

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-316

UNIT 2

DATE 8-7-79

COMPLETED BY W. T. Gillert

TELEPHONE 616-465-5901

MONTH July 1979

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>0</u>
2	<u>0</u>
3	<u>239</u>
4	<u>1,033</u>
5	<u>1,055</u>
6	<u>1,054</u>
7	<u>1,058</u>
8	<u>1,058</u>
9	<u>1,053</u>
10	<u>1,050</u>
11	<u>1,044</u>
12	<u>1,042</u>
13	<u>1,051</u>
14	<u>1,045</u>
15	<u>1,040</u>
16	<u>1,024</u>

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	<u>1,056</u>
18	<u>1,053</u>
19	<u>1,036</u>
20	<u>1,043</u>
21	<u>638</u>
22	<u>997</u>
23	<u>1,033</u>
24	<u>1,029</u>
25	<u>1,033</u>
26	<u>1,036</u>
27	<u>1,036</u>
28	<u>1,015</u>
29	<u>1,039</u>
30	<u>1,035</u>
31	<u>1,019</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)

7908170 343

OPERATING DATA REPORT

DOCKET NO. 50-316
DATE 8-6-79
COMPLETED BY W.T. Gillett
TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: Donald C. Cook 2
2. Reporting Period: July 1979
3. Licensed Thermal Power (MWt): 3,391
4. Nameplate Rating (Gross MWe): 1,133
5. Design Electrical Rating (Net MWe): 1,100
6. Maximum Dependable Capacity (Gross MWe): 1,118
7. Maximum Dependable Capacity (Net MWe): 1,082
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	5,087	13,847
12. Number Of Hours Reactor Was Critical	690.9	3,951.3	9,182.0
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	678.3	3,882.0	8,609.6
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	2,258,164	12,816,511	25,921,618
17. Gross Electrical Energy Generated (MWH)	720,360	4,157,290	8,142,820
18. Net Electrical Energy Generated (MWH)	694,686	4,013,065	7,827,064
19. Unit Service Factor	91.2	76.3	76.7
20. Unit Availability Factor	91.2	76.3	76.7
21. Unit Capacity Factor (Using MDC Net)	86.3	72.9	69.4
22. Unit Capacity Factor (Using DER Net)	84.9	71.7	68.3
23. Unit Forced Outage Rate	8.4	23.6	16.6
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
_____	_____
_____	_____
_____	_____

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH JULY, 1979

DOCKET NO. 50-316
 UNIT NAME D.C. Cook-Unit 2
 DATE 8-11-79
 COMPLETED BY B.A. Svensson
 TELEPHONE (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
59	790519	F	62.0	A	1	79-019/01T-0	FW	PIPEXX	Outage continued from previous month. Unit returned to service on 790703 at 1358 hours. Total outage time 1076.5 hours.
60	790721	S	3.7	B	2	N.A.	ZZ	ZZZZZZ	Unit tripped manually from 100% power using the generator trip button. Purpose of trip was to collect data on feedwater elbow/steam generator nozzle test instrumentation during trip and recovery transient. Data was also collected for the required generator 100% load trip. Unit returned to service the same day and reached 100% reactor power on 790722.

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

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:

- 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.

Docket No.: 50-316
Unit Name: D. C. Cook Unit #2
Completed By: R. S. Lease
Telephone: (616) 465-5901
Date: August 8, 1979
Page: 1 of 2

MONTHLY OPERATING EXPERIENCES -- JULY, 1979

Highlights

At the start of the reporting period this Unit was in Mode 3 returning from an outage for replacement of feedwater elbows.

Total electrical generation for the month was 720,360 Mwh.

Summary

07/02/79 -- The Condensate System contamination that was reported in last month's report was cleaned up and refilling of the system was initiated at 0420 hours.

Reactor Coolant System operating temperature and pressure was obtained. The Reactor was critical at 1849 hours.

At 1915 hours a Safety Valve on #3 Steam Generator opened. This valve did not reset until pressure was reduced by 200 psi. Control rods were driven in to make the Reactor sub-critical with Reactor Coolant System temperature less than 541°. Reactor over-power trips were reset to 85% and the safety valve that had lifted was gagged to allow it to cool.

The Reactor was returned to critical at 2314 hours.

07/03/79 -- The Main Turbine was rolled at 0331 hours. The Main Turbine was brought up to speed and just prior to the moment of parallel to the system, the Unit and Reactor tripped at 0453 hours. Cause of the trip was low vacuum in the "A" Condenser.

The Reactor was returned to critical at 1022 hours. The Turbine was rolled at 1242 hours and the Generator paralleled to the system at 1358 hours.

The Unit was loaded to 80% power by 2100 hours. The gag that had been previously installed on the safety valve was removed and the overpower trips reset to normal.

• 1000-1000 •
• 1000-1000 •

11

Docket No.: 50-316
Unit Name: D. C. Cook Unit #2
Completed By: R. S. Lease
Telephone: (616) 465-5901
Date: August 8, 1979
Page: 2 of 2

07/04/79 -- The Unit was loaded to 90% power at 0105 hours and 100% by 0420 hours.

The new feedwater elbows for Steam Generators 1 and 3 had been equipped with multiple instrumentation. These instruments consisted of thermocouples, accelerometers, strain gauges and flow measurements, being a total of greater than 50 on each elbow. These special instruments were monitored all during the startup and loading process.

07/15/79 -- At 2145 hours the normal heater drain valve between heaters 5B and 4B was removed from service to repair a flange leak. This required removal of the heater drain pump from service on this set of heaters. Electrical load loss amounted to 30 megawatts. Repairs were made and the Unit returned to normal generation at 2212 hours 7/16/79.

07/18/79 -- The "CD" Emergency Diesel Generator was inoperable for a 7.5 hour period for repair to a check valve in the air-line to the Turbo-Supercharger.

07/19/79 -- Unit power was reduced to 97% between the hours of 0010 and 0540 for a Moderator Temperature Coefficient Test.

07/21/79 -- The Unit was intentionally tripped from 100% power at 1205 hours. This was part of the test program to determine why the cracks had developed in the feedwater lines. The method of trip was Generator trip, which also satisfied one of our required preoperational tests.

The Reactor was returned to criticality at 1444 hours..

The Turbine was rolled at 1533 hours and the Generator paralleled to the system at 1550 hours.

07/22/79 -- The Unit was loaded to 100% power by 0730 hours.

07/28/79 -- Unit power was reduced from 95% between the hours of 2150 and 2320 for testing of Turbine valves.

07/31/79 -- Power was reduced to 90% between the hours of 0155 and 0521 hours for repair of a seal oil leak on the Turbine end of the Main Generator

DOCKET NO.	<u>50 - 316</u>
UNIT NAME	<u>D. C. Cook - Unit No. 2</u>
DATE	<u>8-13-79</u>
COMPLETED BY	<u>B. A. Svensson</u>
TELEPHONE	<u>(616) 465-5901</u>

MAJOR SAFETY-RELATED MAINTENANCE

JULY, 1979

- M-1 QRV-251, seal injection flow control valve would not operate. The valve stem was replaced. Retest was satisfactory.
- M-2 Check valve, DG-128C, on diesel generator air receiver 2-CD2 was leaking by. Disassembled valve, lapped seat and reassembled.
- C&I-1 The high and low alarm for accumulator No. 1 was received simultaneously from IPA-110 and IPA-111. The bistables of the instrument loops were calibrated. The as-found calibration of 2PB-960 A/B was out of specifications.
- C&I-2 The urgent failure alarm on control rod drive system was received. The alarm was the result of the firing control circuit card. The printed circuit board was replaced and the alarm reset. Operation of the system was functionally tested.
- C&I-3 MPP-220, steam generator No. 2 pressure protection set, indication was incorrect. The calibration of the transmitter was verified to be correct. The panel indicator was removed and zeroed. The panel indication returned to the correct value.
- C&I-4 Radiation monitoring system channel R-25 paper drive would only operate in the fast paper mode. The slow speed drive motor was removed and replaced with a spare motor. Correct operation of the filter paper drive system was verified.
- C&I-5 Unit 2 axial power distribution monitoring system would only produce a 1-3 detector scan. The input circuit card malfunction produced the error in operation. The input circuit card was replaced with a spare and a functional test performed.
- C&I-6 Radiation monitoring channel R-32, Unit vent radio iodine monitor high alarm was received periodically without apparent cause. The dual logarithmic counting circuit card in the counting ratemeter was replaced and calibration was performed.
- C&I-7 Panel rod position indication for rods C-7, N-7, N-9, C-11, C-5 and N-11 deviated greater than 12-steps from the demand position. The secondary coil voltages were measured and verified to be correct. The signal conditioning modules were calibrated for the correct output signals.

DOCKET NO.	50 - 316
UNIT NAME	D. C. Cook - Unit No. 2
DATE	8-13-79
COMPLETED BY	B. A. Svensson
TELEPHONE	(616) 465-5901
PAGE	- 2 -

MAJOR SAFETY-RELATED MAINTENANCE

JULY, 1979

C&I-8

The rolamatic filters on 2-HV-AES-1 and 2-HV-AES-2 would not operate as required. The automatic timer was found to be adjusted for advancing the filter once per 120-hour. The timer was adjusted to provide seven advances per 120-hour period.

C&I-9

The wind direction indication at the 150 foot level had failed low. The direction signal was switched to the secondary system and indication returned to normal. Bad weather conditions have prevented climbing the weather tower to remove primary sensor for repair.