

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-316

UNIT 2

DATE 10-2-79

COMPLETED BY W.T. Gillett

TELEPHONE 616-465-5901

MONTH September 1979

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>1033</u>
2	<u>1036</u>
3	<u>1036</u>
4	<u>1044</u>
5	<u>1042</u>
6	<u>1022</u>
7	<u>1048</u>
8	<u>1048</u>
9	<u>802</u>
10	<u>1043</u>
11	<u>1043</u>
12	<u>1042</u>
13	<u>1045</u>
14	<u>1059</u>
15	<u>43</u>
16	<u>559</u>

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	<u>1050</u>
18	<u>1048</u>
19	<u>1046</u>
20	<u>1044</u>
21	<u>1048</u>
22	<u>1067</u>
23	<u>1066</u>
24	<u>1054</u>
25	<u>1027</u>
26	<u>1040</u>
27	<u>1053</u>
28	<u>1053</u>
29	<u>993</u>
30	<u>514</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.

(9-77)

7910190 376

OPERATING DATA REPORT

DOCKET NO. 50-316
 DATE 10-2-79
 COMPLETED BY W.T. Gillett
 TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: Donald C. Cook 2
2. Reporting Period: September 1979
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	<u>720</u>	<u>6,551</u>	<u>15,311</u>
12. Number Of Hours Reactor Was Critical	<u>698.7</u>	<u>5,394.0</u>	<u>10,624.7</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
14. Hours Generator On-Line	<u>693.1</u>	<u>5,319.1</u>	<u>10,046.7</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>2,266,726</u>	<u>17,596,927</u>	<u>30,702,034</u>
17. Gross Electrical Energy Generated (MWH)	<u>723,270</u>	<u>5,680,510</u>	<u>9,666,040</u>
18. Net Electrical Energy Generated (MWH)	<u>697,216</u>	<u>5,482,205</u>	<u>9,296,204</u>
19. Unit Service Factor	<u>96.3</u>	<u>81.2</u>	<u>79.6</u>
20. Unit Availability Factor	<u>96.3</u>	<u>81.2</u>	<u>79.6</u>
21. Unit Capacity Factor (Using MDC Net)	<u>89.5</u>	<u>77.3</u>	<u>72.5</u>
22. Unit Capacity Factor (Using DER Net)	<u>88.0</u>	<u>76.1</u>	<u>71.3</u>
23. Unit Forced Outage Rate	<u>3.7</u>	<u>18.8</u>	<u>14.5</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			
<u>October 22, 1979 Refueling Outage 60 days</u>			

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 | _____ | _____ |

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH Sept., 1979DOCKET NO. 50-316UNIT NAME D.C. Cook-Unit 2DATE 10-15-79COMPLETED BY B.A. SvenssonTELEPHONE (616) 465-5901

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
61	790908	S	0	B	4	N.A.	ZZ	ZZZZZZ	Reactor power reduced to 70% to perform N.I.S. incore/excore cross calibration. Power returned to 100% 790909.
62	790915	S	26.9	B	1	N.A.	ZZ	ZZZZZZ	Unit removed from service due to low oil level alarms on reactor coolant pump motor bearing oil reservoirs. Reactor power returned to 100% 790916.
63	790929	S	0	B	4	N.A.	HH	PUMPXX	Reactor power reduced to 53% to remove the east main feed pump from service due to high bearing vibration. Reactor power returned to 100% 791001.

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)

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 completely¹. 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

¹Note 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.: 50-316
Unit Name: D. C. Cook Unit #2
Completed By: R. S. Lease
Telephone: (616) 465-5901
Date: October 11, 1979
Page: 1 of 2

MONTHLY OPERATING EXPERIENCES -- SEPTEMBER, 1979

Highlights

The Unit operated at 100% power the entire reporting period except as noted in the summary.

There was one outage during the reporting period. This is also detailed in the summary.

Total electrical generation for the month was 723,270 Mwh.

Summary

09/08/79 -- Power was reduced to 70% over a 5.25 hour ramp starting at 2145 hours. This was to perform an Incore/Excore Nuclear Instrumentation Cross Calibration. Power was returned to 100% over a 6 hour ramp starting at 1540 hours 9/09/79.

09/15/79 -- The Unit and the Reactor were started down at 0000 hours and removed from service at 0327 hours. This was a scheduled outage and the purpose was to refill three Reactor Coolant Pumps' Lubricating Oil Reservoirs that had been operating on a low-level alarm.

The Reactor was returned to criticality at 2250 hours.

09/16/79 -- The Reactor tripped due to low-low level of #3 Steam Generator at 0125 hours.

The Reactor was returned to criticality at 0420 hours.

The Turbine was rolled at 0438 hours and paralleled to the system at 0622 hours.

The Unit was loaded to 100% power by 2000 hours.



Docket No.: 50-316
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Date: October 11, 1979
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09/26/79 -- Radiation Monitors R-11 and R-12 were inoperable for a nine hour period due to pump failure.

09/29/79 -- Power was reduced to 53% over an 11 hour ramp starting at 1830 hours. This was to remove the East Main Feed Pump from service due to excessive vibration at the Inboard Pump Bearing. After the pump was removed from service Unit power was recovered to 58%. After realigning the pump and lubricating the coupling, the East Feed Pump was returned to service at 0844 hours 10/01/79. Starting at this time power was returned to 100% over a 5 hour ramp.



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DOCKET NO.	50 - 316
UNIT NAME	<u>D. C. Cook - Unit No. 2</u>
DATE	<u>10-12-79</u>
COMPLETED BY	<u>B. A. Svensson</u>
TELEPHONE	<u>(616) 465-5901</u>
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MAJOR SAFETY-RELATED MAINTENANCE

SEPTEMBER, 1979

- M-1 No. 1 steam generator blowdown containment isolation valve, DCR-310 closed for no apparent reason. A hole was discovered in the diaphragm of the valve operator. Replaced the diaphragm and had valve retested.
- M-2 No. 3 boric acid transfer pump suction valve, CS-414-3, was leaking. Replaced valve diaphragm.
- M-3 Radiation monitor R-11 and R-12 sample pump failed. Replaced pump with a spare and tested pump for proper operation.
- C&I-1 Detector "F" on the flux mapping system would not operate in the insertion mode. The time valve was not being printed on the axial power distribution system recorder. Relay K82A was replaced to correct the operation problem on detector "F" transfer system. The operation of the detector "F" transfer system was functionally tested. The APDMS real time clock was replaced with a spare clock.
- C&I-2 During the testing of "C" main turbine stop valve, the control valve closed prior to the stop valve closure. The stop valve's closed limit switch indicated a closed position while the valve was in the open position. The closed signal resulted in the control valve responding prior to the closure of the stop valve. The limit switch was manually operated until freedom of movement was verified. A retest of the valve demonstrated the operability of the limit switch and circuits.
- C&I-3 The solenoid for the main turbine stop valve "B" failed. The coil of the acutation solenoid had failed. A spare solenoid was installed. The stop valve closed limit switch would not operate upon the closure of the valve. The limit switch was manually cycled until freedom of movement was verified. A functional test was performed and demonstrated normal valve and limit switch operation.
- C&I-4 Pressurizer pressure high reactor trip bistable, indicated a set point drift problem existed. A spare bistable was installed to replace 2PB-455A. The calibration of the bistable to the correct set point was performed.
- C&I-5 The nuclear instrumentation system power range channels N41, N42, N43 and N44 were calibrated based on the latest incore/excore calibration date of the Nuclear Section. The ΔT -Tavg flux penalty modules were also calibrated based on the axial offset values versus detector current data.



4. 2. 2.

1.

DOCKET NO.
UNIT NAME
DATE
COMPLETED BY
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D. C. Cook - Unit No. 2
10-12-79
B. A. Svensson
(616) 465-5901
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MAJOR SAFETY-RELATED MAINTENANCE

SEPTEMBER, 1979

- C&I-6 MFC-141, #4 Steam Generator steam flow was spiking high, thus giving a steam flow feed flow mismatch. The steam flow square root extractor was found to be spiking on the output. It was replaced with a new module and calibrated.
- C&I-7 The timer on the "A" diesel fire pump battery charger wouldn't shut the charger off, causing the batteries to boil dry. The transistors in the saturable reactor board were discovered to be blown. The transistors were replaced and correct operation was verified.
- C&I-8 R-11 and 12 pump failed and could not be restarted. The pump was found locked up. A new pump was installed and tested for proper operation.
- C&I-9 MRV-232, test valve on #3 Steam Generator stop valve would not test. The coil for solenoid valve XS0-232 was found open. The coil was replaced and proper operation of MRV-232 was verified.



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