Tucson Electric Power
Irvington Generating Station
Air Quality Permit # 1052

SIGNIFICANT REVISION TECHNICAL SUPPORT DOCUMENT (TSD)

May 17, 2010 Addendum

I. General Comments:

A. Company Information

1. Tucson Electric Power – Irvington Generating Station

2. Source Address: 3950 East Irvington Road, Tucson, AZ 85714.
   Mailing Address: 1 South Church Ave, P.O. Box 711, Tucson, AZ 85702.

B. Background

Tucson Electric Power – Irvington Generating Station (TEP-IGS) produces electricity by fossil fuel combustion (coal, natural gas, liquid fuel, and landfill gas). Originally, TEP-IGS did not have the capacity to fire coal and was regulated by Pima County Health Services.

In the late 1990's TEP requested that jurisdiction over TEP-IGS be returned to Pima County Department of Environmental Quality, (PDEQ); the transfer was completed shortly after ADEQ issued a 5-year Class I permit to TEP IGS (issue date July 26, 1999). PDEQ's authority to jurisdiction over this EUSGU and any standards adopted by ADEQ affecting EUSGUs is through a delegation agreement signed between PDEQ and ADEQ. Upon expiration of the permit, PDEQ issued the renewal permit on September 24, 2007.

C. Legal Notes

Mercury Control Consent Order

On March 15, 2005, the United States Environmental Protection Agency (EPA) promulgated the Clean Air Mercury Rule (CAMR) to address emissions of mercury from EUSGUs. CAMR applied to most EUSGUs including those at TEP-IGS. On January 29, 2007, ADEQ finalized Arizona Administrative Code (A.A.C.) R18-2-734 (State Mercury Rule) which incorporated CAMR monitoring provisions as the compliance method. On February 8, 2008, the United States Court of Appeals for the District of Columbia vacated CAMR, which created regulatory uncertainty for both ADEQ and TEP in regards to the State Mercury Rule. On February 18, 2009, ADEQ and TEP-IGS entered into a Consent Order (Docket A-15-09) which requires TEP to implement an interim mercury control strategy at TEP-IGS without interfering with TEP-IGS's ability to comply with the State Mercury Standard beginning on December 31, 2016, and the eventual Maximum Achievable Control Technology (MACT) standard that will address mercury emissions from EUSGUs. TEP-IGS's control strategy will result in an estimated minimum facility-wide annual average reduction in mercury emissions of 50 percent (or output-based emissions of 0.0087 pounds/ gigawatt-hr) during the time period of January 1, 2011 through December 31, 2015, while the State Mercury Rule would have resulted in an estimated reduction of 54 percent for the same time period. This significant revision contains an enforceable mercury reduction operation and maintenance (O&M) plan as well as a requirement to submit, by January 1, 2014, an application for another significant revision which will contain a control strategy for meeting the State Mercury Standard.

On June 22, 2009, TEP-IGS submitted a significant permit revision to incorporate provisions of the Consent Order addressing State's mercury emissions monitoring, recordkeeping and reporting provisions. .

D. Other Notes

This TSD is an addendum to the tsd issued with the 2007 renewal and only addresses the incorporation of the Consent Order standards.

E. Attainment Classification

TEP-IGS is located in a region that is designated as attainment for all criteria pollutants.

II. Source Description

A. Process Description

There are no new units being installed and no increase in emissions associated with this revision. The unit affected by is the coal-fired steam turbine cycle boiler, Unit I4. The revision incorporates mercury emissions monitoring, recordkeeping and reporting provisions.

B. Operating Schedule

This revision does not affect the operating schedule for TEP-IGS.

C. Affected Equipment

The affected equipment as discussed above is the coal-fired Unit I4.

D. Air Pollution Control Equipment

None required with this revision.

III. Regulatory History

TEP is currently in compliance with all permit and regulatory requirements.

A. Testing & Inspections

Inspections have been conducted regularly since PDEQ took over jurisdiction from ADEQ. The last completed inspection was concluded in 2006.

B. Excess Emissions

There have been no notices of violations for any excess emissions since the permit was renewed.

IV. Emission Estimates

Potential to Emit estimates are not required with this revision. Mercury potential to emit estimates are required to be submitted no later than January 31, 2014.

V. Applicable Requirements

Standards incorporated by this revision are as follows:

1. Consent Order (Docket A-15-09)

    a. Part of the language for III.B.1 was proposed by TEP-IGS. This language was obtained from the definition of operation and maintenance requirements found in 40 CFR 63.69(e)(1)(i).The language cited from there states "…At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions…" The language found in 40 CFR 63.6(e)(1)(i) shall be used to determine whether TEP-IGS is in compliance with III.B.1.

    b. Mercury Control Strategy O&M Plan. The consent order requires a locally (PDEQ) enforceable O&M plan for mercury control.

    c. In accordance with the Consent Order III.A.2, TEP is required to demonstrate in the significant revision application submitted that the mercury control strategy is designed to achieve a 50% reduction of total mercury emissions (based on inlet mercury) in the coal or 0.0087 lb/GWh (based on outlet mercury). The application submitted by TEP on June 22, 2009 and mercury test results submitted April 5, 2010, demonstrated that a 50% reduction of total mercury emissions is achieved. Subsequent testing to be conducted each calendar year should verify these results.

    d. In accordance with the Consent Order III.A.4, TEP is required to propose a monitoring system, recordkeeping and reporting methods for determining mercury emissions from Unit I4 and for assuring that the control system is functioning in accordance with the O&M Plan. This proposal was included with the application submitted June 22, 2009.

    e. Monitoring Requirements

        i. The Permittee is required to perform monthly mercury and heating value analyses for coal combusted at the facility or utilize coal samples as provided by the supplier.

        ii. The Permittee is required to determine and record for each calendar year Unit I4's annual percent reduction of mercury emissions or the output-based emissions depending upon the control strategy selected per III.A.1.a of the Consent Order.

    c. Testing Requirements

        i. The Permittee is required to perform annual Method 29 (or an equivalent method approved by the Control Officer) stack tests for mercury on Unit I4 during each year in which coal-firing occurs in Unit I4.

VI. Permit Contents

1. Consent Order

    The permit conditions incorporated into Attachment I of the permit are to address the requirements of the Consent Order signed between ADEQ & TEP-IGS, specifically, ADEQ Consent Order #A-15-09, Section III.A & IV.