

APPENDIX 2

**DEVELOPMENT OF REASONABLE FURTHER PROGRESS
POINT SOURCE EMISSIONS INVENTORIES FOR THE
DALLAS-FORT WORTH NONATTAINMENT AREA**

POINT SOURCE EMISSIONS PROJECTIONS

EMISSIONS INVENTORY DEVELOPMENT

Stationary point source emissions data are collected annually from sites that meet the reporting requirements of Title 30 Texas Administrative Code (TAC) § 101.10. To collect the data, the TCEQ mails emissions inventory questionnaires (EIQ) to all sites identified as meeting the reporting requirements. Companies are required to report emissions data and to provide sample calculations used to determine the emissions. Information characterizing the process equipment, the abatement units, and the emission points is also required.

All data submitted in the EIQ are reviewed for quality assurance purposes and then stored in the State of Texas Air Reporting System (STARS) database. The TCEQ's [Point Source Emissions Inventory web page](#) contains EIQ guidance documents and other historical point source emissions of major pollutants. Additional information is available upon request from the TCEQ's Air Quality Division.

UPDATED 2002 BASE YEAR INVENTORY

The TCEQ extracted the 2002 base year inventory data from STARS on September 15, 2010. The extracted data included reported ozone season daily emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOC) from each site in the DFW area that submitted a 2002 EIQ and reflected revisions made on or before the extract date.

UPDATED UNCONTROLLED MILESTONE YEAR INVENTORIES

In the development of the uncontrolled milestone year inventories, the TCEQ projected 2008 emissions from major and minor sources separately and then applied unused emissions reduction credits to the inventories.

The TCEQ designated the 2008 inventory as the baseline year for projections because it was the baseline year for the modeling inventory and it is the most recent National Emissions Inventory year available. The 2008 point source inventory data were extracted from STARS on September 15, 2010. The dataset was comprised of reported ozone season daily emissions of NO_x and VOC for each site in the DFW area that submitted a 2008 EIQ and reflected revisions made on or before the extract date. To determine the uncontrolled projections, the TCEQ accounted for reductions from controls with compliance deadlines before 2008.

Major source emissions were projected by adding the daily averages of nonattainment major modification thresholds for each site to the 2008 emissions. Title V operating permit data were reviewed to identify sites that were major for ozone precursors. For sites classified as major for an ozone precursor, the daily average (0.07 tons per day) of the annual 25 ton major modification threshold was added to the site's 2008 emissions of that ozone precursor to determine future emissions.

Minor source emissions were projected by growth factors. Growth factors were derived from the Regional Economic Modeling, Inc. 5.5 factor set of 2005 and the Moody's Economy, Inc. factor set updated in 2010. Both datasets were the only county-level factor sets available at the time of this inventory development. For each county and industrial category, the growth factor from each dataset was compared to the ratio of 2005 to 2008 emissions. Future growth factors for minor sources were selected from the set that most closely corresponded to the ratio.

To determine the uncontrolled projections for sites with emissions subject to controls with compliance deadlines before 2008, the TCEQ accounted for reductions. Reductions from controls affecting electric generating facilities, certain gas-fired engines, and surface coating operations were determined from point source data for the DFW RFP SIP revision adopted May 23, 2007. Cement kiln emissions were also adjusted as some of the units began installation of controls in 2006 in preparation for the 2009 compliance deadline for emission caps.

Finally, the inventories were adjusted to account for emissions credits. Emissions credits are banked emissions reductions that may be added back to the airshed in the future. To account for the possible use of the banked NO_x and VOC emissions, unused Emissions Reduction Credits (ERCs) and Discrete Emissions Reduction credits (DERCs) were applied to the inventories.

Banked ERCs were determined based on New Source Review permitting offsets with an offset ratio of 1.2 to 1 applied to such credits. ERCs listed in the Emissions Banking and Trading database as of March 7, 2011, were used, including transactions with available information for the period 2006 to 2010. All of the banked ERCs were assumed to be allocated by 2011.

For the NO_x DERCs, the NO_x flow control value was used. The flow control value is the maximum amount of NO_x DERCs that can be applied on a daily basis. It is dependent on the emissions reductions from fleet turnover less emissions reductions associated with contingency requirements and decreases four tons per day from 2011 to 2012. For the VOC DERCs, the credits were averaged over the 2011 to 2012 milestone years. Since DERCs were used for short-term emission increases, the DERC transactions between 2002 and 2008 were not applied.

UPDATED CONTROLLED MILESTONE YEAR INVENTORIES

In the development of the controlled milestone year inventories, the TCEQ determined the effects of controls on 2008 emissions and then projected emissions from major and minor sources separately and applied unused emissions reduction credits to the inventories.

The 2008 NO_x emissions were projected to the attainment year after applying controls. For Electric Generating Units (EGUs), existing controls were accounted for in the 2008 emissions. Title 30 TAC Chapter 117 site-wide NO_x emission caps on cement plants were used for the affected sites. The effects of Chapter 117 NO_x controls on other non-EGUs were reviewed at the unit level. For those units with NO_x emission factors, data were reviewed to determine which units were subject to controls with a compliance date after 2008. NO_x emissions from such units subject to controls were multiplied by the ratio of the controlled factor to the 2008 emission factor to obtain controlled baseline emissions for NO_x projections. The controlled baseline emissions were projected using the methods detailed for uncontrolled sources, and emissions credits were added in the same manner as for the uncontrolled inventories.

VOC emissions were projected from 2008 using the methods detailed for uncontrolled sources, and emissions credits were added in the same manner as for the uncontrolled inventories.

A summary of the point source RFP inventories is presented in Table 9-1: *DFW RFP Point Source NO_x and VOC Emissions*.

Table 0-1: DFW RFP Point Source NO_x and VOC Emissions

RFP Analysis Year Inventory	Uncontrolled NO_x	Controlled NO_x	Uncontrolled VOC	Controlled VOC
2002	79.24	79.24	26.43	26.43
2008	85.14	49.21	31.34	31.19
2011	105.86	62.79	39.89	39.73
2012	102.10	58.87	40.74	40.58