</u>	<u>4.2</u>	<u>6.2</u>
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):

INITIAL CRITICALITY  
 INITIAL ELECTRICITY  
 COMMERCIAL OPERATION

Forecast	Achieved
_____	_____
_____	_____
_____	_____

11/18/81

11/18/81

11/18/81

11/18/81

11/18/81

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11/18/81

# UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH October, 1978

DOCKET NO. 50-315  
 UNIT NAME D.C. Cook-Unit  
 DATE 11-14-78  
 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
137	781006	F	0	H	1	N/A	ZZ	ZZZZZZ	Reactor power reduced to 65% to aid in cleanup of feedwater cycle contamination due to acid leakage from makeup plant. Reactor power returned to 100% 781007.
138	781028	F	15.1	A	1	78-060/03L-0	CA	VALVEX	Unit removed from service and placed in Hot Standby due to unidentified reactor coolant system leakage in excess of 1 gpm. Leak found to be packing leak on pressurizer safety valve loop seal drain valve. Leak was isolated and Unit returned to service. 100% reactor power reached 781029.

1  
 F: Forced  
 S: Scheduled

2  
 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)

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

(9/77)

## 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:

- 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.: 50-315  
Unit Name: D. C. Cook Unit #1  
Date: November 14, 1978  
Completed By: R. S. Keith  
Telephone: (616) 465-5901

**OPERATING EXPERIENCE -- OCTOBER, 1978**

**Highlights**

Unit 1 was on line 734 hours and 55 minutes out of a possible 745 hours.

**Summary**

10/01/78 -- The Unit entered this reporting period at 100% power.

10/02/78 -- The Turbine Driven Auxiliary Feed Pump failed to meet Surveillance Test requirements for speed and was declared inoperable.

10/03/78 -- The Turbine Driven Auxiliary Feed Pump was declared operable at 1720 hours. The East Containment Spray Pump was made inoperable at 1313 hours to repair CTS-105E which had a stripped yoke bushing.

10/04/78 -- The Turbine Driven Auxiliary Feed Pump again failed to reach operating speed on the functional test. The Governor was replaced and the pump was declared operable at 2052 hours.

The East CTS Pump was declared operable at 0040 hours.

10/06/78 -- At 0229 hours started reducing power to 75% because of high conductivity in the Steam Generators. 75% power was reached at 0335 hours. At 1538 hours started reducing power to 65% to assist in reducing steam generator conductivities. 65% power was reached at 1742 hours.

RPI for control rod K-12 had greater than a 12 step deviation between 1930 and 2012 hours.

10/07/78 -- At 1045 hours steam generator conductivities had reduced and make up water capacity had reached a condition where the Unit could be returned to full power. The Unit was at 100% power at 1802 hours.

10/10/78 -- The North half of "A" Condenser was isolated to inspect for tube leaks. 3 tubes were plugged.

10/11/78 -- Radiation Monitors R-31 and R-32 were removed from service because of a failed pump motor.





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10/12/78 -- Radiation Monitors R-31 and R-32 were returned to service  
(cont) at 1948 hours.

10/13/78 -- At 1020 hours, while regenerating the North Mixed Bed  
Demineralizer, there was a slight carry over to the Condensate  
system which caused steam generator conductivity to increase.

10/22/78 -- Radiation Monitors R-31 and R-32 were declared inoperable  
at 0345 hours because of a pump failure.

10/23/78 -- Radiation Monitors R-31 and R-32 were declared operable at  
0840 hours.

Pressurizer Level Channel NLP-153 was declared inoperable  
at 1510 hours when it deviated by greater than 4% from the  
other two channels.

10/24/78 -- Pressurizer Level Channel NLP-153 was declared operable at  
1202 hours.

10/28/78 -- The Unit was removed from service at 0818 hours because  
unidentified Reactor Coolant System leakage exceeded 1 GPM.  
After the Unit was tripped a packing leak on a pressurizer  
safety valve loop seal line was found. The valve was  
closed and the leakage stopped.

The Reactor was critical at 2145 hours when the Generator  
was paralleled with the system at 2323 hours.

10/31/78 -- The Unit is operating at 100% power.

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20

20

DOCKET NO.	50 - 315
UNIT NAME	D. C. COOK - UNIT NO. 1
DATE	11-14-78
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901

MAJOR SAFETY-RELATED MAINTENANCE

OCTOBER, 1978

- M-1 East CTS pump test line isolation valve, CTS-105E yoke bushing came loose from the yoke. Valve was disassembled and yoke bushing was replaced.
- M-2 The governor on the turbine driven auxiliary feed pump was sticking causing problems with RPM control. Replaced governor with new one and had operational test performed.
- M-3 The pump motor for radiation monitor R-31 and R-32 failed. Replaced motor and had monitors functionally tested.
- M-4 No. 2 boric acid transfer pump failed to pass performance test. Disassembled pump, adjusted impeller clearance and reassembled pump. After repair, performance tests met Technical Specification requirements.
- M-5 No. 1 boric acid transfer pump discharge valve to boric acid filter, CS-416-1 had a ruptured diaphragm. Replaced diaphragm.
- M-6 Engineered safeguards feature ventilation fan, HV-AES-1 bearings were running hot. Inspected and repacked inboard and outboard bearings. Functionally tested.
- C&I-1 VCR-11, glycol supply isolation valve in containment failed to the closed position. Condensation from surrounding pipes had saturated the terminal strip and control cable. The terminal strip was replaced with a spare. The correct valve operation and closure time response was verified.
- C&I-2 SG-17, ice condenser temperature recorder would not print and would also skip points. The recorders clutch and servo motor required replacement.
- C&I-3 Pressurizer level protection channel III NLP-153, indication increased 9%. The transmitters reference leg was flushed with demineralized water, and pressurized with a hydropump to remove the gas buildup within the piping. NLP-153 indication returned to within specification.
- C&I-4 MPP-230, steam generator No. 3 pressure indication failed low and did not produce an alarm. The panel indicator was tested and the leads to the indicator were found to have a short circuit condition. The wiring problem was corrected and the indication returned to normal.



DOCKET NO.	<u>50 - 315</u>
UNIT NAME	<u>D. C. COOK - UNIT NO. 1</u>
DATE	<u>11-14-78</u>
COMPLETED BY	<u>B. A. Svensson</u>
TELEPHONE	<u>(616) 465-5901</u>
PAGE	<u>2</u>

MAJOR SAFETY-RELATED MAINTENANCE

OCTOBER, 1978

C&I-5

QPI-412, the boric acid transfer pump No. 2 discharge pressure gauge, would not indicate pressure. The gauge was removed and inspected. A spare gauge was installed with a gauge saver and a diaphragm.



Mr. E. E. Fitzpatrick  
Indiana Michigan Power Company

Donald C. Cook Nuclear Plant

cc:

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December 1993

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