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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NOS. 50-445 AND 50-446
ANNUAL OPERATING REPORT FOR 2008

Dear Sir or Madam:

By means of the Attachment to this letter, Luminant Generation Company LLC (Luminant Power) hereby submits the 2008 Annual Operating Report for the Comanche Peak Steam Electric Station (hereafter referred to as Comanche Peak Nuclear Power Plant (CPNPP)), prepared and submitted pursuant to guidance provided in C.1.b of U.S. NRC Regulatory Guide 1.16, Revision 4.

This communication contains no new licensing basis commitments regarding CPNPP Units 1 and 2. Should you have any questions, please contact Tom Daskam at (254) 897-0348.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

By: Fred W. Madden
Fred W. Madden
Director, Oversight & Regulatory Affairs

A001
NRR

Attachment - ANNUAL OPERATING REPORT FOR 2008

c - E. E. Collins, Region IV
B. K. Singal, NRR
Resident Inspectors, Comanche Peak

COMANCHE PEAK NUCLEAR POWER PLANT

ANNUAL OPERATING REPORT

2008

LUMINANT GENERATION COMPANY LLC

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1.0 SUMMARY OF OPERATING EXPERIENCE

The Comanche Peak Steam Electric Station (hereafter referred to as Comanche Peak Nuclear Power Plant (CPNPP)) is a dual unit pressurized water reactor power plant, supplied by Westinghouse Electric Corporation. It is located in Somervell County in North Central Texas approximately 65 miles southwest of the Dallas-Fort Worth Metropolitan area. Each generating unit core was originally designed for a warranted power output of 3411 Megawatt thermal (MWt). This output, combined with the reactor coolant pump heat output of 14 MWt, gives a warranted NSSS output of 3425 MWt, which is the license application rating. Unit 1 rated thermal power was subsequently increased to 3612 MWt, which represents a 5.9 percent increase in core output (from 3411 to 3612 MWt). Unit 2 rated thermal power was subsequently increased to 3458 MWt, which represents a 1.4 percent increase in core output (from 3411 to 3458 MWt). The reactor coolant pump heat output considered in the safety analysis was increased to approximately 16 MWt for both units. All safety systems, including the engineered safety features, are designed for operations at a maximum NSSS output of 3628 MWt and an associated maximum core output of 3612 MWt.

1.1 CPNPP UNIT 1

CPNPP Unit 1 achieved initial criticality on April 3, 1990. Initial power generation occurred on April 24, 1990, and the plant was declared commercial on August 13, 1990. Since being declared commercial, CPNPP Unit 1 has generated 155,774,494 net Megawatt-hours (MWH) of electricity as of December 31, 2008, with a net unit capacity factor of 84.04% (using MDC). The cumulative unit and reactor availability factors were 88.51% and 90.91% respectively, as of December 31, 2008.

On, September 27, 2008, the unit began a power ramp down for its thirteenth refueling outage. The unit entered the refueling outage on the same day. During the refueling outage, 92 fresh fuel assemblies were loaded for Cycle 14. The refueling outage lasted 19 days 9 hours and ended on October 16, 2008. Unit 1 reached 100% power on October 20, 2008.

During the refueling outage, the major work scope completed included:

- Reactor power up-rate from 3458 MWt to 3612 MWt
- Replaced main turbine high pressure element for power up-rate
- Replaced main generator hydrogen coolers and exciter coolers for power up-rate
- Upgraded both Heater Drain Pumps and motors for power up-rate
- Upgraded secondary cooling water system (TPCW) for power up-rate
- Upgraded main generator to main transformer electrical bus cooling for power up-rate
- Alloy 600 inspections
- 3 year and 6 year Emergency Diesel Generator 1-02 inspections

Figure 1.1 provides the generation profile of the average daily net electrical output of Unit 1 for 2008. Table 1.1 is a compilation of the yearly and total summaries of the operating data.

During this reporting period there were no failures or challenges to the Safety Valves.

1.2 CPNPP UNIT 2

CPNPP Unit 2 achieved initial criticality on March 24, 1993. Initial power generation occurred on April 9, 1993, and the plant was declared commercial on August 3, 1993. Since being declared commercial, CPNPP Unit 2 has generated 135,742,632 net Megawatt-hours (MWH) of electricity as of December 31, 2008, with a net unit capacity factor of 87.36% (using MDC). The cumulative unit and reactor availability factors were 90.53% and 92.74% respectively, as of December 31, 2008.

On, March 29, 2008, the unit began a power ramp down for its tenth refueling outage. The unit entered the refueling outage on the same day. During the refueling outage, 88 fresh fuel assemblies were loaded for Cycle 11. The refueling outage lasted 21 days 4 hours and ended on April 19, 2008. Unit 2 reached 100% power on April 23, 2008.

During the refueling outage, the major work scope completed included:

- Alloy 600 inspections
- Pressurizer penetration weld overlays
- Identification and replacement of leaking fuel assemblies
- Reactor Coolant Pump 2-01 motor replacement (Smart Motor)
- Station Service Water Pump and motor replacements
- Centrifugal Charging Pump 2-01 motor replacement
- Replaced main generator seal oil system, including the hydrogen seals
- 6 year Emergency Diesel Generator 2-01 inspection

Figure 1.2 provides the generation profile of the average daily net electrical output of Unit 2 for 2008. Table 1.2 is a compilation of the yearly and the total summaries of the operating data.

During this reporting period there were no failures or challenges to the Safety Valves.

2.0 OUTAGES AND REDUCTIONS IN POWER

2.1 CPNPP UNIT 1

Table 2.1 describes unit operating experience including unit shutdowns and provides explanations of significant reductions in average power levels for CPNPP Unit 1.

Unit 1 had two unit shutdowns, two reactor shutdowns, and zero unplanned power change greater than 20% of full power.

2.2 CPNPP UNIT 2

Table 2.2 describes unit operating experience including unit shutdowns and provides explanations of significant reductions in average power levels for CPNPP Unit 2.

Unit 2 had two unit shutdowns, three reactor shutdowns, and zero unplanned power changes greater than 20% of full power.

3.0 EXPOSURE AND MONITORING REPORT

Deleted (Reference 69 FR 35067 & TSTF-369).

4.0 IRRADIATED FUEL INSPECTION RESULTS

4.1 CPNPP UNIT 1

Visual Inspections Performed During Refueling Outage 1RF13

Inspection personnel performed visual examination of Unit 1 Cycle 13 (U1C13) fuel assemblies as each assembly was withdrawn from the Fuel Building upender during core off-load operations. The "Quad-camera" system was used around the Fuel Building upender which simultaneously allows underwater camera inspection of the four faces of an assembly as it is withdrawn from the upender basket. A camera system was also stationed near the upender to perform visual inspections of the bottom of each bottom nozzle for debris

All fuel assemblies appeared to be in good condition with no anomalies observed. Only very light residual crud levels on the assemblies were observed which is consistent with crud patterns observed during previous refueling outage inspection campaigns. No debris or anomalies were observed during the bottom nozzles inspections.

As in previous refueling outages, a detailed visual inspection of the top of and below the lower core plate was performed prior to core reload. The inspection revealed several separated fuel assembly protective grid (P-grid) dimples (similar to those found in Unit 2 during refueling outages 2RF09 and 2RF10) as well as a few pieces of carryover eddy current probe debris from U1C11. Since U1C11, the amount of eddy current probe related debris found in Unit 1 during each outage continues to decrease significantly. All debris discovered during 1RF13 was successfully retrieved.

1RF13 In-Mast Sipping (IMS) and Ultrasonic Testing (UT) Inspection Results

No IMS or UT inspections were performed during refueling outage 1RF13 since there were no indications of leaking fuel during Cycle 13 as determined from radiochemistry analyses.

4.2 CPNPP UNIT 2

Visual Inspections Performed During Refueling Outage 2RF10

Inspection personnel performed visual examination of Unit 2 Cycle 10 (U2C10) fuel assemblies as each assembly was withdrawn from the Fuel Building upender during core off-load operations. The "quad-camera" system was used which allows simultaneous underwater camera inspection of the four faces of an assembly as it is withdrawn from the upender basket. A camera system was also set up near the upender to perform visual inspections of the bottom of each bottom nozzle for debris.

During the "quad-camera" visual inspections, a piece of debris was observed to be protruding from assembly LL55. The debris appeared to be approximately ¼" wide and about 4" long and was lodged in the assembly between two exterior rods just above the top grid. The debris resembled the tip end of a plastic tie wrap. LL55 was scheduled for discharge during the outage. All other fuel assemblies appeared to be in good condition overall with no other significant anomalies observed. Only very light residual crud levels on the assemblies were observed which is consistent with crud patterns observed during previous refueling outage inspection campaigns.

As in previous refueling outages, visual inspections of the top of and below the lower core plate were performed prior to core reload and revealed four pieces of debris initially described as possible metal shavings. The debris was later identified as separated fuel assembly P-grid dimples. All the debris discovered on the lower core plate was successfully retrieved. Another piece of debris (also resembling a P-grid dimple) approximately ¼" in length was observed below the lower core plate, however, attempts to retrieve it were unsuccessful.

2RF10 In-Mast Sipping (IMS) and Ultrasonic Testing (UT) Inspection Results

During 2RF10 core offload, IMS inspections were performed on all assemblies. The results provided clear indications of three leaking fuel assemblies (LL32, LL63, and LL71); all of which were scheduled to be discharged during the refueling outage.

IMS can identify a leaking assembly but does not provide information on the number or location of leaking fuel rods within an assembly. To determine this, ultrasonic testing (UT) is performed on each fuel rod of each assembly identified as leaking by IMS. UT results showed distinct indications of one leaking rod in each leaking assembly as follows:

Assembly LL32 – assembly location E-3
Assembly LL63 – assembly location E-13
Assembly LL71 – assembly location M-3

4.3 NOVEMBER 2008 FOLLOW-ON FUEL INSPECTION CAMPAIGN

During a follow-on fuel inspection campaign performed at CPNPP in November, 2008, a total of 32 non-leaking fuel rods were extracted, inspected, and reinserted one at a time from the leaking fuel assemblies listed below. After removal of each rod, a borescope was lowered into each rod location to view the condition of any adjacent leaking rod and the condition of the cells of the protective grid (P-grid) and its dimples. The condition of the P-grid in the U2C9 assembly (KK28) containing a stainless steel rod was also inspected. Most of the cells examined were located adjacent to the leaking rod locations, however, in assembly LL63, several additional cells that were located far away from the leaking rod location were also inspected.

U2C9 Leaking Assembly KK28 – 1 stainless steel rod in leaking rod location; 5 P-grid cells examined (around leaker location)
- 3 cells with ligament and dimple issues
- 2 cells with ligament damage

U2C10 Leaking Assembly LL63 – 1 leaking rod; 16 P-grid cells examined
- 6 cells with no damage
- 5 cells with ligament and dimple damage
- 5 cells with ligament damage

U2C10 Leaking Assembly LL32 – 1 leaking rod; 6 P-grid cells examined (around leaker location)
- 1 cell with ligament and dimple damage
- 5 cells with ligament damage

U2C10 Leaking Assembly LL71 – 1 leaking rod; 5 P-grid cells examined (around leaker location)

- 5 cells with ligament damage

Note: There were a total of two missing dimples from all the P-grid cells inspected above.

Based on the borescope inspections, it was decided not to extract the three U2C10 leaking rods for detailed examination due to observed significant secondary degradation. The observed degradation greatly increased the chances of rod breakage during the removal process. However, the borescope was still able to closely view a significant portion of each leaking rod. One of the leaking rods actually appeared to be completely severed. The borescope also showed what appeared to be debris type wear marks on at least two of the leaking rods in locations near the top of their P-grids.

5.0 OUTAGE RELATED SINGLE RADIOACTIVITY RELEASE OR RADIATION EXPOSURE TO AN INDIVIDUAL THAT ACCOUNTS FOR MORE THAN 10 PERCENT OF ALLOWABLE ANNUAL VALUES

Deleted (Reference 69 FR 35067 & TSTF-369)

FIGURE 1.1
COMANCHE PEAK NUCLEAR POWER PLANT - UNIT 1
GENERATION PROFILE
AVERAGE DAILY UNIT POWER LEVEL (2008)

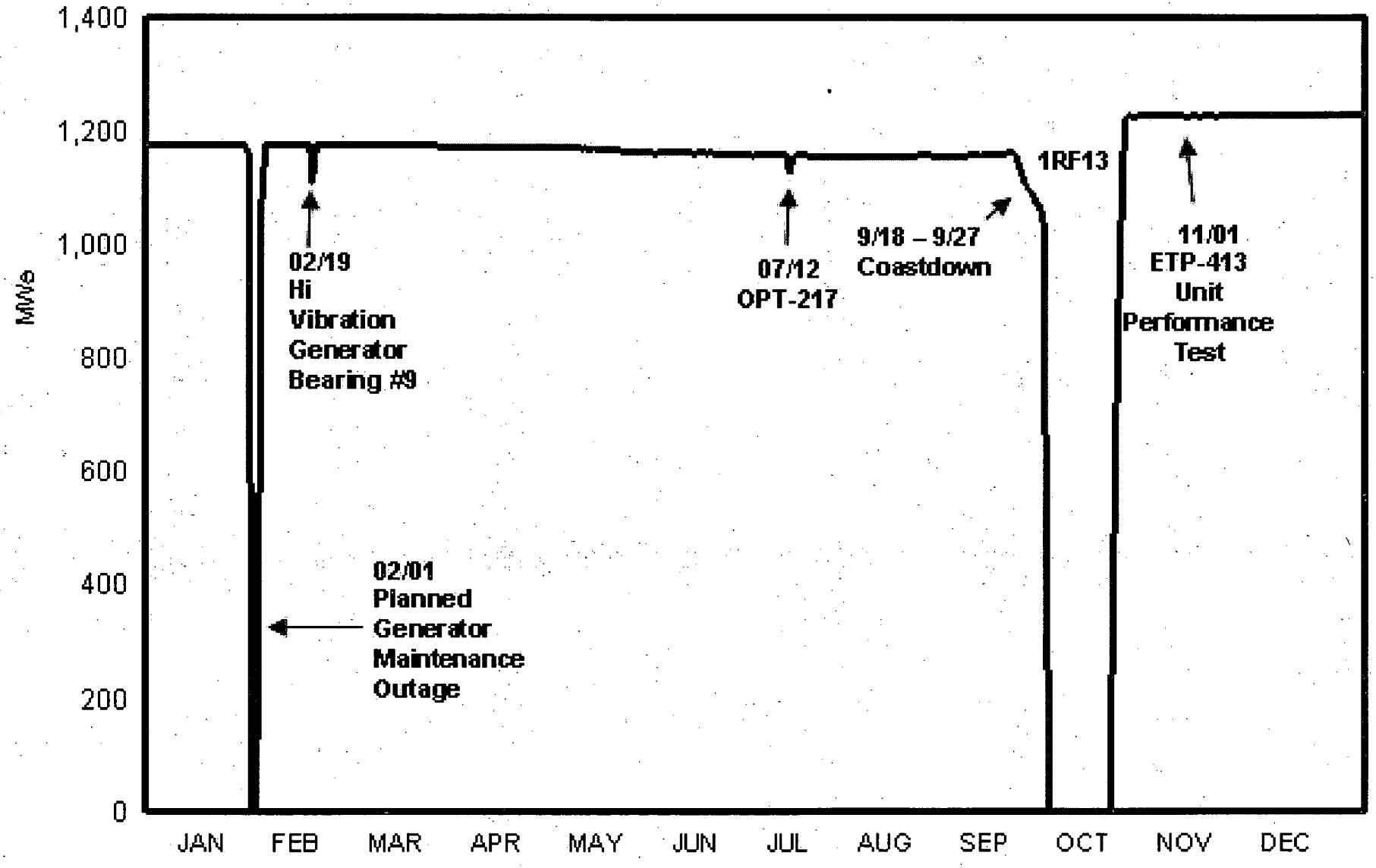

TABLE 1.1

COMANCHE PEAK NUCLEAR POWER PLANT - UNIT 1

ANNUAL ELECTRIC POWER GENERATION DATA (2008)

	YEAR	CUMULATIVE
Hours RX was Critical	8,291.07	143,649.95
RX Reserve Shutdown Hours	0	2870.89
Hours Generator On-line	8,262.53	142,659.58
Gross Thermal Energy Generated (MWH)	28,626,088.80	478,183,487.40
Gross Electric Energy Generated (MWH)	10,028,301	162,510,000
Net Electric Energy Generated (MWH)	9,658,710	155,774,494
RX Service Factor (%)	94.39	89.13
RX Availability Factor (%)	94.39	90.91
Unit Service Factor (%)	94.06	88.51
Unit Availability Factor (%)	94.06	88.51
Unit Capacity Factor (%, using MDC net)	95.62	84.04
Unit Capacity Factor (%, using DER net)	95.62	84.04
Unit Forced Outage Rate (%)	0.00	2.18

FIGURE 1.2
COMANCHE PEAK NUCLEAR POWER PLANT - UNIT 2
GENERATION PROFILE
AVERAGE DAILY UNIT POWER LEVEL (2008)

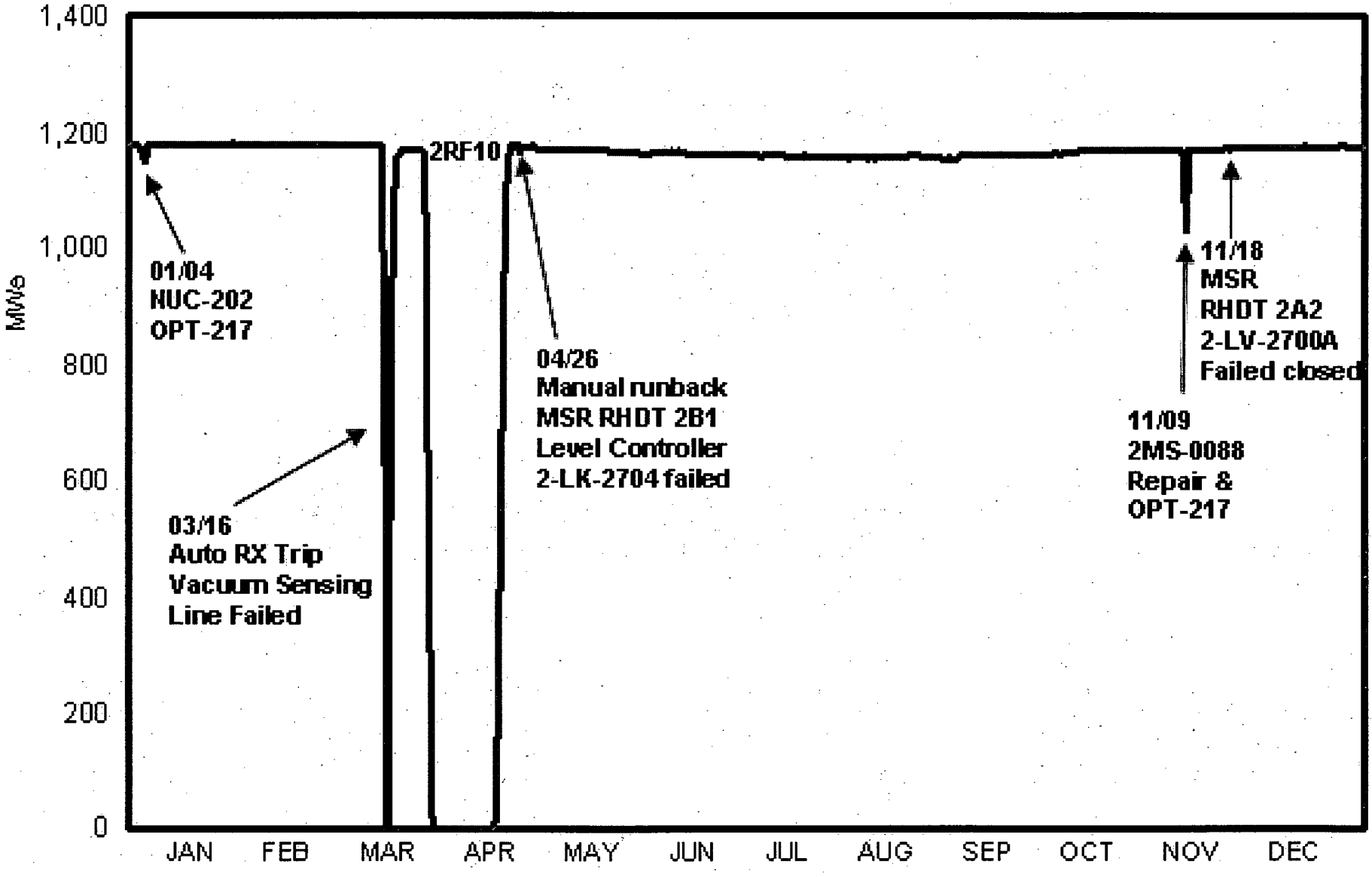

TABLE 1.2

COMANCHE PEAK NUCLEAR POWER PLANT - UNIT 2

ANNUAL ELECTRIC POWER GENERATION DATA (2008)

	YEAR	CUMULATIVE
Hours RX was Critical	8267.83	122,934.62
RX Reserve Shutdown Hours	0	2,366.46
Hours Generator On-line	8,241.78	122,312.60
Gross Thermal Energy Generated (MWH)	28,346,078.40	411,501,011.42
Gross Electric Energy Generated (MWH)	9,960,983	141,405,263
Net Electric Energy Generated (MWH)	9,575,911	135,742,632
RX Service Factor (%)	94.12	90.99
RX Availability Factor (%)	94.12	92.74
Unit Service Factor (%)	93.83	90.53
Unit Availability Factor (%)	93.83	90.53
Unit Capacity Factor (%, using MDC net)	94.80	87.36
Unit Capacity Factor (%, using DER net)	94.80	87.36
Unit Forced Outage Rate (%)	0.41	2.13

TABLE 2.1
COMANCHE PEAK NUCLEAR POWER PLANT - UNIT 1
UNIT OPERATING EXPERIENCE INCLUDING SHUTDOWNS AND SIGNIFICANT POWER REDUCTIONS DURING 2008

NO	DATE	TYPE F: FORCED S: SCHEDULED	DURATION* (HOURS)	REASON	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER	CORRECTIVE ACTION/COMMENTS
1	02/01/2008	S	49.35	B	2	On January 31 at 2208, operators began power reduction for a scheduled Unit 1 main generator maintenance outage. On February 1, 2008, at 0345, operators manually tripped the reactor per station procedures to commence the main generator maintenance outage to troubleshoot declining rotor resistance to ground and generator exciter bearing #9 excessive vibration. The unit restarted on February 3, 2008, at 0507, followed by synchronization at 1134 the same day. Unit 1 returned to full power February 4, 2008, at 0932.
2	02/19/2008	F	NA	B	1	On February 19, 2008, at 0446, operators began incremental power reduction per station procedures to 92%, when generator exciter bearing #9 exhibited a significant increase in vibration. After troubleshooting and adjusting generator VARs the unit returned to full power at 2219 the same date.
3	09/27/2008	S	443.58	C	2	On September 27 at 0900, operators began power reduction to commence refueling outage 1RF13. Operators manually tripped the reactor per station procedures to commence the refueling outage the same day at 1200. The unit restarted on October 15 at 2335. Unit 1 synchronized to the grid October 16, 2008, at 2139 and achieved full power on October 20, 2008, at 2305.

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)
H: OTHER (EXPLAIN)

2) METHOD

1: MANUAL
2: MANUAL SCRAM
3: AUTOMATIC SCRAM
4: OTHER (EXPLAIN)

* INDICATES SHUTDOWN HOURS, OTHERWISE "NA" FOR NOT APPLICABLE

TABLE 2.2
COMANCHE PEAK NUCLEAR POWER PLANT - UNIT 2
UNIT OPERATING EXPERIENCE INCLUDING SHUTDOWNS AND SIGNIFICANT POWER REDUCTIONS DURING 2008

NO	DATE	TYPE F: FORCED S: SCHEDULED	DURATION* (HOURS)	REASON	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER	CORRECTIVE ACTION/COMMENTS
1	03/16/2008	F	14.17	A	3	On March 16, 2008, at 1137, Unit 2 sustained an automatic turbine trip/reactor trip when the main condenser 2B vacuum sensing line failed at the condenser to instrument tubing transition weld. Repairs were made to the instrument transition joint and instrument tubing support configuration. The unit restarted March 17, 2008, at 0148. On March 17, 2008, at 0229, an annunciator power supply failed, which affected Delta Flux and Quadrant power Tilt Ratio alarms. A conservative decision was made and the reactor made subcritical March 17, 2008, at 0506, while repairs were made.
2	03/17/2008	S	11.10	A	1	For reactor physics reasons, a conservative decision was made and the Unit 2 reactor made subcritical while repairs were made to the annunciator system discussed in Item 1. Subcriticality was achieved by manual control rod insertion March 17, 2008, at 0506. Repairs made, the reactor was critical March 17, 2008, at 1612 followed by unit synchronization at 2150. Total unit outage duration was 34.22 hours. Unit 2 returned to full power on March 18 at 1649.
3	03/29/2008	S	490.90	C	2	March 27, 2008, at 1830, Unit 2 commenced power coastdown to refueling outage 2RF10. March 29, 2008, at 0900, operators began power reduction to commence refueling outage 2RF10. Operators manually tripped the reactor per station procedures at 1200 this date and entered 2RF10. On April 18 at 2255, the reactor was made critical. On April 19, 2008, at 1210, Unit 2 synchronized to the grid. Unit 2 returned to full power April 23, 2008, at 0318.

4	11/08/2008	S	NA	B	1	On November 8, 2008, at 2355, operators began power reduction to 48% reactor power to perform packing repairs to 2MS-0088, the manual isolation valve to the Steam Generator 2-03, Channel IV, Narrow Range Level Instrument, 2-LT-0537. Repairs were completed November 9, 2008, at 0301. After performing OPT-217, routine main turbine stop and control valve testing, the unit returned to full power November 9, 2008, at 0909.

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)
H: OTHER (EXPLAIN)

2) METHOD

1: MANUAL
2: MANUAL SCRAM
3: AUTOMATIC SCRAM
4: OTHER (EXPLAIN)

* INDICATES SHUTDOWN HOURS, OTHERWISE "NA" FOR NOT APPLICABLE