



Environmental Department - ESG Facility  
4653 Table Mountain Drive  
Golden, Co 80403-1636

January 30, 2008

Mr. Bob Jorgenson  
Air Pollution Control Division  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530

**RE: Fourth Quarter 2007 EER, PSCo Comanche Station Unit #2**

Dear Mr. Jorgenson:

Attached is the Fourth Quarter 2007 Excess Emissions Report (EER) for the Public Service Company of Colorado (PSCo) Comanche Station Unit #2.

Unit #2 was offline during the following periods:

- From the beginning of the quarter until November 9<sup>th</sup> hour 1900
- November 10<sup>th</sup> hour 1400 to hour 1700
- November 24<sup>th</sup> hour 1600 to November 25<sup>th</sup> hour 0400
- November 26<sup>th</sup> hour 0900 to hour 1300

The unit experienced two opacity exceedances during the quarter. On November 24<sup>th</sup> the unit experienced an opacity malfunction due to a boiler trip at 1624, when the opacity rose to 92.6% for the six minute average. The unit went offline and the fans stopped at 1625. Subsequent high opacity readings were recorded, however the unit was offline and the elevated readings were the result of ash entrained in the ductwork. Since the readings did not represent true exceedances, excess emissions recorded from 1630 to 1700 were not reported as exceedances in this report. A Malfunction Report Form is included with this report. The unit experienced another exceedance on November 29<sup>th</sup> from 1518-1523. It was determined that isolation valves had been left closed in error. The plant has modified their operations to ensure that this error is not repeated.

Daily calibrations were performed as required by regulation on each of the monitoring systems. The majority of the calibrations conducted on the SO<sub>2</sub> and NO<sub>x</sub> monitoring systems were able to be completed in a fashion where the required data validation criteria was met. As such, even though calibrations were performed on the gas monitoring systems as required, monitor downtime episodes may not have been generated in the EERs as a result.

Please contact me at 720.497.2109 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Quinn Kilty'.

Quinn Kilty  
Manager, Air & Water Quality

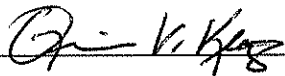
Attachment

cc: Mr. Albion Carlson  
U. S. Environmental Protection Agency  
999 18th Street, Suite 500  
Denver, CO 80202-2466

## CERTIFICATION OF REPORT INTEGRITY

This is to certify that to the best of my knowledge, the information provided in this report is complete and accurate. Anomalous data and information is explained in the cover letter to this report.

Name: Quinn V. Kilty

Signature: 

Title: Manager, Air and Water Quality

Date: 1/29/08

STATE QUARTERLY OPACITY EXCEEDANCE & MONITOR DOWNTIME REPORT

Comanche Unit 2  
 FOR QUARTER 4 2007  
 DATE 01/09/08

P.S. of Colorado  
 Comanche Generating Station  
 Pueblo, CO

MONITOR TYPE: OPACITY  
 MODEL NO.: 550  
 INSTALLATION DATE: 12/2/99

MANUFACTURE: United Sciences Inc.  
 SERIAL NO.: 5500079

--- OPAC EXCEEDANCE AND MONITOR DOWNTIME MATRIX (Hours) ---

EXCESS RANGE	20.0-30.0	30.0-40.0	40.0-50.0	50.0-60.0	>60.0	TOTAL
%						
--EXCESS EMISSIONS REASON--						
*STARTUP/SHUTDOWN	0.00	0.00	0.00	0.00	0.00	0.00
STARTUP/SHUTDOWN	0.00	0.00	0.00	0.00	0.00	0.00
*CLEANING/SCOTBLOWING	0.00	0.00	0.00	0.00	0.00	0.00
CLEANING/SCOTBLOWING	0.00	0.00	0.00	0.00	0.00	0.00
UNKNOWN CAUSES	0.00	0.00	0.00	0.00	0.00	0.00
*CONTROL EQUIP (UPSET)	0.00	0.00	0.10	0.00	0.00	0.10
CONTROL EQUIP (UNACCEPT)	0.00	0.00	0.00	0.00	0.10	0.10
*PROCESS PROBLEMS (UPSET)	0.00	0.00	0.00	0.00	0.00	0.00
PROCESS PROB (UNACCEPT)	0.00	0.00	0.00	0.00	0.00	0.00
FUEL PROBLEMS	0.00	0.00	0.00	0.00	0.00	0.00
OTHERS	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.10	0.00	0.10	0.20
TOTAL UNACCEPTABLE EMISSIONS						0.10
% EXCESS EMISSIONS						0.01%

UNIT OPERATING TIME: 1221.32 HR

--MONITOR DOWNTIME REASON--

MONITOR EQUIP. FAILURE	0.00	
NON MONITOR FAILURES	0.00	
*CALIBRATION (QA)	12.40	
UNKNOWN CAUSES	0.00	
OTHERS	0.00	
TOTAL UNACCEPTABLE DOWNTIME		0.00
% MONITOR DOWNTIME		0.00%

-- Reasons Marked \* are not used in the Excess and Downtime computations --

--- EXCEEDANCE AND MONITOR DOWNTIME LOG ---

DATE	TIME	TYPE	CHANNEL	VALUE	DURATION	REASON
11-09	07:00	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-09	07:06	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-10	07:00	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-10	07:06	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-11	07:00	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-11	07:06	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-12	07:00	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-12	07:06	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-13	07:00	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-13	07:06	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-14	07:00	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-14	07:06	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-15	07:00	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)
		ACTION:	daily opacity monitor calibration			spans two six minute periods.
11-15	07:06	SYS-DOWN	2 Opc Inst		00:06	*CALIBRATION (QA)







**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
AIR POLLUTION CONTROL DIVISION  
MALFUNCTION EVENT REPORTING FORM**

Date Reported 11/24/2007

Time Reported 18:00

Name of Person Filing Report Robert Lopez

Phone Number 719-549-3720

Company/Source Name Xcel Energy

Plant Name Comanche Station Unit No. 2

Unit AIRS ID No. 101.0003.001

Applicable Permit No. 96OPP133

Malfunction Started: Date 11/24/2007

Time 1624

Malfunction Ended: Date 11/24/2007

Time 1629

Total time of malfunction 6 minutes

Pollutants which exceeded emission standards:

<b>Pollutant (SO<sub>2</sub>, NO<sub>x</sub>, opacity, etc.)</b>	<b>Emission Rate During Malfunction (Lbs./hr, % Opacity)</b>	<b>Total Emissions During Malfunction (Tons)</b>
Opacity	Highest avg % opacity = 92.6%	

Detailed explanation of malfunction event, cause of the malfunction, and corrective actions taken to prevent a reoccurrence:

On Saturday, November 24, 2007, Comanche Unit #2 experienced an opacity exceedance from 1624 to 1629. The circumstances are outlined below:

1. Unit #2 had an electrical problem that resulted in an MFT at 1619.
2. At 1624 the ID fans stopped operating and the FD fans began to decrease speed until they completely stopped at 1625.
3. 1625 no airflow going through the stack other than natural draft.
4. The electrical power to the baghouse was also lost at 1625.
5. First opacity exceedance at 1623 with the six-minute average for unit 2 opacity at 1624 being 92.6%.
6. Opacity returned to below 20% at 1700.
7. Historical data in the DCS reviewed on Monday, November 26, 2007 pertaining to the baghouse indicates that the baghouse was not bypassed and that the differential pressure on the baghouse did not change until the power was lost.



An investigation revealed that a feeder breaker to the Unit #2 ID fan was grounded resulting in the unit MFT and loss of power to the ID fans, FD fans, and the baghouse. Based on the historical data collected and the lack of airflow, it has been determined that sedimentary ash in the ductwork and baghouse became entrained in the duct leading to the stack. Because there were no ID or FD fans running at the time there was little or no stack flow, which resulted in the ash remaining stagnant within the stack for an extended period.

Please check all that apply:

- The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the reasonable control of the owner or operator;
- The excess emissions did not stem from any activity or event that could have reasonably been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
- Repairs were made as expeditiously as possible.
- The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable.
- All Reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality.
- All emissions monitoring systems were kept in operation (if at all possible);
- The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence.

Signature: Robert M. Lopez

Title: Station Supervisor  
Date: 11/24/2007

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*Fred Orellano 11/27/07*  
*Director Comanche Station*

STATE QUARTERLY SO2 EXCEEDANCE & MONITOR DOWNTIME REPORT

Comanche Unit 2  
 FOR QUARTER 4 2007  
 DATE 01/09/08

P.S. of Colorado  
 Comanche Generating Station  
 Pueblo, CO

MONITOR TYPE: SO2  
 MODEL NO.: MIR9000  
 INSTALLATION DATE: 10/11/01

MANUFACTURE: Environment SA  
 SERIAL NO.: 1084

--- SO2 EXCEEDANCE AND MONITOR DOWNTIME MATRIX (Hours) ---

EXCESS RANGE MM	1.20-1.40	1.40-1.60	1.60-1.80	1.80-2.00	>2.00	TOTAL
--EXCESS EMISSIONS REASON--						
*STARTUP/SHUTDOWN	0.00	0.00	0.00	0.00	0.00	0.00
STARTUP/SHUTDOWN	0.00	0.00	0.00	0.00	0.00	0.00
*CLEANING/SOOTBLOWING	0.00	0.00	0.00	0.00	0.00	0.00
CLEANING/SOOTBLOWING	0.00	0.00	0.00	0.00	0.00	0.00
UNKNOWN CAUSES	0.00	0.00	0.00	0.00	0.00	0.00
*CONTROL EQUIP (UPSET)	0.00	0.00	0.00	0.00	0.00	0.00
CONTROL EQUIP (UNACCEPT)	0.00	0.00	0.00	0.00	0.00	0.00
*PROCESS PROBLEMS (UPSET)	0.00	0.00	0.00	0.00	0.00	0.00
PROCESS PROB (UNACCEPT)	0.00	0.00	0.00	0.00	0.00	0.00
FUEL PROBLEMS	0.00	0.00	0.00	0.00	0.00	0.00
OTHERS	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL UNACCEPTABLE EMISSIONS						0.00
% EXCESS EMISSIONS						0.00%

UNIT OPERATING TIME: 1221.32 HR

--MONITOR DOWNTIME REASON--

MONITOR EQUIP. FAILURE	0.00
NON MONITOR FAILURES	0.00
*CALIBRATION (QA)	11.00
UNKNOWN CAUSES	0.00
OTHERS	7.00
TOTAL UNACCEPTABLE DOWNTIME	7.00
% MONITOR DOWNTIME	0.57%

-- Reasons Marked \* are not used in the Excess and Downtime computations --

--- EXCEEDANCE AND MONITOR DOWNTIME LOG ---

DATE	TIME	TYPE	CHANNEL	VALUE	DURATION	REASON
11-09	16:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration during start-up.
11-09	18:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration during start-up.
11-09	19:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration during start-up.
11-12	08:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity following start-up.
11-12	09:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity following start-up.
11-19	11:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-19	12:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-19	13:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-19	14:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
12-10	08:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration.
12-10	23:00	SYS-DOWN	2_SO2MMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration.
12-11	09:00	SYS-DOWN	2_SO2MMx		01:00	OTHERS (DOWNTIME)
		ACTION:				MIR maintenance.
12-11	10:00	SYS-DOWN	2_SO2MMx		01:00	OTHERS (DOWNTIME)
		ACTION:				MIR maintenance.
12-11	11:00	SYS-DOWN	2_SO2MMx		01:00	OTHERS (DOWNTIME)
		ACTION:				MIR maintenance.

12-11 12:00	SYS-DOWN 2_SO2MMx	01:00	OTHERS (DOWNTIME)
	ACTION: MIR maintenance.		
12-11 13:00	SYS-DOWN 2_SO2MMx	01:00	OTHERS (DOWNTIME)
	ACTION: MIR maintenance.		
12-11 14:00	SYS-DOWN 2_SO2MMx	01:00	OTHERS (DOWNTIME)
	ACTION: MIR maintenance.		
12-11 15:00	SYS-DOWN 2_SO2MMx	01:00	OTHERS (DOWNTIME)
	ACTION: MIR maintenance.		

STATE QUARTERLY NOX EXCEEDANCE & MONITOR DOWNTIME REPORT

Comanche Unit 2  
 FOR QUARTER 4 2007  
 DATE 01/09/08

P.S. of Colorado  
 Comanche Generating Station  
 Pueblo, CO

MONITOR TYPE: NOX  
 MODEL NO.: MIR9000  
 INSTALLATION DATE: 10/11/01

MANUFACTURE: Environment SA  
 SERIAL NO.: 1084

--- NOX EXCEEDANCE AND MONITOR DOWNTIME MATRIX (Hours) ---

EXCESS RANGE	0.70-0.80	0.80-0.90	0.90-1.00	1.00-1.10	>1.10	TOTAL
MMbtu						
--EXCESS EMISSIONS REASON--						
*STARTUP/SHUTDOWN	0.00	0.00	0.00	0.00	0.00	0.00
STARTUP/SHUTDOWN	0.00	0.00	0.00	0.00	0.00	0.00
*CLEANING/SOOTBLOWING	0.00	0.00	0.00	0.00	0.00	0.00
CLEANING/SOOTBLOWING	0.00	0.00	0.00	0.00	0.00	0.00
UNKNOWN CAUSES	0.00	0.00	0.00	0.00	0.00	0.00
*CONTROL EQUIP (UPSET)	0.00	0.00	0.00	0.00	0.00	0.00
CONTROL EQUIP (UNACCEPT)	0.00	0.00	0.00	0.00	0.00	0.00
*PROCESS PROBLEMS (UPSET)	0.00	0.00	0.00	0.00	0.00	0.00
PROCESS PROB (UNACCEPT)	0.00	0.00	0.00	0.00	0.00	0.00
FUEL PROBLEMS	0.00	0.00	0.00	0.00	0.00	0.00
OTHERS	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL UNACCEPTABLE EMISSIONS						0.00
% EXCESS EMISSIONS						0.00%

UNIT OPERATING TIME: 1221.32 HR

MONITOR DOWNTIME REASON	TOTAL
MONITOR EQUIP. FAILURE	10.00
NON MONITOR FAILURES	0.00
*CALIBRATION (QA)	11.00
UNKNOWN CAUSES	0.00
OTHERS	9.00
TOTAL UNACCEPTABLE DOWNTIME	19.00
% MONITOR DOWNTIME	1.56%

-- Reasons Marked \* are not used in the Excess and Downtime computations --

--- EXCEEDANCE AND MONITOR DOWNTIME LOG ---

DATE	TIME	TYPE	CHANNEL	VALUE	DURATION	REASON
11-09	15:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration during start-up.
11-09	16:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration during start-up.
11-09	18:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration during start-up.
11-09	19:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Calibration during start-up.
11-12	08:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity following start-up.
11-12	09:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity following start-up.
11-19	11:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-19	12:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-19	13:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-19	14:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-19	15:00	SYS-DOWN	2_NOxMMx		01:00	*CALIBRATION (QA)
		ACTION:				Linearity at full load following start-up.
11-20	07:00	SYS-DOWN	2_NOxMMx		01:00	MONITOR EQUIP. FAILURE
		ACTION:				Failed daily MIR calibrations for NOx.
12-10	07:00	SYS-DOWN	2_NOxMMx		01:00	MONITOR EQUIP. FAILURE
		ACTION:				Daily NOx calibration failure.
12-10	08:00	SYS-DOWN	2_NOxMMx		01:00	MONITOR EQUIP. FAILURE
		ACTION:				Daily NOx calibration failure.

12-10	22:00	SYS-DOWN 2_NOxMMx	01:00	MONITOR EQUIP. FAILURE
		ACTION: Daily NOx calibration failure.		
12-10	23:00	SYS-DOWN 2_NOxMMx	01:00	MONITOR EQUIP. FAILURE
		ACTION: Daily NOx calibration failure.		
12-11	07:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-11	08:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-11	09:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance.		
12-11	10:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-11	11:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-11	12:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-11	13:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-11	14:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-11	15:00	SYS-DOWN 2_NOxMMx	01:00	OTHERS DOWNTIME
		ACTION: MIR maintenance		
12-16	07:00	SYS-DOWN 2_NOxMMx	01:00	MONITOR EQUIP. FAILURE
		ACTION: Daily NOx calibration failure.		
12-18	07:00	SYS-DOWN 2_NOxMMx	01:00	MONITOR EQUIP. FAILURE
		ACTION: Daily NOx calibration failure.		
12-28	07:00	SYS-DOWN 2_NOxMMx	01:00	MONITOR EQUIP. FAILURE
		ACTION: Daily NOx calibration failure.		
12-28	08:00	SYS-DOWN 2_NOxMMx	01:00	MONITOR EQUIP. FAILURE
		ACTION: Daily NOx calibration failure.		
12-29	07:00	SYS-DOWN 2_NOxMMx	01:00	MONITOR EQUIP. FAILURE
		ACTION: Daily NOx calibration failure.		