



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

OCT 29 2010

Mr. David Bower
Director, Field Operations Support Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: Air Monitoring Program Technical Systems Audit (TSA)

Dear Mr. Bower:

We appreciate the collaboration you and your staff offered to us while we conducted the Technical Systems Audit (TSA) of the Texas Commission on Environmental Quality (TCEQ) Air Monitoring Program during the month of September 2010. Enclosed is a copy of the TSA report. The report includes observations and findings on the different aspects of the Air Monitoring Program. Please review the report and respond with the actions you are planning to take to address our recommended changes based on our findings. We are also requesting the inclusion of proposed timeframes for accomplishing these actions in your response. We request a response to this report by November 15, 2010.

We would like to compliment you and your staff on the successful maintenance and operation on such a vastly extensive program that is the TCEQ Air Monitoring Network. Since our last TSA visit in 2004, TCEQ has made improvements to the program, including the establishment of a new data storage system, i.e., the Texas Air Monitoring Information System (TAMIS) which provides improved data access and processing.

As part of our TSA visit, we also conducted an audit of the auto-gas chromatography air monitoring station located in DISH, Texas. This site is supported by the U.S. Environmental Protection Agency (EPA) separately from the TCEQ core air monitoring network so we have included the results of that audit as an addendum to the TSA report (Appendix C – E).

We look forward to working with TCEQ to implement the upcoming air monitoring requirements for the lead and ozone National Ambient Air Quality Standards. We also look forward to working with TCEQ to implement the Photochemical Assessment Monitoring Stations carbonyl and near-road NO₂ air monitoring requirements for the Dallas-Fort Worth area.

I wish to express my appreciation for the hospitality shown to the evaluation team by all TCEQ personnel. Should you have any questions, concerns, or comments on this report, please feel free to contact me or have your staff contact Ms. Trisha Curran, of my staff, at (214) 665-8345.

Sincerely yours,



Maria L. Martinez
Chief
Air Quality Analysis Section

Enclosures

cc: Mr. Matthew R. Baker
Assistant Director, Field Operations Support Division
Texas Commission on Environmental Quality

Ms. Daphne McMurrer
Special Assistant, Field Operations Support Division
Texas Commission on Environmental Quality

TSA of TCEQ Air Monitoring Program
Austin, Texas
September 7-28, 2010

An on-site evaluation of the TCEQ Air Monitoring Program was conducted on September 7th through September 28th, 2010. The previous TSA was conducted in 2004. The evaluation team members were Maria Martinez, Trisha Curran, John Lay, Ruben Casso, Kara Allen, Mark Sather, Jim Afghani, and Bill Nally of EPA Region 6.

An entrance interview was held on September 7, 2010 and the exit conference was held upon the completion of the evaluation on September 28, 2010, at which time the audit findings were discussed with TCEQ's Field Operations Support Division management.

Among the areas examined were: 1) network management and field operations, 2) air laboratory operations, 3) documentation and data management, 4) quality assurance/quality control.

For completion of this evaluation, the TSA questionnaire completed by the TCEQ air program staff was reviewed. (Appendix A). Also reviewed was the current TCEQ Quality Assurance Project Plan (QAPP). The network list of TCEQ monitoring sites was also reviewed to evaluate consistency in interpretation regarding their ambient air status. Some of these sites were deemed questionable based on the TCEQ's interpretation of restricted access, therefore, questioning whether they represented ambient air (Appendix B). It is important to note that although TCEQ sees the need to revisit the status of these sites, EPA considers all of the sites listed in Appendix B to represent ambient air.

In addition to auditing TCEQ's criteria pollutant, Photochemical Assessment Monitoring Stations (PAMS), Speciation Trend Network sites (STN), and National Core (NCORE) network sites, EPA also conducted an audit on the auto-GC air monitoring station located in DISH, TX. This site is supported by EPA as a non-core task addition to TCEQ's Performance Partnership Grant (PPG) Task. For completion of this evaluation, a canister containing 46 PAMS Precursor components at known concentrations was analyzed on the auto-GC located at the DISH, TX monitoring station by TCEQ's sub-contractor, i.e., Orsat operator. The summary of the DISH monitor evaluation is an addendum to this document. Included in this addendum is a copy of the EPA audit data (Appendix C). Also included is the Orsat audit sample test which consisted of a calibration verification standard (CVS), blanks, the laboratory control standard (LCS), operator logs for the site, and remote visits (Appendix D). The special report on performance audits conducted at the DISH and Eagle Mountain Lake monitors by the University of Texas at Austin (UT) under TCEQ contract (Appendix E) is also included as part of the addendum in order to provide a complete record of the related analysis.

The following is the summary of this evaluation with comments and recommendations.

ACCOMPLISHMENTS

1) Network Managements and Sites:

During the audit, the EPA's audit team visited TCEQ air monitoring sites in various locations, as identified below.

48-121-0034 located north of the Denton Municipal Airport, Dallas

48-141-0037 located at UTEP 250 Rim Road, El Paso

48-141-0044 located at Chamizal 800 South San Marcial Street, El Paso

48-141-0053 located at Sun Metro 700 West San Francisco Avenue, El Paso

48-141-0057 located at Socorro 201 South Nevarez Road, El Paso

48-141-0058 located at Skyline Park 5050-A Yvette Drive, El Paso

48-201-1039 located at Deer Park 4514 ½ Durant Street, Houston

48-439-2003 located at Keller in the FAA site off of Alta Vista Road, Fort Worth

48-453-0020 located at Audubon 12200 Lime Creek Road, Austin

- Operators visit the sites at least once per week and documentation (mostly electronic) was available at each of the sites.
- Field operators were found to be well versed and knowledgeable.
- Trees and vegetation were nicely cleared away from the Denton County Airport site (48-121-0034) to decrease the possibility of sampling errors. This was a recent action by TCEQ to insure that the site continued to meet siting criteria.
- The majority of the monitoring sites were clean and well-organized.

2) Air Laboratory:

- EPA recently concurred with TCEQ's use of 2005-9 lead (Pb) monitoring data.

3) Documentation/Data Management:

- Most functional areas have developed SOPs or are in the process of completing them (e.g. those for PM_{10-2.5} speciation and FRM mass).
- Site documents are readily available and are included in TAMIS, LEADS and on the TCEQ webpage.
- Log books were available at the sites and the laboratories with adequate entries by the operators and laboratory staff.
- Since our last visit in 2004 for TSA, TCEQ has made significant improvements and has integrated a valuable data acquisition system (TAMIS) which provides automated troubleshooting and validation tools. This system also provides improved data traceability.

4) Quality Assurance/Quality Control:

- Most standards including gas cylinders have been certified as scheduled.
- For the majority of primary and transfer standards and gas cylinder, certifications were available with expiration dates.

CONCERNS/FINDINGS

- Personnel changes need to be updated and reflected in organizational charts as soon as possible.
- The Quality Assurance (QA)/ Quality Control (QC) procedures for non-continuous monitoring data, including lead, need clarification. For example, the EPA suggests TCEQ combine all non-continuous QA validation procedures into one SOP which includes additional sub-chapters for each parameter.
- It is recommended TCEQ review their maintenance and repair protocol implementation in order to promote efficiency and minimize data loss.
- It is requested that TCEQ review their air monitoring network and confirm that all monitoring sites are considered ambient air monitoring sites. Official confirmation is requested by the end of the 2010 calendar year.
- EPA recommends TCEQ review all SOPs every two years and revise as needed.
- TCEQ needs to make a decision on which of the three available Pb federal equivalent methods (FEMs) that are applicable will be utilized and implemented for 2010 and newer Pb monitoring data. TCEQ is required to notify EPA Region 6 of its decision.
- TCEQ is required to conduct performance Pb strip evaluations: six strips per quarter at three concentrations. Pb strips will be mailed to TCEQ from the Office of Air Quality Planning and Standards (OAQPS). It is TCEQ's responsibility to ensure the receipt and execution of the performance Pb strip evaluations.
- EPA recommends Pb field blanks be conducted at least once every quarter (<LDL).

1) Monitoring Stations:

- The vertical pipe which supports the inlet sampling lines is open and could be allowing ventilation of shelter air to be drawn into the sampling inlets. It is highly recommended that the area around the sampling lines inside the pipe be plugged to prevent air flow.
- A few certificate standards were missing or expired. These need to be checked on a regular basis. Copies for all current standards used at a site need to be present.

- Site documents, such as pictures, and exact longitude/latitude locations, need to be updated and maintained on a regular basis.
- Maintenance of the manifolds, specifically ozone, needs to be implemented.
- A single site operator is insufficient for the quantity of monitors in El Paso. It is recommended that the vacant site operator position be filled as soon as possible.
- A large quantity of dirt or dust was found on the counters and equipment of the UTEP (48-141-0037) and Socorro (48-141-0057) monitoring sites in El Paso. Although dust is not unexpected at these locations, there is concern that this could cause equipment malfunction and/or errors in the sample readings. Routine cleanings of all sites is recommended.
- An old trailer, believed to be 1970s vintage, was found at the Keller site (48-439-2003). The ceiling and walls showed a substantial amount of historical water damage, the door could not be securely latched or closed from the inside, and the air conditioner was not efficient as it cycled on and off frequently during the time the auditors were present. Each of these issues could adversely affect sampling results and it is highly recommended that this trailer be replaced.
- Based on the NCore deadline, the elevation of the NO_y molybdenum converter to 10 meters must be completed by January 1, 2011.

DISH, TX Addendum

In addition to auditing TCEQ's criteria pollutant, Photochemical Assessment Monitoring Stations (PAMS), Speciation Trend (STN), and National Core (NCore) Network, EPA also conducted an audit on the auto-GC air monitoring station located in DISH, TX. This site is supported by the EPA as a non-core task to TCEQ's Performance Partnership Grant (PPG) Task.

For completion of this evaluation, a canister containing 46 PAMS Precursor components at known concentrations was analyzed on the auto-GC located at the DISH, TX monitoring station by the Orsat operator, a TCEQ subcontractor.

Included in this addendum is a copy of the EPA audit data (Appendix C). Also included is the Orsat audit sample test which consisted of a calibration verification standard (CVS), blanks, the laboratory control standard (LCS), operator logs for the site, and remote visits (Appendix D). The special report on performance audits conducted at the DISH and Eagle Mountain Lake monitors by the University of Texas at Austin (UT) under TCEQ contract (Appendix E) is also included as part of the addendum in order to provide a complete record of the analysis.

The following is the summary of this evaluation with comments and recommendations.

- A review of the DISH, TX (48-121-1013) site's electronic log books found the Orsat contractor is performing the required calibrations and maintenance.
- The sample inlet at the DISH, TX site (48-121-1013) should have a clear pathway for sample collection between the sampling inlet and the source(s). To resolve this issue it is recommended either some vegetation be cleared or the inlet be raised.
- EPA currently has a copy of the preliminary UT audit results for the DISH, TX site. EPA requests a copy of UT's final audit results report for DISH, TX (48-121-1013).
- The auto-GC EPA audit results (Appendix C) for DISH, TX (48-121-1013) is reporting data within the +/- 30% acceptance limits required by TCEQ with the exception of styrene. It was found that the Orsat contractor is producing reliable monitoring data for the 46 PAMS Precursors with the exception of styrene.
- Overall, EPA found the operation and analysis at the DISH, TX site to be acceptable.