WOLF CREEK
NUCLEAR OPERATING CORPORATION

Otto L. Maynard
Vice President Plant Operations

February 22, 1996

WO 96-0022

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: Docket No. 50-482: 1995 Annual Operating Report for Wolf Creek Generating Station

Gentlemen:

The attached Annual Operating Report is being submitted pursuant to Wolf Creek Generating Station, Unit No. 1, Technical Specifications 6.9.1.4 and 6.9.1.5. This report covers operations for the period of January 1, 1995, through December 31, 1995.

Very truly yours,

Otto L. Maynard

OLM/jad

Attachment

cc: L. J. Callan (NRC), w/a
D. N. Graves (NRC), w/a
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WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO: 50-482

FACILITY OPERATING LICENSE: NPF-42

ANNUAL OPERATING REPORT

REPORT NO. 11

Reporting Period: January 1, 1995 through December 31, 1995

EXECUTIVE SUMMARY

This Annual Operating Report provides a summary of the operating experience at Wolf Creek Generating Station. This report also provides a summary of the major safety-related maintenance activities completed during the year, and covers the period beginning on January 1, 1995, and ending on December 31, 1995.

This Annual Operating Report is submitted in accordance with the requirements of Technical Specification 6.9.1.4 and contains the information required by Technical Specification 6.9.1.5. The format of this report is similar to that provided in Regulatory Position C.1.b of Regulatory Guide 1.16, Revision 4, August, 1975.

In 1995, the availability factor for Wolf Creek Generating Station (WCGS) was 98.5 percent with a capacity factor (using maximum dependable capacity) of 93.7 percent. WCGS experienced a reactor trip in March. During the shutdown, several maintenance activities were completed. In June, a Circulating Water Pump trip resulted in reduced power operation for one day for troubleshooting and maintenance. In September, WCGS experienced brief periods of manually initiated power fluctuation for maintenance. In November, a pressurizer Power Operated Relief Valve (PORV) was inadvertently opened and immediately reclosed.

1. SUMMARY OF OPERATING EXPERIENCE

A summary of Wolf Creek Generating Station's operating experience and major safety-related maintenance activities completed during 1995 is provided by month below. This information has been previously submitted in accordance with the requirements of Technical Specification 6.9.1.8 in the Monthly Operating Reports for January through December, 1995.

January

The unit operated at or near 100% power, Mode 1, from January 1, 1995, through January 31, 1995.

February

The unit operated at or near 100% power, Mode 1, from February 1, 1995, through February 28, 1995.

March

The unit operated at or near 100% in Mode 1 from March 1 through March 8. At 1445, March 8, 1995, Wolf Creek experienced a reactor trip due to a faulty Reactor Trip Manual Actuation Switch. While the unit was shut down, on March 10, 1995, the Solid State Protection System (SSPS) for both "A" and "B" trains was modified in response to an industry concern, and to enhance system reliability. On March 11, 1995, retorquing activities were completed to stop a minor leak on the Excess Letdown Heat Exchanger. At 0412 on March 12, 1995, AE V322 encapsulation (which was found leaking during containment inspection) was successfully repaired. The plant was maintained in Mode 3 until entering Mode 2 at 0902 on March 12, 1995, with the reactor critical. The plant was returned to Mode 3 at 2153 to resolve the discrepancy in the Estimated Critical Condition (ECC) and actual critical conditions. The plant entered Mode 2 at 0529, March 13, 1995, and entered Mode 1, at 0947, March 13, 1995. On March 14, 1995, at 0541, the unit was synchronized to the grid. Due to problems with a power sensing relay in the Electro-Hydraulic Control (EHC) cabinet which prevented switching the EHC control power from House Power to the Permanent Magnet Generator (PMG) power, the generator output breakers were reopened at 1703, and at 1713, the main turbine was manually tripped to allow repairs. The unit remained at approximately seven (7) percent reactor power while repairs were made. The Turbine was then synchronized to the grid at 2230 and power was increased. The plant reached 100% power at 2140, March 16, 1995. On March 18, at 0046, the plant commenced power reduction to 35% for retest of STS AC-001. The purpose of the power reduction to 35% was to retest Control Intercept Valve (CIV) 3 in accordance with STS AC-001, "Main Turbine Valve Cycling Test." When this test was performed March 15, 1995, CIV 3 closed properly, but the plant experienced an unexplained response from other CIVs. The surveillance was completed satisfactorily and power was increased. Power was returned to 100% at 2328, and rod control was placed in automatic at 2330, March 18, 1995. The plant operated at Mode 1, and approximately 100%, through the rest of the month.

April

The unit operated at or near 100% power, Mode 1, from April 1, 1995, through April 31, 1995.

May

The unit operated at or near 100% power, Mode 1, from May 1, 1995, through May 31, 1995.

June

The unit operated at or near 100% power, Mode 1, from June 1, 1995, through June 17, 1995. On June 18 at 2025, the "C" Circulating Water Pump tripped, and the unit was stabilized at 65% power, Mode 1. The pump trip was caused by the Field Monitor Relay actuation due to a burned spot on the Field Potentiometer. On June 18, at 2115, the unit commenced increasing Reactor power, which was stabilized at 74% for troubleshooting. Power increase commenced again on June 19, at 1201, and the plant returned to 100% power, Mode 1, at 1527 on June 19, 1995.

The unit continued to operate at or near 100% power, Mode 1, until June 28, 1995, at 0237, when power was reduced to 71%, Mode 1, in preparation for removing "B" Circulating Water Pump from service for maintenance. Power was returned to 100% power, Mode 1, at 1650 on June 28, 1995.

Power remained at or near 100% power, Mode 1, through the remainder of June, 1995.

July

The unit operated at or near 100 % power, Mode 1, from July 1, 1995, through July 31, 1995.

August

The unit operated at or near 100 % power, Mode 1, from August 1, 1995, through August 31, 1995.

September

The unit operated at or near 100% power, Mode 1, from September 1, 1995, through September 17, 1995, at 1200 when power was reduced at approximately 1.3% per hour for the scheduled outage of the Benton Line. On September 18, 1995, at 0405, the unit stabilized at 78% power, 948 MWe. On September 20, 1995, at 1329, the Benton Line was restored to service, and at 1427, the unit commenced power increase at 3% per hour from 947 MWe. The unit experienced load loss caused by Turbine control irregularities during power increase, and at 1543, the unit stabilized at 760 MWe. Following unit maintenance on Turbine control, at 2030 power was increased at 3% per hour. On September 21, 1995, at 1800, the unit stabilized at 100% power. On September 22, 1995, at 2003, the unit began power reduction at 3% per hour for additional Turbine control maintenance. On September 23, 1995, at 0558, the unit stabilized at 75% power. Maintenance was completed, and on September 23, at 1108, power was increased at 3% per hour. On September 23, 1995, at 2222, the unit stabilized at 100% power, and maintained power through the remainder of September.

October

The unit operated at or near 100% power, Mode 1, through the month of October, 1995.

November

The unit operated at or near 100% power, Mode 1, through the month of November, 1995.

On November 3, 1995, at 1403, during the restoration section of Surveillance Test STS BB-004, "RCS Water Inventory Balance," the Reactor Operator inadvertently opened pressurizer Power Operated Relief Valve (PORV) BB PCV 456. The PORV was immediately reclosed. Reactor Coolant System pressure dropped to 2214 PSIG, but was restored to 2220 PSIG by 1406.

December

The unit operated at or near 100% power, Mode 1, through the month of December, 1995.

2. SUMMARY OF OUTAGES AND FORCED POWER REDUCTIONS

Provided below is a summary of the 1995 outages and forced power reductions of over 20 percent of design power level where the reduction extended for more than four hours:

1. Start Date: March 8, 1995 Completion Date: March 18, 1995
   Type: Forced Duration: 249 hours
   Reason: Reactor trip caused by a faulty Reactor Trip Manual Actuation Switch.

2. Start Date: June 18, 1995 Completion Date: June 19, 1995
   Type: Forced Duration: 16 hours
   Reason: "C" Circulating Water Pump Trip. (Power reduction)

3. Start Date: June 28, 1995 Completion Date: June 28, 1995
   Type: Scheduled Duration: 12 hours
   Reason: "C" Circulating Water Pump Maintenance. (Power reduction)

4. Start Date: September 17, 1995 Completion Date: September 23, 1995
   Type: Scheduled Duration: 80 hours
   Reason: Scheduled outage of the Benton Line. (Power reduction)

5. Start Date: September 23, 1995 Completion Date: September 23, 1995
   Type: Scheduled Duration: 16 hours
   Reason: Turbine Control Maintenance. (Power reduction)

3. EXPOSURE INFORMATION

a. NUMBER OF PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION REPORT - 1995

WOLF CREEK NUCLEAR OPERATING CORPORATION - WCGS
PO BOX 411
BURLINGTON, KANSAS 66839

LICENSE: NPF-42

REGULATORY GUIDE 1.16 INFORMATION
INTERIM REPORT FOR: 950101 TO 951231

WORK AND JOB FUNCTION	PERSONNEL (> 100 mrem) STATION	UTILITY	CONTRACT	TOTAL MAN-REM STATION	UTILITY	CONTRACT
REACTOR OPERATIONS AND SURVEILLANCE						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.306	0.000	0.134
OPERATIONS	0	0	0	0.685	0.120	0.001
HEALTH PHYSICS AND LAB	8	1	0	3.032	0.124	0.000
SUPERVISORY AND OFFICE STAFF	1	0	0	0.499	0.075	0.042
ENGINEERING STAFF	0	0	0	0.362	0.019	0.001
ROUTINE PLANT MAINTENANCE						
MAINTENANCE AND CONSTRUCTION	0	0	0	1.172	0.015	0.275
OPERATIONS	0	0	0	0.149	0.018	0.000
HEALTH PHYSICS AND LAB	0	0	0	0.289	0.033	0.000
SUPERVISORY AND OFFICE STAFF	0	0	0	0.561	0.001	0.181
ENGINEERING STAFF	0	0	0	0.587	0.015	0.043
INSERVICE INSPECTION						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.073	0.000	0.003
OPERATIONS	0	0	0	0.002	0.000	0.000
HEALTH PHYSICS AND LAB	1	0	0	0.190	0.000	0.000
SUPERVISORY AND OFFICE STAFF	0	0	0	0.027	0.000	0.000
ENGINEERING STAFF	0	0	0	0.032	0.000	0.004
SPECIAL PLANT MAINTENANCE						
MAINTENANCE AND CONSTRUCTION	1	0	4	0.631	0.092	0.965
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS AND LAB	0	0	0	0.206	0.013	0.000
SUPERVISORY AND OFFICE STAFF	0	0	0	0.099	0.000	0.000
ENGINEERING STAFF	0	0	0	0.085	0.004	0.000
WASTE PROCESSING						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.274	0.000	0.018
OPERATIONS	1	0	0	0.416	0.003	0.047
HEALTH PHYSICS AND LAB	3	0	0	1.912	0.014	0.000
SUPERVISORY AND OFFICE STAFF	0	0	0	0.088	0.000	0.000
ENGINEERING STAFF	0	0	0	0.018	0.000	0.000
REFUELING						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.053	0.000	0.000
OPERATIONS	0	0	0	0.057	0.000	0.000
HEALTH PHYSICS AND LAB	0	0	0	0.017	0.001	0.000
SUPERVISORY AND OFFICE STAFF	0	0	0	0.040	0.000	0.000
ENGINEERING STAFF	0	0	0	0.044	0.000	0.002
TOTALS						
MAINTENANCE AND CONSTRUCTION	1	0	4	2.509	0.107	1.395
OPERATIONS	1	0	0	1.310	0.141	0.048
HEALTH PHYSICS AND LAB	12	1	0	5.646	0.185	0.000
SUPERVISORY AND OFFICE STAFF	1	0	0	1.313	0.076	0.223
ENGINEERING STAFF	0	0	0	1.127	0.039	0.050
GRAND TOTALS	15	1	4	11.905	0.547	1.716

Number of personnel > 100 mrem based on PIC data
Total man-rem based on ratio of PIC data applied to TLD data
Actual total mRem = 14169 (numbers may vary due to rounding)

4. SINGLE RELEASE OF RADIOACTIVITY OR RADIATION EXPOSURE GREATER THAN 10 PERCENT OF ALLOWABLE ANNUAL VALUES

During 1995, no single release of radioactivity exceeded 10 percent of the allowable annual value.

5. CHALLENGES TO THE PORVS AND SAFETY VALVES

On November 3, 1995, at 1403, during the restoration section of Surveillance Test STS BB-004, "RCS Water Inventory Balance," the Reactor Operator inadvertently opened Pressurizer PORV BB PCV 456. The PORV was immediately reclosed. Reactor Coolant System pressure dropped to 2214 PSIG, but was restored to 2220 PSIG by 1406.

6. INDICATIONS OF FAILED FUEL

On June 30, 1995 the initial indication of failed fuel was observed. The Xenon-133/Xenon-135 activity ratio began an upward trend. By the end of 1995, the Reactor Coolant fission product activity continued to increase. Assuming average assembly power, it was estimated that 3 to 6 leaking fuel pins existed. No power reductions of sufficient magnitude occurred to assess the failed assembly burnup. The defects appeared to have opened significantly enough to allow the increase in the Reactor Coolant I-134 and Np-239 concentrations. The actual number of defects will be determined during Refuel VIII.

7. REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY IN EXCESS OF TECHNICAL SPECIFICATION 3.4.8 LIMITATION

The Reactor Coolant System Specific Activity did not exceed the Technical Specification 3.4.8 limitation during 1995.