

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-315
 UNIT 1
 DATE 4-5-79
 COMPLETED BY W.T. Gillett
 TELEPHONE 616-465-5901

MONTH March 1979

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1046	17	1044
2	901	18	1043
3	21	19	1047
4	843	20	1044
5	1044	21	1044
6	1042	22	1044
7	1043	23	689
8	1043	24	---
9	1040	25	309
10	1041	26	818
11	1043	27	1032
12	1044	28	1038
13	1041	29	1038
14	1042	30	1036
15	1043	31	1038
16	1045		

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)

7904180261

OPERATING DATA REPORT

DOCKET NO. 50-315
DATE 4-4-79
COMPLETED BY W. T. Gillett
TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: Donald C. Cook 1
2. Reporting Period: March 1979
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	744	2,160	37,244.0
12. Number Of Hours Reactor Was Critical	683.9	2,083.1	29,294.8
13. Reactor Reserve Shutdown Hours	0	0	463
14. Hours Generator On-Line	679.5	2,076.3	28,489.6
15. Unit Reserve Shutdown Hours	0	0	321
16. Gross Thermal Energy Generated (MWH)	2,139,350	6,530,323	77,868,114
17. Gross Electrical Energy Generated (MWH)	711,210	2,168,620	25,458,280
18. Net Electrical Energy Generated (MWH)	686,060	2,092,287	24,429,464
19. Unit Service Factor	91.3	96.1	79.5
20. Unit Availability Factor	91.3	96.1	79.5
21. Unit Capacity Factor (Using MDC Net)	88.3	92.8	70.2
22. Unit Capacity Factor (Using DER Net)	87.4	91.9	64.3
23. Unit Forced Outage Rate	8.7	3.9	6.0
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 March, 1979

DOCKET NO. 50-315
 UNIT NAME D.C. Cook-Unit 1
 DATE 4-13-79
 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
146	790302	F	24.7	A	1	79-015/03L-0	ZZ	ZZZZZZ	Unit removed from service due to failure of the rupture disc on the pressurizer relief tank. The pressure surge caused all ice condenser inlet doors to indicate open. The unit was returned to service 790303 and loaded to 100% 790304. Reactor/Turbine trip caused by near simultaneous failure of two vital instrument bus inverters. The inverter failures also caused inadvertent actuation of the safety injection systems and steam line isolation. Repairs were made and unit returned to service on 790325 and 100% power reached on 790326.
147	790323	F	39.8	A	3	79-019/03L-0	EB	ZZZZZZ	

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 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.

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH March, 1979

DOCKET NO. 50-315
 UNIT NAME D.C. COOK-UNIT 1
 DATE 4-13-79
 COMPLETED BY B.A. Svensson
 TELEPHONE (616) 465-5901
 - Page 2 -

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
148	790326	F	0	A	4	N/A	ZZ	ZZZZZZ	Reactor power was reduced to 52% to permit removal of the west main feed pump from service. Problem was corrected without removing pump from service and power returned to 100% 790327.

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)
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³
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⁴
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 for Preparation of Data
 Entry Sheets for Licensee
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⁵
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(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

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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.

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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
Completed By: R. S. Lease
Telephone: (616) 465-5901
Date: April 12, 1979

MONTHLY OPERATING EXPERIENCES -- MARCH, 1979

Highlights

This Unit has operated at full Reactor power the entire period except as noted in the summary.

Total electrical generation for the month was 711,210 Mwh.

Summary

- 03/02/79 -- Loading was started down at 2011 hours and the Unit was removed from service at 2109 hours. Reason for the outage was a rupture disc on the Pressurizer Relief Tank had ruptured causing all Ice Condenser Doors to indicate open. The Ice Condenser Doors were closed at 2200 hours. Cause of the ruptured disc to fail was a feed and bleed procedure which was in process to reduce tank temperature.
- 03/03/79 -- Both ruptured discs were replaced on the Pressurizer Relief Tank and the Reactor returned to criticality at 1906 hours. The Unit was placed in parallel with the system at 2155 hours and loaded to 100% power by 1245 hours 3/4/79. There was a 1.5 hour hold at 47% power due to an indicated Quadrant Power Tilt.
- 03/23/79 -- At 1549 hours the inverters of two vital instrument buses failed near simultaneously. This resulted in a Reactor trip, Turbine trip and Safety Injection. The failure was capacitors within the inverters. The "AB" station battery was under equalizing charge at this time and failure was attributed to excessive voltage.
- 03/25/79 -- Immediate Unit restart was not possible because the Boron Injection Tank had been injected into the system during the safety injection and it required time to return this to Chemical Specifications. The Reactor was returned to criticality at 0559 hours and the Unit paralleled to the system at 0734 hours. The Unit was loaded to 100% power by 1200 hours 3/26/79.

Docket No.: 50-315
Unit Name: D. C. Cook Unit #1
Completed By: R. S. Lease
Telephone: (616) 465-5901
Date: April 12, 1979
Page: Two (2)

03/26/79 -- Reactor Power was reduced to 52% power starting down at 1300 hours to remove the West Main Feed Pump from service. Reason was there was noise in the front end of the Turbine Drive. Cause was found to be the motor driven auxiliary pump and the shaft driven oil pump running together opposite one another. Stopping of power reduction was attempted at 60% power, but this core being so near the end of life the xenon transient reduced power to 52% before it could be turned around. Power was returned to 100% by 0212 hours 3/27/79.

DOCKET NO.	50 - 315
UNIT NAME	<u>D. C. Cook - Unit No. 1</u>
DATE	<u>4-13-79</u>
COMPLETED BY	<u>B. A. Svensson</u>
TELEPHONE	<u>(616) 465-5901</u>

MAJOR SAFETY-RELATED MAINTENANCE

MARCH, 1979

- M-1 ESW-113 and ESW-114, 1CD diesel essential service supply check valves leaked by. The discs were replaced. Retest was satisfactory.
- M-2 ESW-111 and ESW-112, 1AB diesel essential service supply check valves leaked by. The discs were replaced. Retest was satisfactory.
- M-3 North waste gas compressor would not develop discharge pressure. Replaced compressor suction valve disc (RRV-378). Retest was satisfactory.
- C&I-1 The rod position indicator for F-6 indicated greater than 12 steps from the demand position. The panel indicator was found drifting. The LVDT secondary coil voltage measurement indicated a constant signal. The signal conditioning module was removed and the cards edge connector was cleaned. Following reinstallation, the panel meter indication returned to the correct value.
- C&I-2 The control bank D rods began to withdraw at maximum stepping speed when the rod control system was placed into the automatic mode. The problem was determined to be module 1TY-412P supplying the auctioneered Tavg signal to the system. The module was removed from the control loop and required replacement of R-2 gain potentiometer. The control system was returned to service following the repair of the module.
- C&I-3 FPI-253, turbine driven auxiliary feedpump discharge pressure indication indicated 300 psig lower than the local test gauge. The transmitter was found to be out of calibration. The transmitters calibration was performed and the control room indication was verified.
- C&I-4 IFA-250, boron injection tank recirculation flow alarm, indicated a flow rate of 9 gpm and the alarm was received in the control room. The setpoint of IFA-250 was found to actuate at 11 gpm. The setpoint of the alarm was adjusted to actuate at 8 gpm as required.
- C&I-5 Crid I inverter failed. Capacitor C2, fuse FU-2 and the oscillator circuit board were replaced. Correct operation of the inverter was verified and the inverter was returned to service.

DOCKET NO.	50 - 315
UNIT NAME	<u>D. C. Cook - Unit No. 1</u>
DATE	<u>4-13-79</u>
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TELEPHONE	<u>(616) 465-5901</u>
PAGE	<u>- 2 -</u>

MAJOR SAFETY-RELATED MAINTENANCE

MARCH, 1979

C&I-6

Crid II inverter failed. Capacitor C2 had failed and ruptured. Capacitor C2, fuses FU-1 and FU-2, silicon controlled rectifiers SCR-3 and SCR-4, and diodes D4 and D5 were replaced. Operation of the inverter was verified and the unit returned to service.

C&I-7

QRV-112, CVCS Letdown isolation valve, would not open. The circuit problem was traced to a HFA relay which would not operate when energized. The relay would operate and remain energized. The relay would operate and remain energized when manually assisted. The relay will be replaced during the Unit 1 Refueling Outage.