OPERATING DATA REPORT

DOCKET NO. 50-316
DATE 2-4-80
COMPLETED BY W. T. Gillett
TELEPHONE 616-465-5901

OPERATING STATUS

1. Unit Name: Donald C. Cook 2
2. Reporting Period: January 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
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	744	18,264
12. Number Of Hours Reactor Was Critical	320.8	320.8	11,400.7
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	250.7	250.7	10,752.6
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	584,404	584,404	32,808,784
17. Gross Electrical Energy Generated (MWH)	182,750	182,750	10,337,160
18. Net Electrical Energy Generated (MWH)	173,952	173,952	9,941,364
19. Unit Service Factor	33.7	33.7	67.8
20. Unit Availability Factor	33.7	33.7	67.8
21. Unit Capacity Factor (Using MDC Net)	21.6	21.6	61.4
22. Unit Capacity Factor (Using DER Net)	21.3	21.3	60.4
23. Unit Forced Outage Rate	0	0	13.6

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):

	Forecast	Achieved
INITIAL CRITICALITY		
INITIAL ELECTRICITY		
COMMERCIAL OPERATION		

(9/77)

8002200 463

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-316
UNIT 2
DATE 2-4-80
COMPLETED BY W. T. Gillett
TELEPHONE 616-465-5901

MONTH JANUARY 1980

DAY	AVERAGE DAILY POWER LEVEL (MWE-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	0	17	0
2	0	18	0
3	0	19	0
4	0	20	18
5	0	21	426
6	0	22	467
7	0	23	466
8	0	24	360
9	0	25	269
10	0	26	663
11	0	27	752
12	0	28	827
13	0	29	950
14	0	30	995
15	0	31	1056
16	0		

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 January, 1980

DOCKET NO. 50-316
UNIT NAME D.C.Cook-Unit 2
DATE 2-11-80
COMPLETED BY B.A. Svensson
TELEPHONE (616) 465-5901
PAGE 1 of 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
.64	.791019	S.	468.7	B&C	1	N.A.	ZZ	ZZZZZZ	The unit was removed for Cycle I-II refueling outage on 791019. The outage was extended on 791223 to correct discrepancies found as a result of seismic analysis for as-built safety-related piping systems performed in accordance with I.E. Bulletin No. 79-14. Following completion of low power physics testing the unit was returned to Service on 800120. Total duration of outage 2222.5 hours.
65	800120	F	9.6	H	3	N.A.	ZZ	ZZZZZZ	Reactor/Turbine trip due to Steam Flow/Feedwater Flow mismatch coincident with low level in No. 2 steam generator. The trip occurred due to difficulties with steam generator level control during low power operation. The unit was (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

(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[1]. 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 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 critieria:

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.

[1]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 50 MW as the break point. For larger power reactors, 50 MW is too small a change to warrant explanation.

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH January, 1980

DOCKET NO. 50-316
UNIT NAME D.C.Cook-Unit 2
DATE 2-11-80
COMPLETED BY B.A. Svensson
TELEPHONE (616) 465-5901
PAGE 2 of 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
65	(Continued)								returned to power the same day and the power escalation test program commenced.
66	800124	F	15.0	G	3	N.A.	ZZ	ZZZZZZ	Turbine/Reactor trip due to low main condenser vacuum. The low vacuum condition was caused by operator valving error. Unit returned to Service 800125. Reactor power increased to 90% 800128.
67	800128	F	0	B	4	N.A.	ZZ	ZZZZZZ	Reactor power reduced to 65% to remove East main feedpump turbine to check for condenser tube leaks. Reactor power returned to 90% 800129. Reactor power reached 100% for the first time on Cycle II on 800131.

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
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(9/77)

INSTRUCTIONS

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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 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).

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MONTHLY OPERATING EXPERIENCES -- JANUARY, 1980

Highlights :

At the start of the reporting period, this unit was still out of service from its first refueling outage which had started 10/19/79.

All refueling items had been completed by 12/23/79, but the Unit was still on "HOLD" from start-up while analysis of hangers and restraints to safety related piping systems was being made.

After low power physics testing of the core, the Unit was returned to service 1/20/80. All of this is detailed in the summary.

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

Total electrical generation for the month was 182,750 Mwh.

Summary :

1/06/80 -- Source Range Nuclear Instrument N-32 was inoperable for a 4 hour period due to loss of high voltage.

1/07/80 -- Containment Radiation Monitors R-11 and R-12 were inoperable for a 14.5 hour period for piping modifications.

1/08/80 -- Containment Radiation Monitors R-11 and R-12 were inoperable for a 1.5 hour period for repairs.

The High Demand Fire Pump was made inoperable to allow relocation of a hose station. This pump was again operable 1/15/80.

1/12/80 -- All required modifications to hangers and restraints of safety related piping systems were completed, and the Unit was released for start-up. The Reactor Plant entered Mode 4 at 0846 hours.

Containment Radiation Monitors R-11 and R-12 were inoperable for a 2.5 hour period while a Leak Rate Test was performed.

1/13/80 -- The Reactor Plant entered Mode 3 at 0315 hours and was at full temperature and full pressure at 1342 hours.

During the Heat-up, Auxiliary Feedwater was injected into Steam Generators 21 and 24 at several temperature points. This was to test the Thermal Stress on the feedwater piping connected to the steam generators. The piping to the 24 Generator is equipped with a Thermal Sleeve and preliminary data indicates it reduces the stresses greatly.

The North Safety Injection Pump was inoperable for a 26.5 hour period starting at 1227 hours while a weld repair was made on the pump casing vent.

1/15/80 -- Control Rod Drop Tests were completed at 2230 hours.

1/17/80 -- Initial criticality of the new reactor core was obtained at 1654 hours.

1/18/80 -- The West Containment Spray Pump was inoperable for an 8 hour period to do required maintenance.

1/19/80 -- After completion of Low Power Physics Tests, Reactor Power was increased to 4% at 1830 hours, and Unit start-up commenced.

The Turbine/Generator Unit was rolled at 2205 hours.

The Turbine/Generator Unit tripped at 2324 hours due to high water level in #21 Steam Generator. The reactor also tripped because power was greater than 10%.

1/20/80 -- The reactor was returned to criticality at 0355 hours.

The Turbine/Generator was rolled at 0532.

The Turbine/Generator was Overspeed Tested with the 110% trip operating at 1985 RPM and the 112% trip operating at 2011 RPM.

At 0857 hours, while recovering speed from the last Overspeed Test, the acceleration rate used was too great. This caused the steam generator levels to rise, resulting in a Turbine Trip and also a Reactor Trip because turbine power was indicated greater than 10%.

1/20/80 -- (Cont'd) The Reactor was returned to criticality at 1050 hours. The Turbine/Generator Unit was rolled at 1150 hours and paralleled to the system at 1240 hours.

One more Turbine Trip and Reactor Trip occurred at 1250 hours. The reason for this was Steam Flow/Feed Flow mismatch coincident with low steam generator level.

The Reactor was returned to criticality at 1615 hours.

The Reactor tripped at 1912 hours due to low level in #23 Steam Generator. We do not normally have this amount of trouble, but our start-up feedwater control is manual through the normal large Feedwater Regulating Valves, and level control can be difficult.

The Reactor was returned to criticality at 2029 hours.

The Turbine/Generator Unit was rolled at 2109 hours and paralleled to the system at 2223 hours.

1/21/80 -- Reactor power was increased to 44.5% by 0215 hours.

Reactor power was increased to 49% by 1500 hours.

The West Containment Spray Pump was inoperable for a 13 hour period to perform required maintenance.

1/24/80 -- The Unit and Reactor tripped from 49% power at 1846 hours due to low vacuum in "B" Condenser. Both air offtakes had been inadvertently valved off, allowing non-condenables to collect.

The Turbine Driven Auxiliary Feedwater Pump failed to start on the Unit Trip. This was traced to a mechanical latch problem. This was repaired and proven operable prior to returning the Reactor to critical.

1/25/80 -- The Reactor was returned to criticality at 0558 hours.

The Turbine/Generator was paralleled with the system at 0940 hours.

Unit power was increased to 65% by 2200 hours and, held at this point, due to the West Main Feed Pump not being available for service.

1/27/80 -- The West Main Feed Pump was placed in service at 1500 and Unit power was increased to 80%.

1/28/80 -- The West Essential Service Water Pump was inoperable for a 5 hour period for repairs to the pump strainer.

Unit power was increased to 90% by 1615 hours.

Power was reduced to 65% over a 1.75 hour ramp starting at 1741 hours to remove the East Main Feed Pump from service to check for suspected tube leaks in the condenser.

Power was returned to 90% over a 4.5 hour ramp starting at 2200 hours.

1/29/80 -- Containment Radiation Monitor R-11 was inoperable for a 22 hour period due to filter drive failure.

The East Component Cooling Water Pump was inoperable for a 50.75 hour period, starting at 0629, to install additional bracing to the discharge line.

Power was increased to 93% by 2334 hours.

1/30/80 -- The "CD" Emergency Diesel Generator was inoperable for a 7.5 hour period to repair Jacket Water Leaks.

The North Safety Injection Pump was inoperable for a 7.5 hour period to perform required maintenance.

Pressurizer Pressure Channel IV was inoperable for a 3.5 hour period to replace the transmitter.

1/31/80 -- Power was increased to 97% by 0428 hours.

The South Safety Injection Pump was inoperable for a 7.5 hour period for necessary maintenance work.

The Unit was loaded to 100% power by 2045 hours.

DOCKET NO. 50 - 316
UNIT NAME D. C. Cook - Unit No. 2
DATE 2-11-80
COMPLETED BY B. A. Svensson
TELEPHONE (616) 465-5901
PAGE 1 of 1

MAJOR SAFETY-RELATED MAINTENANCE

JANUARY, 1980

M-1 Turbine driven auxiliary feedpump discharge check valve to No. 4 steam generator, FW-138-4, leaked by. Machined disc, lapped and blued seat, and reassembled.

M-2 No. 4 boric acid transfer pump was leaking. Disassembled and inspected pump. Reassembled using new gaskets and replaced mechanical seal. Had pump tested.

M-3 2AB2, diesel fuel oil transfer pump check valve leaked by. Lapped valve seat and replaced gasket.

M-4 The 2W RHR pump mechanical seal was leaking. The seal was replaced. Pump retested.

M-5 The 650' containment airlock inner door lock did not operate properly. The shaft and door locking gear were replaced. Retest was satisfactory.

M-6 The vent on the 2N safety injection pump was found cracked. The crack was repair welded. Necessary NDE performed.

M-7 The 2S safety injection pump discharge safety valve, SV-98, leaked by. Valve was rebuilt. C&I adjusted set point and valve was reinstalled.

M-8 Turbine driven auxiliary feedpump would not start. Adjusted the latch for the trip and throttle valve and tested satisfactorily.

C&I-1 The trip coil for the turbine driven auxiliary feedpump was arcing across the cover. The coil had been damaged and required replacement. The cover was not reinstalled. The cover had previously caused the failure of the coil.

C&I-2 NTR-240, reactor coolant loop 4 cold leg temperature indication failed low. A fuse had failed on the power supply for the resistance to current converter. The fuse was replaced and the instrument loop returned to service.

C&I-3 CCRP inverters frequency began to change between 60 and 63 Hertz. The oscillator control potentiometer R-5 was adjusted for the correct frequency during the inverters operation with a reference AC source.

C&I-4 The flux mapping system detector A failed. A spare detector was installed into the drive unit. The drive unit was re-zeroed and tested for proper operation with the new detector assembly.