OPERATING DATA REPORT

DOCKET NO. 50-316
DATE 3-5-80
COMPLETED BY W. T. Gillett
TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name:	Donald C. Cook	2
2. Reporting Period:	February	1980
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

Notes

8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

9. Power Level To Which Restricted, If Any (Net MWe):
10. Reasons For Restrictions, If Any:

2,165,634

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	696	1440	18,960
12. Number Of Hours Reactor Was Critical	680.6	1001.4	12,081.3
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	670.3	921.0	11,422.9
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	~~2,202,403~~	~~2,793,807~~	~~35,018,187~~
17. Gross Electrical Energy Generated (MWH)	714,670	897,420	11,051,830
18. Net Electrical Energy Generated (MWH)	689,185	863,137	10,630,549
19. Unit Service Factor	96.3	64.0	69.1
20. Unit Availability Factor	96.3	64.0	69.1
21. Unit Capacity Factor (Using MDC Net)	91.7	55.5	62.9
22. Unit Capacity Factor (Using DER Net)	90.0	54.5	61.8
23. Unit Forced Outage Rate	3.7	2.7	13.0

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):

	Forecast	Achieved
INITIAL CRITICALITY		
INITIAL ELECTRICITY		
COMMERCIAL OPERATION		

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-316

UNIT 2

DATE 3-4-80

COMPLETED BY W. T. Gillett

TELEPHONE 616-465-5901

MONTH February 1980

DAY	AVERAGE DAILY POWER LEVEL (MWE-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1078	17	1082
2	1088	18	1084
3	948	19	414
4	1080	20	1089
5	1092	21	1096
6	1091	22	1089
7	1092	23	1074
8	1091	24	1079
9	977	25	1082
10	933	26	431
11	1090	27	1090
12	442	28	1077
13	930	29	1092
14	867	30	
15	1072	31	
16	1066		

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 February, 1980

DOCKET NO. 50-316
UNIT NAME D.C.Cook-Unit 2
DATE 3-6-80
COMPLETED BY B.A. Svensson
TELEPHONE (616) 465-5901
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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
68	800203	S	0	B	4	N.A.	ZZ	ZZZZZZ*	Reactor power reduced to 80% to perform power coefficient test. Reactor power returned to 100% 800204.
69	800210	S	0	B	4	N.A.	ZZ	ZZZZZZ	Reactor power reduced to 75% for turbine and moisture separator reheater performance testing. Reactor power returned to 100% the same day.
70	800212	F	10.6		3	N.A.	HA	XXXXXX	Turbine/Reactor trip due to extreme high level in left moisture separator reheater. Spurious trip - no evidence of high level in the moisture separator. Unit returned to service the same day. Reactor power at 100% 800213.
71	800213	F	0	H	4	N.A.	ZZ	ZZZZZZ	Reactor power reduced to 60% due to secondary side water chemistry problems to enhance cleanup. Reactor power returned to 100% 800214. (Continued On Next Page)

1
F: Forced
S: Scheduled

2
Reason:
A-Equipment Failure (Explain)
B-Maintenance or 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

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UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH February, 1980

DOCKET NO. 50-316
UNIT NAME D.C.Cook-Unit 2
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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
72	800219	F	8.4	H	2	N.A.	HA	ZZZZZZ	Unit tripped manually due to high vibration on No. 4 turbine bearing. The high vibration is believed to have been caused by rapid temperature change while placing moisture separator reheater in service. Unit returned to service and reactor power reached 100% the same day.
73	800226	F	6.7	G	1	N.A.	ZZ	ZZZZZZ	Unit removed from service due to high vibration on turbine generator bearing No. 5. Vibration believed to be caused by rapid temperature change in generator gas temperatures caused by operational error. Unit returned to service the same day. Reactor power at 100% 800227.

1
F: Forced
S: Scheduled

2
Reason:
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B-Maintenance or Test
C-Refueling
D-Regulatory Restriction
E-Operator Training & License Examination
F-Administrative
G-Operational Error (Explain)
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Method:
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Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161)

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Exhibit I - Same Source

(9/77)

MONTHLY OPERATING EXPERIENCES -- FEBRUARY, 1980

Highlights :

The Unit entered the reporting period operating at 100% power.

The Reactor/Turbine Generator was out of service two separate occasions during the reporting period as detailed in the summary.

One other time the Turbine Generator was out of service, but the Reactor remained critical. This is also detailed in the summary.

Total electrical generation for the month was 714,670 Mwh.

Summary :

2/1/80 -- The West Centrifugal Charging pump was inoperable for a 6 hour period for required maintenance work.

2/3/80 -- Power was reduced to 80% over a 1.5 hour ramp starting at 0600. This was for Power Coefficient testing. Power was returned to 100% over a 5.5 hour ramp starting at 1855 hours 2-3-80.

2/4/80 -- The North Safety Injection pump was inoperable for a 2 hour period for inspection of a safety valve.

The East Residual Heat Exchanger was out of service for a 12.5 hour period for repair of a safety valve.

2/5/80 -- Steam Generator No.3 Level Channel I was inoperable for a 3 hour period for necessary repairs.

The No.3 Boric Acid Transfer Pump was removed from service at 1150 hours for replacement of the pump seal. This pump was returned to operable status at 1514 hours 2-8-80.

2/6/80 -- The Turbine Drive Auxiliary Feedwater pump was inoperable for a 10 hour period while the tip from a hand-held tachometer was removed from the outboard pump bearing housing.

2/6/80 -- (cont'd) The APDMS system was inoperable for a 5.75 hour period for necessary repairs.

2/8/80 -- Steam Generator No. 23 Level Channel I was inoperable for an 8 hour period for necessary repairs.

2/9/80 -- Power was reduced to 85% over a 1 hour ramp starting at 0500 hours. This was for Turbine Efficiency testing. Power was returned to 100% by 2132 hours.

2/10/80 -- Power was reduced to 75% over a 1.5 hour period. This was again for Turbine Efficiency Testing. Power was returned to 100% by 2000 hours.

2/11/80 -- The West Residual Heat Removal pump was inoperable for a 33 hour period starting at 0630 hours for re-packing of a valve.

2/12/80 -- The Unit and Reactor tripped from 100% power at 0814 hours. The trip was caused by an extreme high level in the Left Moisture Separator Reheater. The trip appears to have been spurious since there was no evidence that a high level actually existed. The Reactor was returned to critical at 1726 hours and the Generator was paralleled to the system at 1849 hours. The Unit was loaded to 100% power by 1200 hours 2-13-80.

2/13/80 -- Power was reduced to 60% over a 1 hour ramp starting at 2308 hours due to high conductivity in the Condensate and Feedwater system. The excessive conductivity had been traced to a large leak in the South half of the 'A' Condenser. By this time, the leak had been isolated, but the power reduction was taken for more effective clean-up.

2/14/80 -- The Unit was loaded to 100% power between 0805 and 1430 hours.

Containment Radiation Monitors R-11 and R-12 were inoperable for a 10 hour period because the sample pumps would not run.

The West Residual Heat Removal pump was inoperable for a 9 hour period while a valve was repacked.

2/15/80 -- Safeguards Fan HV-AES-2 was inoperable for a 5.25 hour period for inspection.

2/16/80 -- Containment Recirculating Fan CEQ-2 was inoperable for a 11.25 hour period for repair to the suction damper.

2/19/80 -- Power was reduced to 90% starting at 0030 hours. This was in preparation of placing reheater coils in service. While placing the reheater coils in service, Turbine Bearing No.4 vibration started increasing from a normal 2 mils. When this vibration reached 9.5 mils, the decision was made to trip the Unit and the Reactor trip breakers were open at 0250 hours. The Reactor and Turbine tripped, but the Generator continued to motor due to a failed Turbine valve limit switch. The Generator Output Breakers were manually opened at 0255 hours. This initiated black-out conditions on the Unit and both Emergency Diesel Generators started and accepted their designated load. The Unit was returned to normal electrical configuration by 0330 hours.

The Reactor was returned to criticality at 0905 hours and the Unit was paralleled to the system at 1118 hours. The Unit was loaded to 100% power by 2320 hours.

The vibration pattern of No.4 Turbine Bearing was normal during start-up and loading.

2/21/80 -- Containment Radiation Monitor R-11 was inoperable for a 5.75 hour period for calibration.

Stack Radiation Monitor R-25 was inoperable for a 5.25 hour period for repair of the check source.

2/22/80 -- Stack Radiation Monitor R-11 was inoperable for a 7 hour period to repair the filter drive.

2/23/80 -- The Turbine Efficiency test was from 100% power with Tavg reduced 8°.

2/25/80 -- Icing conditions on the Circulating Water Intake Screens caused reduced Circulating Water flow.

2/25/80 -- (cont'd) This resulted in higher than normal Generator temperatures due to the effect on the Generator Cooling Systems. This condition started at 2130 hours and lasted for approximately 20 minutes. The higher than normal generator temperature apparently effected the vibration of the No.5 Turbine Bearing and it started increasing from a normal 5 mils.

2/26/80 -- At 0115 hours the vibration in No.5 Bearing had increased to 10.3 mils. The Unit was then unloaded to 62% and during the unloading the vibration increased to 11.2 mils. The Unit was further unloaded and removed from service at 0444 hours. The Turbine was placed on the turning gear while the Reactor remained critical at less than 10% power. The Unit was re-rolled at 1016 hours and paralleled with the system at 1124 hours. The Unit was loaded to 100% power by 0025 2-27-80. During the roll-up and loading the No.5 Bearing vibration was normal.

2/28/80 -- The East Centrifugal Charging pump was out of service for an 8 hour period for required maintenance.

Containment Radiation Monitors R-11 and R-12 were inoperable for a 7 hour period for repair to the sample pumps.

2/29/80 -- Containment Radiation Monitors R-11 and R-12 were inoperable for a 29.75 hour period starting at 0947 due to filter drive failure.

This Unit experienced its normal Condenser tube leak problems and Condenser Halfs were out of service periodically throughout the reporting period.

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MAJOR SAFETY-RELATED MAINTENANCE

FEBRUARY, 1980

M-1 The emergency boration line motor operated isolation valve, QMO-402, would not close. A wire was found to be interfering with the close torque switch. Wire was rerouted and valve tested.

M-2 The CD emergency diesel rear jacket water manifold was leaking. Replaced jacket water outlet gaskets. Had engine tested.

M-3 The east RHR heat exchanger discharge safety valve, SV-104, leaked when another safety valve discharging to the common header lifted. The leakage was the result of ruptured bellows. The bellows were replaced.

M-4 RHR heat exchanger bypass valve, IMO-324, had a packing leak and valve would not operate manually. Replaced bevel gear in limitorque, repacked valve and had it tested.

M-5 The HEPA filter for ESF ventilation system fan HV-AES-2, had a high DP. Replaced HEPA filter and had unit tested.

M-6 Ventilation damper VMO-102 for the containment equalization fan, HV-CEQ-2, would not operate. Replaced contactor in motor control center and had damper tested.

C&I-1 ZRV-020, the fire protection water supply to the 2-HV-CPR-1, containment pressure relief ventilation unit would not open. The circuit board was replaced and operability test was performed to verify correct operation.

C&I-2 The test solenoid for main turbine control valve "B" was preventing the cycling of the valve. A broken lead was found on the terminal strip of the solenoid. The wire was repaired and reterminated.

C&I-3 The proximity switch on stop valve "B" supplying a trip signal to the solid state protection system would not respond. The switch had vibrated loose from the mounting plate and was suspended by the leads. The proximity switch was remounted and verified operational.

C&I-4 Main turbine stop valve "B" test solenoid failed. The solenoid was replaced with a spare solenoid. A functional test was performed on the operation of stop valve "B".

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MAJOR SAFETY-RELATED MAINTENANCE

FEBRUARY, 1980

C&I-5 The closed limit switch on the main turbine stop valve "B" failed. The switch actuation arm had vibrated off the limit switch shaft. Inspection of the actuation arm revealed that the arm's spline had been worn, allowing free movement of the actuation arm and not actuating the switch. The arm was replaced with a spare and a functional test was performed.

C&I-6 Steam generator number 3 level transmitter BLP-131, was cycling from 40% to 48% level indication. The transmitter was replaced. The new transmitter was calibrated and placed in service.

C&I-7 The limit switch on "B" stop valve was found to have a stripped splined shaft and actuating lever. The required parts were replaced. The stop valve was stroked to verify proper operation of its limit switch.

C&I-8 Feed flow transmitter FFC-231, was giving a low indication. Recalibration of the transmitter restored proper operation.