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| FROM: Duke Power Company Charlotte, North Carolina A. C. Thies | | | DATE OF DOC 3-12-74 | DATE REC'D 4-2-74 | LTR X | MEMO | RPT | OTHER |
| TO: Director | | | ORIG 1 signed | CC | OTHER | SENT AEC PDR <u>XXX</u> SENT LOCAL PDR <u>XXX</u> | | |
| CLASS | UNCLASS | PROP INFO | INPUT | NO CYS REC'D 1 | | DOCKET NO: 50-269/270 | | |
| DESCRIPTION: Ltr re our ltr 2-19-74 trans the following... ACKNOWLEDGED PLANT NAME: OCONEE UNITS 1 & 2 | | | | ENCLOSURES: Report: January & February Plant & Component Operability & Availability... this rpt to be used for preparing Grey Book by Plans & Operations DO NOT REMOVE (1 cy encl rec'd) | | | | |

FOR ACTION/INFORMATION

4-4-74 GMC

| | | | |
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Regulatory
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DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

March 12, 1974

Director
Office of Plans and Schedules
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Re: Oconee Nuclear Station
Units 1 and 2
Docket Nos. 50-269 and 50-270

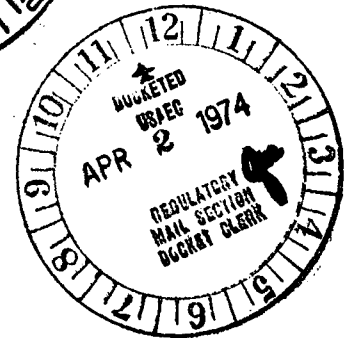
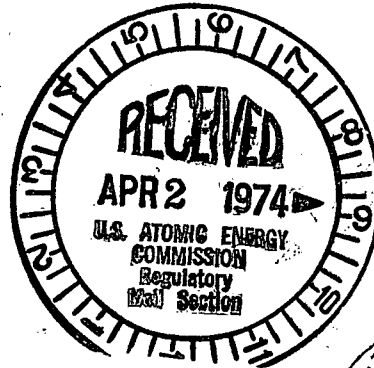
Dear Sir:

Please find attached information requested in Mr. L. Manning Muntzing's letter of February 19, 1974 supplemented by his telefax of February 28, 1974. This information is submitted on the forms which you have provided and covers the performance and operating status of Oconee Units 1 and 2 for the months of January and February 1974.

By copy of this letter to Mr. Muntzing, I am suggesting certain changes to definitions in your AEC Operating Status Report. The utility industry has for a number of years reported similar information to the Edison Electric Institute using standardized definitions of such terms as availability factors, capacity factors, and outage rates. These definitions are contained in the appendix to "Report on Equipment Availability for the 13-Year Period, 1960-1972," EEI Publication #73-46, issued December, 1973, a Report of the Equipment Availability Task Force of the Prime Movers Committee, Edison Electric Institute, 90 Park Avenue, New York, New York, 10016. A copy of this appendix is attached.

The use of standardized definitions has made possible the comparison and evaluation of power plant performance data from much of the utility industry. We believe that the adoption of the EEI standardized definitions would enable both you and us to better evaluate nuclear power plant performance and would facilitate comparison of nuclear and fossil power plants. Specifically, the following suggestions are offered.

1. Item 10 in the AEC Operating Status Report is "Reactor Availability Factor," which is defined as:



Director
Office of Plans and Schedules
Page 2
March 12, 1974

$$\text{Reactor Availability Factor} = \frac{\text{Hours Reactor was Critical}}{\text{Gross Hours in Reporting Period}} \times 100$$

This definition should correspond to what the EEI calls "Operating Availability Factor":

$$\text{Reactor Availability Factor} = \frac{\text{Reactor Available Hours}}{\text{Period Hours}} \times 100$$

Where: Available Hours = Time in hours during which a reactor is available or Service Hours plus Reserve Shutdown Hours.

Reserve Shutdown Hours = Number of hours for which a reactor is removed from service for economy or similar reasons but is still available.

Your present definition corresponds to what the EEI calls "Service Factor":

$$\text{Service Factor} = \frac{\text{Service Hours}}{\text{Period Hours}} \times 100$$

Where: Service Hours = Total number of hours that a unit was actually operated (i.e., the reactor was critical)

Period Hours = Clock hours in the period under consideration.

2. The same general comments apply to plant availability factor which is Item 11 in your Operating Status Report.
3. Your definition of "Plant Capacity Factor" (Item 12) generally matches the EEI definition, except that EEI does not specify net generation. However, this can be optional as far as we are concerned. We do note, however, that your capacity factor uses "currently licensed power level" in the denominator. The currently licensed thermal power level for Oconee is 2568 MWt; we do not have a currently licensed electrical power level. We have declared the maximum net dependable capability of our Oconee Unit 1 to be 871 MWe, even though the equivalent electrical power calculated from the thermal power was 886.3 MWe. The 871 MWe is the "commercial rating" of the unit, since this is what the generator will produce as net available to the system on a continuous basis.

Director
Office of Plans and Schedules
Page 3
March 12, 1974

We believe that the 871 MWe maximum net dependable capability is the number that should be used in the denominator of your formula for plant capability factor. This maximum net dependable capability should also replace that portion of Item 2 of the Operating Status Report which requests currently authorized power level - MWe-NET.

4. Your Item 13, which defines forced outage rate, is consistent with the EEI definition.
5. To be consistent throughout the operating status report, the term "Gross Hours in Reporting Period," should be replaced by the EEI term, "Period Hours."

Over the years, our industry has had some inconsistency in the definition of these various factors, and in recent years, EEI has been able to bring some order out of this chaos by publishing specific definitions which have been generally accepted by the utility industry. Duke Power Company urges the commission to standardize its definitions with those of the Edison Electric Institute to the extent practicable.

Very truly yours,



A. C. Thies

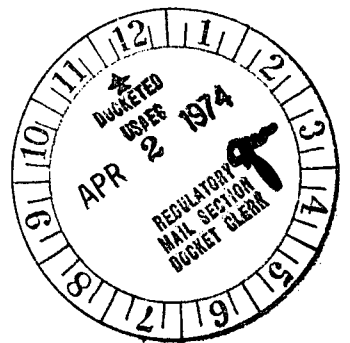
ACT:vr
Attachment

cc: Mr. L. Manning Muntzing
Mr. N. C. Moseley
Mr. E. C. Kistner, Chairman
Prime Movers Committee, EEI
Mr. H. J. Young, Vice President
& Secretary, EEI

APPENDIX TO
REPORT ON EQUIPMENT AVAILABILITY
FOR THE
THIRTEEN-YEAR PERIOD, 1960-1972

EEI Publication No. 73-46

Issued December 1973



A Report of the
EQUIPMENT AVAILABILITY TASK FORCE
of the
PRIME MOVERS COMMITTEE
EDISON ELECTRIC INSTITUTE

90 Park Avenue

New York, N. Y., 10016

APPENDIX

A. EQUIPMENT DEFINITIONS

1. Non-header Unit
Unit in which a single boiler is connected solely and independently to a given turbine-generator.
2. Header Unit
Unit in which the turbine-generator is not solely and independently connected to single boiler.
3. Major Equipment
Major group of equipment within a unit, such as: boiler, reactor, generator, steam turbine, condenser.
4. Component
Part within a "major equipment" group, such as: superheater tube, governor, buckets, boiler feed pump.
5. Maximum Dependable Capacity (MDC)
The dependable main-unit capacity winter or summer, whichever is smaller.

B. OPERATION AND OUTAGE DEFINITIONS

1. Available
The status of a unit or major piece equipment which is capable of service, whether or not it is actually in service.
2. Base Loading
When a unit is generally run at or near rated output.
3. Cranking Loading
When a unit is generally shut down on standby for auxiliary power during emergency.
4. Cycling Loading
When a unit is generally run but at a load which varies widely with system demand.
5. Economy Outage
(See Reserve Shutdown)
6. Forced Outage
The occurrence of a component failure or other condition which requires that the unit be removed from service immediately or up to and including the very next weekend.

APPENDIX

(Continued)

- | | |
|------------------------------------|--|
| 7. Forced Partial Outage | The occurrence of a component failure or other condition which requires that the load on the unit be reduced 30 MW or more immediately or up to and including the very next weekend. |
| 8. Maintenance Outage | The removal of a unit from service to perform work on specific components which could have been postponed past the very next weekend. This is work done to prevent a potential forced outage and which could not be postponed from season to season. |
| 9. Non-curtailing Equipment Outage | The removal of a specific component from service for repair, which causes no reduction in unit load or a reduction of less than 30 MW. |
| 10. Non-operating Equipment Test | A scheduled test or required operation of a back-up system which is not normally operating. |
| 11. Outage Cause | A component failure, preventive maintenance, or other condition which requires that the unit or a component be taken out of service or run at reduced capacity. |
| 12. Peaking Loading | When a unit is generally shut down and is run only during high demand periods. |
| 13. Planned Outage | The removal of a unit from service for inspection and/or general overhaul of one or more major equipment groups. This is work which is usually scheduled well in advance (e.g., annual boiler overhaul, five-year turbine overhaul). |
| 14. Reserve Shutdown | The removal of a unit from service for economy or similar reasons. This status continues as long as the unit is out but available for operation. |

APPENDIX

(Continued)

15. Scheduled Partial
Outage

The occurrence of a component failure or other condition which requires that the load on the unit be reduced 30 MW or more but where this reduction could be postponed past the very next weekend.

16. Unavailable

The status of any major piece of equipment which renders it inoperable because of the failure of a component, work being performed or other adverse condition.

C. TIME DEFINITIONS

1. Available Hours (AH)

The time in hours during which a unit or major equipment is available; SH + RSH.

2. Demand Period

The time interval each day which is the period of maximum demand on a particular system.

3. Economy Outage Hours
(See Reserve Shutdown
Hours) (TEOH)

The theoretical value of Economy Outage Hours (TEOH) is the difference between Available Hours and Service Hours. If the TEOH differs by less than 1% with the Economy Outage Hours reported at the end of the year, they are considered equal and flagged with Code 1. If the difference is more than 1%, but less than 10%, they are flagged with Code 3; but the reported Economy Outage Hours are still used. However, if the difference is greater than 10%, the calculated value TEOH is used, and Code 2 is a flag that Economy Outage Hours have been derived.

4. Forced Outage Hours
(FOH)

The time in hours during which a unit or major equipment was unavailable due to a Forced Outage.

5. Forced Partial
Outage Hours (FPOH)

The time in hours during which a unit or major equipment is unavailable for full load due to a forced partial outage.

APPENDIX

(Continued)

6. Hours Waiting (HW)

That portion of time for any outage during which no work could be performed. This includes time for cooling down equipment and shipment of parts. This is time that could not be affected by a change in work schedule or the number of men worked.

7. Maintenance Outage Hours (MOH)

The time in hours during which a unit or major equipment is unavailable due to a maintenance outage.

8. Period Hours (PH)

The clock hours in the period under consideration. (Generally one year)

9. Planned Outage Hours (POH)

The time in hours during which a unit or major equipment is unavailable due to a planned outage.

10. Reserve Shutdown Hours (RSH)

Reserve shutdown duration in hours.

11. Schedule Partial Outage Hours (SPOH)

The time in hours during which a unit or major equipment is unavailable for full load due to a scheduled partial outage.

12. Service Hours (SH)

The total number of hours the unit was actually operated with breakers closed to the station bus.

13. Unit Years (UY)

This term is the common denominator used to normalize data from units of the same type with different lengths of service. The following example contains 20 UY of experience from 4 units.

| | | | | | |
|------------------|---|---|---|---|----|
| Unit | A | B | C | D | 4 |
| Years in Service | 8 | 3 | 7 | 2 | 20 |

14. Work (Manhours Worked) (MH)

The total number of manhours worked on or off site to accomplish repairs.

D. EQUATIONS

1. Average Forced Outage Duration

$(\text{Summation of FOH}) / (\text{Number of Forced Outages})$

2. Capacity Factor

$[(\text{Total Generation in MW-Hr}) / (\text{PH} \times \text{MDC})] 100$

3. Component Outage Severity Index

The average number of forced outage hours of a specific component per incident.

APPENDIX

(Continued)

4. Equivalent Forced Outage Rate (EFOR)
(for each forced partial outage, an equivalent full load outage duration is calculated to include the effect of partial as well as full forced outages on the forced outage rate)

EFOR is calculated as follows:

$$TE = FPOH(CR/CF)$$

WHERE:

TE is equivalent forced outage time

CR is size of reduction or derating from full load

CF is rated capacity

THEN:

$$EFOR = 100((TF + TES)/(TO + TF + TAS + TPS))$$

WHERE:

TF is total full forced outage time

TO is total operation time at 100% availability

TAS is sum of actual forced partial outage times

TES is sum of equivalent forced outage times

TPS is sum of equivalent scheduled partial operating times

5. Forced Outage Incident Rate

$$[(\text{Forced Incidents})/(\text{Forced} + \text{Maintenance} + \text{Planned Incidents})] 100$$

6. Forced Outage Rate

$$[FOH / (SH + FOH)] 100$$

7. Forced Outage Ratio

$$[FOH/(\text{Total Unavailable Hours})] 100$$

8. Operating Availability

$$[AH/PH] 100$$

9. Output Factor

LOAD FACTOR

$$(\text{Total generation in MW-Hr.}) \times 100 / (SH \times MDC)$$

10. Service Factor

$$[SH/PH] 100$$

APPENDIX

(Continued)

11. Relative Mechanical Availability (RMA)

Relative Mechanical Availability is a form of Operating Availability adjusted to show relative effort. The prime assumption is that most outage time is affected by work schedules and crew sizes. Relative Mechanical Availability uses an Adjusted Outage Time (AOT) based on effort. Manhours worked is a measure of effort which is reasonably independent of work schedules and crew sizes. Manhours worked (MH) divided by a standard work force (SWF) gives a derived time worked based on effort. If we assume a round-the-clock schedule, then this derived time worked is almost a derived outage time based on effort. The difference is the amount of outage time which is independent of effort called Hours Waiting (HW). See Appendix C-6. An arbitrary assumption of ten men for the standard work force gives:

$$AOT = HW + MH/10$$

Then substituting AOT for outage time in the equation for operating availability gives:

$$\begin{aligned} RMA &= [(PH - AOT)/PH] 100 \\ &= [(PH - (HW + MH/10))/PH] 100 \end{aligned}$$

UNIT Oconee Unit 1

DATE February 28, 1974

MAJOR SHUTDOWN FORECAST

(5-year forecast; report one-time only)

PURPOSE(s)

BEGIN DATE

END DATE

Modifications to high energy lines outside
containment

April 24, 1974

May 7, 1974

Refueling

Oct. 20, 1974.

Nov. 16, 1974

Refueling; Integrated Leak Rate Test

Oct. 5, 1975

Oct. 25, 1975

Refueling; In-Service Inspection

Oct. 3, 1976

Nov. 6, 1976

Refueling

Oct. 2, 1977

Oct. 22, 1977

Refueling

Oct. 1, 1978

Nov. 4, 1978

Refueling, Integrated Leak Rate Test;

Sept. 9, 1979

Oct. 13, 1979

In-Service Inspection

UNIT Oconee Unit 2

DATE February 28, 1974

MAJOR SHUTDOWN FORECAST

(5-year forecast; report one-time only)

PURPOSE(s)

BEGIN DATE

END DATE

Refueling

Nov. 30, 1975

Dec. 31, 1975

Refueling; In-Service Inspection;

Nov. 28, 1976

Dec. 31, 1976

Integrated Leak Rate Test

Refueling

Nov. 27, 1977

Dec. 31, 1977

Refueling

Dec. 10, 1978

Dec. 31, 1978

Refueling, In-Service Inspection

Nov. 25, 1979

Dec. 31, 1979

UNIT Oconee Unit 1

DATE March 12, 1974

OPERATING STATUS

1. REPORTING PERIOD: January 1 TO January 31, 1974

GROSS HOURS IN REPORTING PERIOD: 743

2. CURRENTLY AUTHORIZED POWER LEVEL Mwt 2568 MWe-NET 871

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY): _____

4. REASONS FOR RESTRICTIONS (IF ANY): _____

| | THIS MONTH | YR-TO-DATE | CUMULATIVE TO DATE |
|---|---------------|---------------|-----------------------|
| 5. HOURS REACTOR WAS CRITICAL | <u>336.6</u> | <u>336.6</u> | <u>4690.5</u> |
| 6. HOURS GENERATOR ON-LINE | <u>295.1</u> | <u>295.1</u> | <u>3284.2</u> |
| 7. GROSS THERMAL POWER GENERATED (MWH) | <u>653807</u> | <u>653807</u> | <u>6664688</u> |
| 8. GROSS ELECTRICAL POWER GENERATED (MWH) | <u>221952</u> | <u>221952</u> | <u>2310540</u> |
| 9. NET ELECTRICAL POWER GENERATED (MWH) | <u>205649</u> | <u>205649</u> | <u>2164727</u> |
| 10. REACTOR AVAILABILITY FACTOR (1) | <u>45.3</u> | <u>45.3</u> | <u>97.7</u> |
| 11. PLANT AVAILABILITY FACTOR (2) | <u>39.7</u> | <u>39.7</u> | <u>68.4</u> |
| 12. PLANT CAPACITY FACTOR (3) | <u>31.8</u> | <u>31.8</u> | <u>51.8</u> |
| 13. FORCED OUTAGE RATE (4) | <u>10.8</u> | <u>10.8</u> | <u>9.1</u> |

14. SHUTDOWNS SCHEDULED TO BEGIN IN NEXT 6 MONTHS (STATE TYPE, DATE AND DURATION OF EACH): Two week shutdown for modifications to high energy lines outside containment to commence April 24, 1974.

15. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: _____

16. PLANTS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION) REPORT THE FOLLOWING:

| | DATE LAST FORECAST | DATE ACHIEVED | REASON FOR DIFFERENCE |
|--|-----------------------|------------------|--------------------------|
| INITIAL CRITICALITY | _____ | _____ | _____ |
| INITIAL ELECTRICAL POWER GENERATION | _____ | _____ | _____ |
| COMMERCIAL OPERATION | _____ | _____ | _____ |

(1) REACTOR AVAILABILITY FACTOR = $\frac{\text{HOURS REACTOR WAS CRITICAL}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(2) PLANT AVAILABILITY FACTOR = $\frac{\text{HOURS GENERATOR ON-LINE}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(3) PLANT CAPACITY FACTOR = $\frac{\text{NET ELECTRICAL POWER GENERATED}}{\text{CURRENTLY LICENSED POWER LEVEL} \times \text{GROSS HOURS IN REPORTING PERIOD}}$

(4) FORCED OUTAGE RATE = $\frac{\text{FORCED OUTAGE HOURS}}{\text{HOURS GENERATOR ON-LINE} + \text{FORCED OUTAGE HOURS}} \times 100$

UNIT Oconee Unit 1

DATE 3/12/74

DAILY PLANT POWER OUTPUT

MONTH January, 1974

| <u>DAY</u> | <u>AVERAGE DAILY MWe-net</u> | <u>DAY</u> | <u>AVERAGE DAILY MWe-net</u> |
|------------|------------------------------|------------|------------------------------|
| 1 | <u>-113</u> | 22 | <u>8820</u> |
| 2 | <u>-138</u> | 23 | <u>-825</u> |
| 3 | <u>-158</u> | 24 | <u>11393</u> |
| 4 | <u>-165</u> | 25 | <u>16979</u> |
| 5 | <u>-150</u> | 26 | <u>20556</u> |
| 6 | <u>-180</u> | 27 | <u>20289</u> |
| 7 | <u>-140</u> | 28 | <u>20865</u> |
| 8 | <u>-239</u> | 29 | <u>20473</u> |
| 9 | <u>-163</u> | 30 | <u>20650</u> |
| 10 | <u>-507</u> | 31 | <u>20697</u> |
| 11 | <u>-240</u> | | |
| 12 | <u>-119</u> | | |
| 13 | <u>-115</u> | | |
| 14 | <u>-120</u> | | |
| 15 | <u>-117</u> | | |
| 16 | <u>-322</u> | | |
| 17 | <u>-786</u> | | |
| 18 | <u>4128</u> | | |
| 19 | <u>12150</u> | | |
| 20 | <u>16041</u> | | |
| 21 | <u>17205</u> | | |

SUMMARY:

UNIT NAME Oconee Unit 1DATE March 12, 1974REPORT MONTH January, 1974

P L A N T S H U T D O W N S

| NO. | DATE | TYPE F-FORCED S-SCHEDULED | DURATION (HOURS) | REASON (1) | METHOD OF SHUTTING DOWN THE REACTOR (2) | COMMENTS |
|-----|--------|---------------------------------|---------------------|------------|---|---|
| 1 | 740101 | S | 412.5 | B | A | Generator differential relay 87G failed causing turbine-generator/reactor trip. |
| 2 | 740122 | F | 35.7 | A | C | |

(1) REASON:

A-EQUIPMENT FAILURE (EXPLAIN)
B-MAINT. OR TEST
C-REFUELING
D-REGULATORY RESTRICTION
E-OPERATOR TRAINING AND
 LICENSE EXAMINATION
F-ADMINISTRATIVE
G-OPERATIONAL ERROR
 (EXPLAIN)

(2) METHOD:

A- MANUAL
B- MANUAL SCRAM
C- AUTOMATIC SCRAM

UNIT Oconee Unit 1

DATE March 12, 1974

O P E R A T I N G S T A T U S

1. REPORTING PERIOD: February 1 TO February 28, 1974

GROSS HOURS IN REPORTING PERIOD: 672

2. CURRENTLY AUTHORIZED POWER LEVEL Mwt 2568 MWe-NET 871

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY): _____

4. REASONS FOR RESTRICTIONS (IF ANY): _____

| | THIS MONTH | YR-TO-DATE | CUMULATIVE TO DATE |
|---|----------------|----------------|-----------------------|
| 5. HOURS REACTOR WAS CRITICAL | <u>608.3</u> | <u>944.9</u> | <u>5298.8</u> |
| 6. HOURS GENERATOR ON-LINE | <u>602.3</u> | <u>897.4</u> | <u>3886.4</u> |
| 7. GROSS THERMAL POWER GENERATED (MWH) | <u>1448355</u> | <u>2102162</u> | <u>8113043</u> |
| 8. GROSS ELECTRICAL POWER GENERATED (MWH) | <u>514700</u> | <u>736652</u> | <u>2825240</u> |
| 9. NET ELECTRICAL POWER GENERATED (MWH) | <u>489702</u> | <u>695351</u> | <u>2654429</u> |
| 10. REACTOR AVAILABILITY FACTOR (1) | <u>90.5</u> | <u>45.6</u> | <u>96.9</u> |
| 11. PLANT AVAILABILITY FACTOR (2) | <u>89.6</u> | <u>63.4</u> | <u>70.7</u> |
| 12. PLANT CAPACITY FACTOR (3) | <u>83.7</u> | <u>56.4</u> | <u>55.7</u> |
| 13. FORCED OUTAGE RATE (4) | <u>10.4</u> | <u>10.5</u> | <u>9.3</u> |

14. SHUTDOWNS SCHEDULED TO BEGIN IN NEXT 6 MONTHS (STATE TYPE, DATE AND DURATION OF EACH): Two week shutdown for modifications to high energy lines outside containment to commence April 24, 1974.

15. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: _____

16. PLANTS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION) REPORT THE FOLLOWING:

| | DATE LAST FORECAST | DATE ACHIEVED | REASON FOR DIFFERENCE |
|--|-----------------------|------------------|--------------------------|
| INITIAL CRITICALITY | _____ | _____ | _____ |
| INITIAL ELECTRICAL POWER GENERATION | _____ | _____ | _____ |
| COMMERCIAL OPERATION | _____ | _____ | _____ |

(1) REACTOR AVAILABILITY FACTOR = $\frac{\text{HOURS REACTOR WAS CRITICAL}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(2) PLANT AVAILABILITY FACTOR = $\frac{\text{HOURS GENERATOR ON-LINE}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(3) PLANT CAPACITY FACTOR = $\frac{\text{NET ELECTRICAL POWER GENERATED}}{\text{CURRENTLY LICENSED POWER LEVEL} \times \text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(4) FORCED OUTAGE RATE = $\frac{\text{FORCED OUTAGE HOURS}}{\text{HOURS GENERATOR ON-LINE} + \text{FORCED OUTAGE HOURS}} \times 100$

UNIT Oconee Unit 1

DATE March 12, 1974

DAILY PLANT POWER OUTPUT

MONTH February, 1974

| <u>DAY</u> | <u>AVERAGE DAILY MWe-net</u> | <u>DAY</u> | <u>AVERAGE DAILY MWe-net</u> |
|------------|------------------------------|------------|------------------------------|
| 1 | <u>20734</u> | 22 | <u>20821</u> |
| 2 | <u>20543</u> | 23 | <u>20876</u> |
| 3 | <u>17403</u> | 24 | <u>20883</u> |
| 4 | <u>18227</u> | 25 | <u>17136</u> |
| 5 | <u>20391</u> | 26 | <u>20697</u> |
| 6 | <u>20665</u> | 27 | <u>20796</u> |
| 7 | <u>20955</u> | 28 | <u>20819</u> |
| 8 | <u>20844</u> | 29 | <u> </u> |
| 9 | <u>20760</u> | 30 | <u> </u> |
| 10 | <u>20612</u> | 31 | <u> </u> |
| 11 | <u>12390</u> | | |
| 12 | <u>-535</u> | | |
| 13 | <u>-546</u> | | |
| 14 | <u>777</u> | | |
| 15 | <u>12655</u> | | |
| 16 | <u>16999</u> | | |
| 17 | <u>20955</u> | | |
| 18 | <u>21028</u> | | |
| 19 | <u>20976</u> | | |
| 20 | <u>20945</u> | | |
| 21 | <u>20896</u> | | |

SUMMARY:

UNIT NAME Oconee Unit 1DATE March 12, 1974REPORT MONTH February, 1974

P L A N T S H U T D O W N S

| NO. | DATE | TYPE F-FORCED S-SCHEDULED | DURATION (HOURS) | REASON (1) | METHOD OF SHUTTING DOWN THE REACTOR (2) | COMMENTS |
|-----|--------|---------------------------------|---------------------|------------|---|---|
| 3 | 740211 | F | 69.6 | A | A | Two control rod drive stators failed, causing two control rods to drop into the core. |

(1) REASON:

A-EQUIPMENT FAILURE (EXPLAIN)
B-MAINT. OR TEST
C-REFUELING
D-REGULATORY RESTRICTION
E-OPERATOR TRAINING AND
 LICENSE EXAMINATION
F-ADMINISTRATIVE
G-OPERATIONAL ERROR
 (EXPLAIN)

(2) METHOD:

A- MANUAL
B- MANUAL SCRAM
C- AUTOMATIC SCRAM

UNIT Oconee Unit 2
DATE March 12, 1974

O P E R A T I N G S T A T U S

1. REPORTING PERIOD: January 1 TO January 31, 1974

GROSS HOURS IN REPORTING PERIOD: 743

2. CURRENTLY AUTHORIZED POWER LEVEL Mwt 2568 MWe-NET

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY): None

4. REASONS FOR RESTRICTIONS (IF ANY):
Oconee Unit 2 is presently in power escalation testing and is not commercially operable. Items 10-13 are not applicable.

| | THIS MONTH | YR-TO-DATE | CUMULATIVE TO DATE |
|--|-------------------|-------------------|-----------------------|
| 5. HOURS REACTOR WAS CRITICAL | <u>85.6</u> | <u>85.6</u> | <u>743.0</u> |
| 6. HOURS GENERATOR ON-LINE | <u>64.0</u> | <u>64.0</u> | <u>577.2</u> |
| 7. GROSS THERMAL POWER GENERATED (MWH) | <u>104099</u> | <u>104099</u> | <u>709271</u> |
| 8. GROSS ELECTRICAL POWER GENERATED (MWH) | <u>33000</u> | <u>33000</u> | <u>209310</u> |
| 9. NET ELECTRICAL POWER GENERATED (MWH) | <u>25964</u> | <u>25964</u> | <u>178251</u> |
| 10. REACTOR AVAILABILITY FACTOR (1) | <u> </u> | <u> </u> | <u> </u> |
| 11. PLANT AVAILABILITY FACTOR (2) | <u> </u> | <u> </u> | <u> </u> |
| 12. PLANT CAPACITY FACTOR (3) | <u> </u> | <u> </u> | <u> </u> |
| 13. FORCED OUTAGE RATE (4) | <u> </u> | <u> </u> | <u> </u> |
| 14. SHUTDOWNS SCHEDULED TO BEGIN IN NEXT 6 MONTHS (STATE TYPE, DATE AND DURATION OF EACH): | | | |
| 15. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: <u> </u> | | | |
| 16. PLANTS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION) REPORT THE FOLLOWING: | | | |

| | DATE LAST FORECAST | DATE ACHIEVED | REASON FOR DIFFERENCE |
|--|-----------------------|-------------------|--------------------------|
| INITIAL CRITICALITY | <u> </u> | <u>11/11/73</u> | <u> </u> |
| INITIAL ELECTRICAL POWER GENERATION | <u> </u> | <u>12/5/73</u> | <u> </u> |
| COMMERCIAL OPERATION | <u>5/15/74</u> | <u> </u> | <u> </u> |

(1) REACTOR AVAILABILITY FACTOR = $\frac{\text{HOURS REACTOR WAS CRITICAL}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(2) PLANT AVAILABILITY FACTOR = $\frac{\text{HOURS GENERATOR ON-LINE}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(3) PLANT CAPACITY FACTOR = $\frac{\text{NET ELECTRICAL POWER GENERATED}}{\text{CURRENTLY LICENSED POWER LEVEL} \times \text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(4) FORCED OUTAGE RATE = $\frac{\text{FORCED OUTAGE HOURS}}{\text{HOURS GENERATOR ON-LINE} + \text{FORCED OUTAGE HOURS}} \times 100$

UNIT Oconee Unit 2

DATE March 12, 1974

OPERATING STATUS

1. REPORTING PERIOD: February 1 TO February 28

GROSS HOURS IN REPORTING PERIOD: 672

2. CURRENTLY AUTHORIZED POWER LEVEL MWt 2568 MWe-NET

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY): None

4. REASONS FOR RESTRICTIONS (IF ANY):
Oconee Unit 2 is presently in power escalation testing and is not commercially operable. Items 10-13 are not applicable

| | THIS MONTH | YR-TO-DATE | CUMULATIVE TO DATE |
|---|-----------------|-----------------|-----------------------|
| 5. HOURS REACTOR WAS CRITICAL | <u>0</u> | <u>85.6</u> | <u>743.0</u> |
| 6. HOURS GENERATOR ON-LINE | <u>0</u> | <u>64.0</u> | <u>577.2</u> |
| 7. GROSS THERMAL POWER GENERATED (MWH) | <u>0</u> | <u>104099</u> | <u>709271</u> |
| 8. GROSS ELECTRICAL POWER GENERATED (MWH) | <u>0</u> | <u>33000</u> | <u>209310</u> |
| 9. NET ELECTRICAL POWER GENERATED (MWH) | <u>-2352</u> | <u>23612</u> | <u>175899</u> |
| 10. REACTOR AVAILABILITY FACTOR (1) | <u> </u> | <u> </u> | <u> </u> |
| 11. PLANT AVAILABILITY FACTOR (2) | <u> </u> | <u> </u> | <u> </u> |
| 12. PLANT CAPACITY FACTOR (3) | <u> </u> | <u> </u> | <u> </u> |
| 13. FORCED OUTAGE RATE (4) | <u> </u> | <u> </u> | <u> </u> |

14. SHUTDOWNS SCHEDULED TO BEGIN IN NEXT 6 MONTHS (STATE TYPE, DATE AND DURATION OF EACH):

15. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP:

16. PLANTS IN TEST STATUS (PRIOR TO COMMERCIAL OPERATION) REPORT THE FOLLOWING:

| | DATE LAST FORECAST | DATE ACHIEVED | REASON FOR DIFFERENCE |
|--|-----------------------|------------------|--------------------------|
| INITIAL CRITICALITY | <u> </u> | <u>11/11/73</u> | <u> </u> |
| INITIAL ELECTRICAL POWER GENERATION | <u> </u> | <u>12/5/73</u> | <u> </u> |
| COMMERCIAL OPERATION | <u>5/15/74</u> | <u> </u> | <u> </u> |

(1) REACTOR AVAILABILITY FACTOR = $\frac{\text{HOURS REACTOR WAS CRITICAL}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(2) PLANT AVAILABILITY FACTOR = $\frac{\text{HOURS GENERATOR ON-LINE}}{\text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(3) PLANT CAPACITY FACTOR = $\frac{\text{NET ELECTRICAL POWER GENERATED}}{\text{CURRENTLY LICENSED POWER LEVEL} \times \text{GROSS HOURS IN REPORTING PERIOD}} \times 100$

(4) FORCED OUTAGE RATE = $\frac{\text{FORCED OUTAGE HOURS}}{\text{HOURS GENERATOR ON-LINE} + \text{FORCED OUTAGE HOURS}} \times 100$

SUMMARY:

UNIT NAME Oconee Unit 2
DATE February 28, 1974REPORT MONTH January, 1974

P L A N T S H U T D O W N S

| NO. | DATE | TYPE F-FORCED S-SCHEDULED | DURATION (HOURS) | REASON (1) | METHOD OF SHUTTING DOWN THE REACTOR (2) | COMMENTS |
|-----|--------|---------------------------------|---------------------|------------|---|--|
| 1 | 740101 | F | 27 | B | A | Repaired feedwater and condensate system valves |
| 2 | 740104 | F | 410.7 | A | C | Detected loose object in reactor vessel lower head following reactor trip; AEC approval to continue operation granted January 15, 1974 |
| 3 | 740122 | F | 198.3 | A | B | Reactor coolant pump 2B2 seal failed |

(1) REASON:
A-EQUIPMENT FAILURE (EXPLAIN)
B-MAINT. OR TEST
C-REFUELING
D-REGULATORY RESTRICTION
E-OPERATOR TRAINING AND
 LICENSE EXAMINATION
F-ADMINISTRATIVE
G-OPERATIONAL ERROR
 (EXPLAIN)

(2) METHOD:
A- MANUAL
B- MANUAL SCRAM
C- AUTOMATIC SCRAM

SUMMARY:

UNIT NAME Oconee Unit 2
DATE March 12, 1974

REPORT MONTH February, 1974

P L A N T S H U T D O W N S

| NO. | DATE | TYPE F-FORCED S-SCHEDULED | DURATION (HOURS) | REASON (1) | METHOD OF SHUTTING DOWN THE REACTOR (2) | COMMENTS |
|-----|--------|---------------------------------|---------------------|------------|---|---------------------------------------|
| 3 | 740122 | F | 672.0 | A | B | Reactor coolant pump 2B2 seal failed. |

(1) REASON:
A-EQUIPMENT FAILURE (EXPLAIN)
B-MAINT. OR TEST
C-REFUELING
D-REGULATORY RESTRICTION
E-OPERATOR TRAINING AND
 LICENSE EXAMINATION
F-ADMINISTRATIVE
G-OPERATIONAL ERROR
 (EXPLAIN)

(2) METHOD:
A- MANUAL
B- MANUAL SCRAM
C- AUTOMATIC SCRAM