



NEW MEXICO  
ENVIRONMENT DEPARTMENT



*Surface Water Quality Bureau*

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RON CURRY  
Secretary  
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Deputy Secretary

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**Certified Mail – Return Receipt Requested**

October 25, 2010

Mr. Ronald H. Dutton, Manager  
Air and Water Compliance  
Xcel Energy, Inc. /Southwestern Public Service  
P.O. Box 1261, Amarillo, TX 79105-1261

Re: NPDES Minor Non-Municipal Wastewater, SIC 4911, Compliance Evaluation Inspection, Eddy County  
Direct Current Tie Terminal, Southwestern Public Service Co./Xcel Energy, NPDES Permit No.  
NM0029131, October 7, 2010

Dear Mr. Dutton:

Enclosed, please find a copy of the report for the above referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA Region 6 office in Dallas, Texas for their review. These inspections are used by the USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

Problems noted during this inspection are discussed in the Further Explanations section of the inspection report. You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and modify your operational and/or administrative procedures, as appropriate.

I wish to thank you for the cooperation that was extended by you and facility staff, Mr. Jeff Heath, and Mr. Danny Powers while at this facility. If you have any questions concerning this inspection report, please feel free to contact me at the above address or by telephone at (505) 222-9587.

Sincerely,

*/s/ Sarah Holcomb*  
Sarah Holcomb  
Surface Water Quality Bureau  
New Mexico Environment Department

Cc: Marcia Gail Adams, USEPA (6EN-AS) by email  
Carol Peters-Wagnon, USEPA (6EN-WM) by email  
Samuel Tate, USEPA (6EN-AS) by email  
Diana McDonald, USEPA (6EN-WM) by email  
Larry Giglio, USEPA, Permits Branch (6WQ-P) by email



### NPDES Compliance Inspection Report

#### Section A: National Data System Coding

|                                     |       |     |   |                            |    |   |      |      |    |                    |           |      |    |   |              |           |          |    |      |      |      |  |
|-------------------------------------|-------|-----|---|----------------------------|----|---|------|------|----|--------------------|-----------|------|----|---|--------------|-----------|----------|----|------|------|------|--|
| Transaction Code                    | NPDES |     |   |                            |    |   |      |      |    |                    | yr/mo/day |      |    |   | Inspec. Type | Inspector | Fac Type |    |      |      |      |  |
| 1 N                                 | 2 5   | 3 N | M | 0                          | 0  | 2 | 9    | 1    | 3  | 1                  | 11        | 12 1 | 0  | 1 | 0            | 0         | 7        | 17 | 18 C | 19 S | 20 2 |  |
| Remarks                             |       |     |   |                            |    |   |      |      |    |                    |           |      |    |   |              |           |          |    |      |      |      |  |
| E L E C T R I C S U B S T A T I O N |       |     |   |                            |    |   |      |      |    |                    |           |      |    |   |              |           |          |    |      |      |      |  |
| Inspection Work Days                |       |     |   | Facility Evaluation Rating |    |   |      | BI   | QA | -----Reserved----- |           |      |    |   |              |           |          |    |      |      |      |  |
| 67                                  |       |     |   | 69                         | 70 | 4 | 71 N | 72 N | 73 |                    |           | 74   | 75 |   |              |           |          |    |      |      | 80   |  |

#### Section B: Facility Data

|  |  |                                     |
|--|--|-------------------------------------|
| Name and Location of Facility Inspected (For industrial users discharging to POTW, also include POTW name and NPDES permit number)<br><b>SOUTHWESTERN PUBLIC SERVICE CO./EDDY COUNTY DCT TERMINAL; 9.5 MILES EAST OF ARTESIA ON US 82, FACILITY ON NORTH SIDE.</b> | Entry Time /Date<br>1355 hours / 10-7-2010                                       | Permit Effective Date<br>10-1-2006  |
|  | Exit Time/Date<br>1550 hours / 10-7-2010   | Permit Expiration Date<br>9-30-2011 |
| Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)<br><b>MR. RON DUTTON, MANAGER, 806-378-2194<br/>MR. JEFF HEATH<br/>MR. DANNY POWERS, SUBSTATION FOREMAN</b>  | Other Facility Data<br>N. -104.241801°<br>W. 32. 815135°<br>SIC CODE: 4911       |                                     |
| Name, Address of Responsible Official/Title/Phone and Fax Number<br>MR. RONALD H. DUTTON, MANAGER, XCEL ENERGY, INC/SOUTHWESTERN PUBLIC SERVICE (806) 378-2194<br>P.O. BOX 1261, AMARILLO, TX 79105-1261   | Contacted<br>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |                                     |

#### Section C: Areas Evaluated During Inspection (S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

|   |                           |   |                         |   |                          |   |                      |
|---|---------------------------|---|-------------------------|---|--------------------------|---|----------------------|
| S | Permit                    | S | Flow Measurement        | S | Operations & Maintenance | N | CSO/SSO              |
| S | Records/Reports           | S | Self-Monitoring Program | N | Sludge Handling/Disposal | N | Pollution Prevention |
| S | Facility Site Review      | N | Compliance Schedules    | N | Pretreatment             | N | Multimedia           |
| M | Effluent/Receiving Waters | S | Laboratory              | N | Storm Water              | N | Other:               |

#### Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

PLEASE SEE REPORT FOR FURTHER EXPLANATIONS

|  |  |                           |
|--|--|---------------------------|
| Name(s) and Signature(s) of Inspector(s)<br><b>Sarah Holcomb /s/ Sarah Holcomb</b> | Agency/Office/Telephone/Fax<br><b>NMED/SWQB 505-222-9587</b>         | Date<br><b>10-25-2010</b> |
| Signature of Management QA Reviewer<br><b>Richard Powell /s/ Richard Powell</b>    | Agency/Office/Phone and Fax Numbers<br><b>NMED/SWQB 505-827-2798</b> | Date<br><b>10-25-2010</b> |

## SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS  
DETAILS: S  M  U  NA (FURTHER EXPLANATION ATTACHED NO)

1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE

 Y  N  NA

2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES

 Y  N  NA

3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT

 Y  N  NA

4. ALL DISCHARGES ARE PERMITTED

 Y  N  NA

## SECTION B - RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT.  
DETAILS: S  M  U  NA (FURTHER EXPLANATION ATTACHED NO)

1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs.

 Y  N  NA

2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE.

 S  M  U  NA

a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING

 Y  N  NA

b) NAME OF INDIVIDUAL PERFORMING SAMPLING

 Y  N  NA

c) ANALYTICAL METHODS AND TECHNIQUES.

 Y  N  NA

d) RESULTS OF ANALYSES AND CALIBRATIONS.

 Y  N  NA

e) DATES AND TIMES OF ANALYSES.

 Y  N  NA

f) NAME OF PERSON(S) PERFORMING ANALYSES.

 Y  N  NA

3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE.

 S  M  U  NA

4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR.

 S  M  U  NA

5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA.

 Y  N  NA

## SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED.  
DETAILS: S  M  U  NA (FURTHER EXPLANATION ATTACHED NO)

1. TREATMENT UNITS PROPERLY OPERATED.

 S  M  U  NA

2. TREATMENT UNITS PROPERLY MAINTAINED.

 S  M  U  NA

3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED.

 S  M  U  NA

4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.

 S  M  U  NA

5. ALL NEEDED TREATMENT UNITS IN SERVICE

 S  M  U  NA

6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED.

 S  M  U  NA

7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.

 S  M  U  NA

8. OPERATION AND MAINTENANCE MANUAL AVAILABLE.

 Y  N  NA

STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED.

 Y  N  NA

PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED.

 Y  N  NA

## SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR?

 Y  N  NA

IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED?

 Y  N  NA

HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS?

 Y  N  NA

10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT?

 Y  N  NA

IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT?

 Y  N  NA

## SECTION D - SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS.  
DETAILS: S  M  U  NA (FURTHER EXPLANATION ATTACHED NO.)

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT.

 Y  N  NA

2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.

 Y  N  NA

3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT.

 Y  N  NA

4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT.

 Y  N  NA

5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT.

 Y  N  NA

6. SAMPLE COLLECTION PROCEDURES ADEQUATE

 Y  N  NA

a) SAMPLES REFRIGERATED DURING COMPOSITING.

 Y  N  NA

b) PROPER PRESERVATION TECHNIQUES USED.

 Y  N  NA

c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3.

 Y  N  NA7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE  
THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT? Y  N  NA

## SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS.  
DETAILS: S  M  U  NA (FURTHER EXPLANATION ATTACHED NO.)1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED.  
TYPE OF DEVICE ROCKWELL METER Y  N  NA

2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED.

 Y  N  NA

3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED.

 Y  N  NA

4. CALIBRATION FREQUENCY ADEQUATE.

 Y  N  NA

RECORDS MAINTAINED OF CALIBRATION PROCEDURES.

 Y  N  NA

CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE.

 Y  N  NA

5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE.

 Y  N  NA

6. HEAD MEASURED AT PROPER LOCATION.

 Y  N  NA

7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES.

 Y  N  NA

## SECTION F - LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS.  
DETAILS: S  M  U  NA (FURTHER EXPLANATION ATTACHED NO.)

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES)

 Y  N  NA



**Compliance Evaluation Inspection  
Southwest Public Service Company  
NPDES Permit No. NM0029131  
October 7, 2010**

**Introduction**

A Compliance Evaluation Inspection (CEI) was conducted at the Southwestern Public Service Company (SPSC) Eddy County Direct Tie (DCT) Terminal by Ms. Sarah Holcomb (accompanied by Mr. Richard Powell) of the State of New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB). SPSC is a subsidiary of Xcel Energy, Inc. The Eddy County facility is owned in a joint venture by El Paso Electric (70%) and PNM (30%). Southwestern Public Service (SPS) is a service provider for the operation and maintenance of the facility. This facility is classified as a minor industrial discharger under the federal Clean Water Act (CWA), Section 402 National Pollutant Discharge Elimination System (NPDES) permit program, and is assigned permit number NM0029131. Discharges consist of noncontact treated cooling water.

This permit allows discharges to an unnamed arroyo, thence to Hart Canyon, thence to the Pecos River in segment 20.6.4.206 NMAC of the Pecos River basin. Designated uses of Segment 20.6.4.206 NMAC are irrigation, livestock watering, wildlife habitat, secondary contact and warmwater aquatic life.

The inspectors arrived at the DCT Terminal at 1335 hours and conducted an entrance interview with Mr. Ronald Dutton, Manager and Mr. Danny Powers, Facility Foreman. The inspector made introductions, presented her credentials and discussed the purpose of the inspection. An exit interview to discuss preliminary findings of the inspection was conducted with Mr. Dutton and Mr. Powers at the facility at 1530-1550 hours on October 7, 2010.

The NMED performs a specific number of CEIs annually for the USEPA. The purpose of this inspection is to provide the USEPA with information to evaluate the permittee's compliance with their NPDES permit. The enclosed inspection report is based on verbal information supplied by the permittee's representatives, observations made by the NMED inspector, and a review of records maintained by the permittee, commercial laboratories, and/or NMED. Findings of the inspection are detailed on the attached EPA form 3560-3 and in the narrative Further Explanations section of the report.

**Treatment Scheme**

Water for the facility is obtained from ground water resources through Double Eagle Water out of Carlsbad, NM. There are three storage tanks on site that hold approximately 30,000 gallons of water each. The Eddy County DCT Terminal converts alternating current electricity (AC) from the eastern electrical grid – which comes in at 230k volts - into direct current (DC), and back to a different AC frequency – 345k volts - for use in the western electrical grid. This conversion is necessary because the two grids are incompatible. Electrical losses in the conversion to DC are rejected as heat to the atmosphere through a combination wet/dry cooling tower. The previous cooling tower (8,000 gallon capacity) was replaced with a Wet Surface Air Cooler (WSAC) basin with a smaller capacity (800 gallons) in 2002. The cooling system design requires auxiliary water cooling whenever the outside temperature exceeds 74° F. This process results in a small volume, automatic discharge of non-contact cooling water from the WSAC through outfall 001. Effluent exits the WSAC basin, flows through an underground pipeline, daylights at outfall 001, and discharges onto a concrete splash pad.

A program logic computer system continuously monitors and controls wastewater discharges for conductivity, pH, and temperature and the automatic discharge valve is triggered only when pH and temperature are within NPDES permit limits. To control pH levels, the WSAC basin is treated with sulfuric acid at a rate of approximately 1 lb/1000 gallons of water. Previously, algal growth in the basin was controlled by adding liquid HTH (calcium hypochlorite) about 1x/week from April to October and 1x/month from November to March. While this was occurring, the normally automatic discharge valve was manually closed until the Total Residual Chlorine (TRC) level is below the permitted effluent limitation of "No Measurable", which is effectively <0.01 mg/L. With the addition of arsenic treatment, this has changed somewhat.

Arsenic in the source water was causing effluent exceedances above state water quality standards. The facility has implemented an arsenic treatment system from AdEdge Technologies. The source water contains 5-6 ppm arsenic, is run through the treatment system/resin filtration and is then stored until needed for use in the cooling towers. The two filters, which are run in series, are comprised of manganese dioxide coated silica sand and are regenerated once per week. Backwash water is sent to a septic tank. A bleach water/iron solution is pumped onto the resin to supply iron for the arsenic removal process, and due to the bleach, no other chlorine has been needed to be added for algal control at this point in time. Effluent concentrations regarding arsenic have not been measured at this time (except

for the month of June) as the facility was unable to discharge due to permit considerations. The facility has also been in a period of low use.

### **Further Explanations**

Note: The sections are arranged according to the format of the enclosed EPA Inspection Checklist (Form 3560-3), rather than being ranked in order of importance.

#### **Section G – Effluent/Receiving Waters: Overall rating of “Marginal”**

The permit requires in Part 1.A.1:

| Effluent Characteristics |             | Monitoring Requirements |           |             |           |                       |             |
|--------------------------|-------------|-------------------------|-----------|-------------|-----------|-----------------------|-------------|
|                          |             | Lbs/day unless noted    |           |             |           | Measurement Frequency | Sample Type |
| Pollutant                | Storet Code | Monthly Avg             | Daily Max | Monthly Avg | Daily Max |                       |             |
| Arsenic, total *5        | 01002       | N/A                     | N/A       | Report      | Report    | Once/Month            | Grab        |
| Arsenic, total *6        | 01002       | N/A                     | N/A       | 8.9 ug/L    | 13.3 ug/L | Once/Month            | Grab        |

*\*5 Requirements for arsenic are effective during the period beginning the effective date of the permit and lasting through one (1) day prior to three (3) years from the effective date of the permit.*

*\*6 Requirements for arsenic are effective during the period beginning three (3) years from the effective date of the permit and lasting through the expiration date of the permit.*

#### **Findings** for Effluent/Receiving Waters:

Southwestern Public Service was required by their permit to be in compliance with their arsenic limit starting October 1, 2009. The facility had difficulty finding an arsenic treatment system that would effectively remove the arsenic from the treatment process. When the limit became effective in October 2009, the facility only had three actual discharges between October 2009 and June 2010 (the most recent quarter's DMRs were not available for review). Of those three discharges, one exceeded the limit for arsenic in June 2010.

The facility is not on line as much as it was previously; therefore, there is not as much opportunity for discharge. The water used in the cooling process is then stored, and in this case, it was stored long enough that the constituents had concentrated, resulting in a high arsenic discharge (46.7 ug/L for both the monthly average and daily max.) Chlorine was also a problem in this particular discharge (2200 ug/L), aside from another discharge exceeding the limit in December 2009.

The explanation for the chlorine exceedances in June and July was that the source of TRC (the bleach injection into the arsenic treatment unit) was at a feed rate that was too high. As for the discharge in July, the facility needed to calibrate its flow meters, and the discharge happened as a result. Arsenic was concentrated as a result of evaporation from storage due to non-use of the facility and no discharge due to pH meter troubles (the pH meter controls the valve logic that ultimately controls the discharge from the facility.)