

## OPERATING DATA REPORT

DOCKET NO. 50-315  
 DATE 5-2-80  
 COMPLETED BY W. T. Gillett  
 TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: Donald C. Cook 1
2. Reporting Period: April 1980
3. Licensed Thermal Power (MWt): 3250
4. Nameplate Rating (Gross MWe): 1089
5. Design Electrical Rating (Net MWe): 1054
6. Maximum Dependable Capacity (Gross MWe): 1080
7. Maximum Dependable Capacity (Net MWe): 1044
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	719	2,903	46,727
12. Number Of Hours Reactor Was Critical	702.6	2,489.4	35,451.1
13. Reactor Reserve Shutdown Hours	0	0	463
14. Hours Generator On-Line	700.6	2,481.2	34,564.4
15. Unit Reserve Shutdown Hours	0	0	321
16. Gross Thermal Energy Generated (MWH)	2,212,354	7,813,148	96,879,453
17. Gross Electrical Energy Generated (MWH)	736,280	2,596,960	31,754,300
18. Net Electrical Energy Generated (MWH)	710,617	2,506,194	30,503,508
19. Unit Service Factor	97.4	85.5	77.7
20. Unit Availability Factor	97.4	85.5	77.7
21. Unit Capacity Factor (Using MDC Net)	94.7	82.7	68.1
22. Unit Capacity Factor (Using DER Net)	93.8	81.9	63.4
23. Unit Forced Outage Rate	2.6	14.5	7.4
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			
May 30, 1980 - July 20, 1980 Refueling Outage			

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. 50-315

UNIT 1

DATE 5-1-80

COMPLETED BY W. T. Gillett

TELEPHONE 616-465-5901

MONTH April

DAY . AVERAGE DAILY POWER LEVEL  
(MWE-Net)

1	<u>1046</u>
2	<u>1047</u>
3	<u>1046</u>
4	<u>1045</u>
5	<u>1027</u>
6	<u>1044</u>
7	<u>1042</u>
8	<u>178</u>
9	<u>410</u>
10	<u>873</u>
11	<u>1041</u>
12	<u>1023</u>
13	<u>1045</u>
14	<u>1045</u>
15	<u>1046</u>
16	<u>1042</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>1043</u>
18	<u>1045</u>
19	<u>1035</u>
20	<u>1032</u>
21	<u>1045</u>
22	<u>1044</u>
23	<u>1044</u>
24	<u>1045</u>
25	<u>1043</u>
26	<u>1047</u>
27	<u>1047</u>
28	<u>1046</u>
29	<u>1044</u>
30	<u>1048</u>
31	<u></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 April, 1980

DOCKET NO. 50-315  
 UNIT NAME D.C. Cook-Unit 1  
 DATE 5-13-80  
 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
159	800408	F	18.4	H	3	N.A.	ZZ	ZZZZZZ	The Unit tripped from 100% as a result of a lightning strike near the underground control cables between the plant and the switchyards. The generator output breakers opened causing load rejection. This in turn caused steam generator water levels to shrink below the low-low level trip point which caused the reactor trip. Unit returned to service the same day. Reactor power limited to <50% for 24 hours due to ΔFlux limits. 100% power reached 800410.

<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:

- 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.

Dock No.: 50-315  
Unit Name: D. C. Cook Unit #1  
Completed By: C. E. Murphy  
Telephone: (616) 465-5901  
Date: May 6, 1980  
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**MONTHLY OPERATING ACTIVITIES -- APRIL, 1980**

**Highlights :**

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

There was one outage of the Reactor and Turbine Generator Unit during the reporting period. This is also detailed in the Summary.

Total electrical generation for the month was 802,710 Mwh.

**Summary :**

- 4/5/80 -- Power was reduced to 90% for testing of Turbine Valves. Total time below 100% was 6 hours.
- 4/6/80 -- The Control Rod Urgent Failure Alarm sounded. No cause for the alarm could be identified. The Control Rod System was reset, after a 2 hour period, and the Control Rods were exercised to prove operability.
- 4/7/80 -- The North half of "A" Condenser was out of service for a 5.75 hour period for checking of tube leaks.
- 4/8/80 -- The Unit and Reactor tripped from 100% at 0403 as a result of a lightning strike near the underground control cables between the plant and the switchyard. Generator output Breakers K and K-1 opened causing load rejection. This in turn caused all Steam Generators to shrink below the low-low level trip point and the Reactor was tripped from the No. 3 Steam Generator. Reactor Coolant Pumps tripped from low frequency. However, automatic transfer of the other Auxiliaries was successful.
- The Reactor was returned to Criticality at 2026, and the Unit paralleled to the System at 2227.
- 4/9/80 -- The Unit was loaded to 49% Power at 1200. Due to Core conditions, Axial Flux could not be maintained within the target band during start-up. Time outside the band was 5 hours and 3 minutes. This required holding Reactor Power below 50% for at least 22 hours.
- 4/10/80 -- Loading of the Unit commenced at 0343, today and 100% Power was reached at 1049.



Dock No.: 50-315  
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4/11/80 -- Unit power was reduced to 90% at 2205, for testing of Turbine Valves.

4/12/80 -- Unit power was increased to 92% at 0202. Power was held at this point while trouble shooting the turbine control valve test circuit to determine cause for the test circuit not performing as designed at 100% power. The investigation is being continued. Power was returned to 100% between the hours of 0512 and 0643.

4/15/80 -- The Containment Recirculation Fan 1-HB-CEQ-1 was inoperable for a 6 hour period while Power Cable terminations were replaced.

The Emergency Safeguard Fan 1-HV-AES-2 was inoperable for a 4.5 hour period while Power Cable terminations were replaced.

4/16/80 -- Power was reduced to 95% by an inadvertent Boric Acid injection at 0103. Power was returned to 100% by 0225.

The Control Room Ventilation 1-HV-HCRA North was inoperable for a 2.75 hour period while Power Cable terminations were replaced.

The Hydrogen Recombiner No. 2 was inoperable for a 6.75 hour period while Power Cable terminations were replaced.

4/17/80 -- "C" North Condenser half was out of service for 7.5 hours to check for leaks.

4/18/80 -- Containment Radiation Monitor R-11 failed at 1125. The detector tube was replaced and the Monitor declared operable at 1110, Sunday the 20th.

Power was reduced to 90% at 2300 for the purpose of testing the Main Turbine Control Valves. During this time Unit 2 tripped and the Valve test was postponed.

4/19/80 -- Power was returned to 100% at 0335.

The East Centrifugal Charging Pump was inoperable for 1.75 hours to change oil.

The Plant Meteorological Instruments were inoperable between the hours of 1433 and 1450.

Docket No : 50-315  
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4/20/80 -- Power was again reduced to 90% at 0410 and the Turbine Control Valves tested. The Unit was returned to 100% power at 0933.

IRV-252, BIT Recirculation Outlet Valve failed closed at 0310. It was operable at 0445.

A spurious operation of the Turbine Building Wall Deluge System occurred. No cause could be found.

4/21/80 -- HV-AFX-1, Spent Fuel Pit Exhaust Fan was declared inoperable when it failed a performance test due to low flow.

4/22/80 -- The #1 Boric Acid Transfer Pump was removed from service to replace the pump seal.

4/25/80 -- The #1 Boric Acid Transfer Pump was returned to service.

"C" South Condenser was removed from service for 7 hours for leak testing and repairs.

4/28/80 -- Condensers removed from service for leak testing and repairs were as follows:

"C" North Condenser for 1.5 hours  
"C" South Condenser for 1.5 hours  
"B" North Condenser for 1.5 hours  
"B" South Condenser for 1.5 hours

4/29/80 -- Condensers removed from service for leak testing and repairs were as follows:

"A" North Condenser for 3.5 hours  
"A" South Condenser for 1.5 hours

The Make-up Plant was out of service for 12 hours to make tie connections for the Demineralized Water Header.

4/30/80 -- HV-AFX-1 was declared operable.





DOCKET NO.	50 - 315
UNIT NAME	D. C. Cook - Unit No. 1
DATE	5-13-80
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901
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MAJOR SAFETY-RELATED MAINTENANCE

APRIL, 1980

- M-1 The cable from 600 VAC circuit breaker 11B1 to motor control center 1-ABD-B 8504R1 was damaged when stepped on by contractor personnel. Replaced the cable and performed applicable electrical checks.
- M-2 The sample pump for radiation monitors R-31 and R-32 was running noisy. Replaced the pump with a new one.
- M-3 The reciprocating charging pump was leaking. Replaced the plungers, stuffing boxes, packing, glands and all adapters on #2 and #4 cylinders. Functionally tested the pump.
- M-4 The #1 boric acid transfer pump mechanical seal was leaking. Replaced mechanical seal, bearings, shaft, impeller, gaskets and o-rings. Verified proper pump operation.
- C&I-1 An urgent failure alarm on the rod control system was received. The alarm originated from the phase failure detector on the movable gripper group 1, control bank D. The cause of the alarm could not be determined. The alarm was reset and remained cleared.
- C&I-2 Several analog rod position indication channels were indicating incorrect positions. Channels C9, J3, J11, B8, D8, M8, H6, F8, F2, B10, K14, B6, F14, K2, N11, L13, L3 and N3 were recalibrated to provide proper indication.
- C&I-3 Primary water to boric acid blender control valve, QRV-412, would not open completely. The solenoid valve supplying air to the valve was leaking through the vent. The solenoid valve was replaced with a spare.
- C&I-4 IRV-252, boron injection tank recirculation to the boric acid storage tank, would not open from the control room. The valve's stem was frozen in position. The stem was freed with induced vibration and the valve opened. The valve was cycled several times to ensure operability. The valve will be examined during the upcoming outage.

