

# Texas Commission on Environmental Quality

## Interoffice Memorandum

**To:** Commissioners

**Date:** November 18, 2011

**Thru:** Bridget Bohac, Chief Clerk  
Mark R. Vickery, P.G., Executive Director

**From:** Susana M. Hildebrand, P.E.  
Chief Engineer

**Docket No.:** 2011-0363-SIP

**Subject:** Commission Approval for Adoption of the  
Dallas-Fort Worth (DFW) Attainment Demonstration State Implementation  
Plan (SIP) Revision for the 1997 Eight-Hour Ozone Standard  
SIP Project No. 2010-022-SIP-NR

### **Background and reason(s) for the SIP revision:**

The Federal Clean Air Act (FCAA) requires states to submit plans to demonstrate attainment of the National Ambient Air Quality Standards (NAAQS). On April 30, 2004, the nine-county DFW area, which consists of Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant Counties, was designated a moderate nonattainment area for the 1997 eight-hour ozone standard, with a June 15, 2010, attainment deadline. An area attains the 1997 eight-hour ozone standard (0.08 parts per million) when the area's design value from the previous ozone season does not exceed 84 parts per billion (ppb). Because the DFW area's 2009 design value of 86 ppb exceeded this standard, the United States Environmental Protection Agency (EPA) published a final determination of nonattainment and reclassification of the DFW 1997 eight-hour ozone nonattainment area from moderate to serious on December 20, 2010 (75 FR 79302), effective January 19, 2011.

### **Scope of the SIP revision:**

As a result of the reclassification, the commission is required to submit to the EPA by January 19, 2012, an attainment demonstration SIP revision consistent with FCAA requirements for areas classified as serious nonattainment for ozone. June 15, 2013, is the attainment deadline for serious ozone nonattainment areas. This memo applies to the attainment demonstration requirement under a serious ozone nonattainment classification. A new reasonable further progress (RFP) demonstration will also be required for the area; the details of which are covered in a separate memo (SIP Project No. 2010-023-SIP-NR).

### **A.) Summary of what the SIP revision will do:**

The SIP revision uses photochemical modeling to demonstrate that the DFW area is expected to attain the 1997 eight-hour ozone standard by the June 15, 2013, attainment deadline. Demonstration of attainment involves a photochemical modeling analysis that forecasts ozone design values in 2012. The photochemical modeling analysis considers reductions in nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) emissions from existing federal, state, and local control strategies. All DFW regulatory monitors are projected to have 2012 eight-hour ozone design values below the level of the 1997 eight-

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hour ozone NAAQS. The SIP revision includes a weight of evidence (WoE) evaluation comprised of a corroborative analysis and additional control measures not accounted for in the photochemical modeling.

There are two rulemakings incorporated into this DFW AD SIP revision to meet RACT requirements. The first is (Rule Project 2010-016-115-EN) to update control requirements for certain coatings operations to meet recommended reasonably available control technology (RACT) requirements in Control Technique Guideline (CTG) documents issued by the EPA from 2006 through 2008. This revision provides a summary of the TCEQ's determinations regarding these eight CTG documents. In addition, the VOC storage tank rule revisions being adopted with this SIP revision (Rule Project Number 2010-025-115-EN) include a combination of updates to existing and new control measures that the TCEQ has determined are RACT for the DFW area.

**B.) Scope required by federal regulations or state statutes:**

This SIP revision contains all FCAA-required SIP elements for an area with a serious nonattainment classification, including analyses for RACT and reasonably available control measures, a motor vehicle emissions budget (MVEB), and a contingency plan. The requirement to demonstrate RFP is met by a separate SIP revision (SIP Project No. 2010-023-SIP-NR) scheduled to be adopted concurrently with this SIP revision.

**Statutory authority:**

The authority to adopt SIP revisions is derived from the following sections of the Texas Health and Safety Code, Chapter 382, Texas Clean Air Act (TCAA), §382.002, which provides that the policy and purpose of the TCAA is to safeguard the state's air resources from pollution; §382.011, which authorizes the commission to control the quality of the state's air; and §382.012, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air. This SIP revision is required by FCAA, §110(a)(1) and implementing rules in 40 Code of Federal Regulations Part 51.

Under the 1997 eight-hour ozone standard, the DFW area is required to meet the mandates of the FCAA, §172(c)(2) and §182(c)(2)(B) and requirements established under Phase II of the EPA's implementation rule for the 1997 eight-hour ozone NAAQS (70 FR 71615) for nonattainment areas classified as serious.

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**Effect on the:**

**A.) Regulated community:**

The impacted regulated community will be those affected by the concurrent Chapter 115 CTG-related and VOC storage tank rulemakings that are part of this AD SIP revision. For further information, see the executive summaries for the following rulemakings, which are being adopted concurrently with this SIP revision.

- Rule Project No. 2010-016-115-EN, CTG Update
- Rule Project No. 2010-025-115-EN, VOC Storage Tank Rule Revisions

Affected sources may be required to install control technologies to meet the emissions specifications, implement new work practices, or comply with additional monitoring and recordkeeping requirements.

**B.) Public:**

The general public in the DFW and surrounding areas would benefit from improved air quality as a result of lower ozone levels. However, there is a possibility that the economic impact to industries affected by the concurrent Chapter 115 CTG-related rulemaking could be passed to consumers in the form of increased product costs. See the executive summary memo for Rule Project No. 2010-016-115-EN for further information.

**C.) Agency programs:**

The concurrent Chapter 115 CTG-related and VOC storage tank rule revisions incorporated into this AD SIP revision may increase the workload for Office of Compliance and Enforcement staff when inspecting affected facilities to verify compliance with any new Chapter 115 requirements. The CTG rulemaking may also increase the workload for Small Business and Environmental Assistance Division staff due to a likely impact on many small business owners.

**Stakeholder meetings:**

A stakeholder meeting for this AD SIP revision and the DFW Reasonable Further Progress SIP Revision for the 1997 Eight-Hour Ozone Standard (Project Number 2010-023-SIP-NR) was held on June 24, 2010, from 7:00 p.m. to 9:00 p.m. at the City of Arlington Municipal Building. Stakeholders expressed their concerns about area air quality as it relates to human and environmental health, industrial emissions (particularly Barnett Shale natural gas drilling emissions), and the control strategies.

**Public comment:**

The public comment period opened on June 24, 2011, and closed on August 8, 2011. Written comments were accepted via mail, fax, and through the eComments system. During the comment period, the commission received comments from the American Coatings Association, the Barnett Shale Energy Education Council, COPPs for Clean Air, the Commissioners Court of Denton County, Downwinders at Risk, Earthworks Oil and Gas Accountability, Flexographic Technical Association, Fort Worth Regional Concerned

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Citizens, KIDS for Clean Air, the Lone Star Chapter of the Sierra Club (Sierra Club), Mayor Calvin Tillman, the National Aeronautics and Space Administration, the North Central Texas Council of Governments, the North Texas Clean Air Steering Committee, Public Citizen, the Regional Transportation Council of the NCTCOG (RTC), State Representative Lon Burnham, the Texas Chemical Council, the Texas Pipeline Association, the EPA, The United States Navy, and 393 individuals on this SIP revision.

The public comment period opened on June 24, 2011, and was originally scheduled to close on July 25, 2011; however, the comment period was extended to August 8, 2011. The extension was granted to allow the public 30 days to review and comment on supplemental information<sup>1</sup> concerning on-road mobile source emissions inventories based on MOVES2010a. Notice of public hearings for this AD SIP revision was published in the *Texas Register* and various newspapers. Written comments were accepted via mail, fax, and through the e-comment system.

Generally, the comments stated that the DFW AD SIP would not bring the DFW area into compliance with the 1997 eight-hour ozone standard. Numerous commenters recommended that the DFW nonattainment area be reclassified to a severe nonattainment area. The comments also focused on adverse health effects from Barnett Shale emissions and the fact that the agency should add more regulations and enforcement actions regarding the oil and gas industry.

There were also numerous comments concerning the rules associated with this SIP revision.

Local government organizations, the Sierra Club, and several individuals requested more stringent controls including lowering the applicability threshold on upstream oil and condensate storage tanks from 25 to 5 tpy. Industry groups requested either no new controls, controls only on major sources, or an extended compliance schedule, and use of Method 21 to determine and document control efficiency. The EPA suggested additional recordkeeping requirements and preamble explanation.

For a summary of comments more directly related to the 30 Texas Administrative Code (TAC) Chapter 115 rulemakings to update control requirements for certain coatings operations to meet recommended RACT requirements in CTG documents issued by the EPA from 2006 through 2008 (Rule Project No. 2010-016-115-EN) and VOC storage tank rule revisions (2010-025-115-EN), see the executive summary memos for each of those rules.

### **Significant changes from proposal:**

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<sup>1</sup> The supplemental information was released on July 8, 2011, and is contained in Appendix J: *On-Road Emissions Supplement to the Proposed Dallas-Fort Worth Attainment Demonstration State Implementation Plan Revision for the 1997 Eight-Hour Ozone Standard Nonattainment Area* of this SIP revision.

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The on-road mobile source emission estimates for the adopted attainment demonstration SIP are based on the 2010a version of EPA's Motor Vehicle Emission Simulator (MOVES2010a) model. The on-road emission estimates included in the proposal were based on EPA's older MOBILE6.2 model because a final version of MOVES2010a was not available in 2009 when inventory development efforts began for this SIP revision. MOVES2010a contains more recently available information about vehicle emission rates because it was released in September 2010, while the MOBILE6.2 model was last updated by EPA in 2003. The proposal solicited comment on the use of MOVES2010a for the adoption, and strong support was received for its use from both EPA and the RTC in the DFW area. The higher estimated NO<sub>x</sub> emissions from MOVES2010a increased the modeled 2012 future design value (DV<sub>F</sub>) at the Eagle Mountain Lake monitor from 76 ppb to 78 ppb ozone. However, this value of 78 ppb is still well below the 84 ppb threshold for demonstration of attainment with photochemical modeling.

The commission proposed to control flash emissions from crude oil and condensate storage tanks, prior to custody transfer, in the DFW area with uncontrolled VOC emissions that equal or exceed 25 tpy. The 25 tpy threshold was proposed because preliminary analysis indicated that additional VOC reductions, beyond those reductions achieved from controlling flash emissions from major sources with uncontrolled VOC emissions that equal or exceed 50 tpy, were necessary to help meet FCAA RFP requirements. However, the commission has since determined that these additional VOC emission reductions are not necessary to meet RFP requirements. Therefore, the requirements to control flash emissions from crude oil and condensate storage tanks, prior to custody transfer, in the DFW area will only apply to major sources with uncontrolled VOC emissions that equal or exceed 50 tpy.

The commission is adopting a 95% control requirement on VOC storage tanks in the DFW area because it is technologically and economically feasible. The commission has determined that the 95% control requirement represents RACT for crude oil and condensate storage tanks, prior to custody transfer, that are major sources and for affected floating roof tanks in the DFW area.

In response to comments, the TCEQ revised the industrial cleaning solvents rules to exempt from these requirements operations that are controlled by the control requirements or emission specifications in another division in Chapter 115. The exemption provides flexibility and reduces the compliance burden for affected sources. The exemption is consistent with the EPA's CTG recommendations and at least as effective as complying with the industrial cleaning solvents rules.

The commission proposed to implement the CTG-recommended RACT limits for the large appliance, metal furniture, and miscellaneous metal and parts coatings categories and provided a demonstration that implementing the CTG-recommended approach for these three categories would not interfere with attainment of the 1997 ozone standard. However, the EPA commented that in order for the proposed rules to be approved as RACT, the state

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must also demonstrate that the existing state limits for these CTG categories, which were based on the EPA's original CTG recommendations, are no longer technologically or economically feasible. Staff contends that by promulgating higher CTG-recommended RACT limits for these source categories, the EPA has established that the original CTG-recommended limits, and thus the existing state limits, are no longer technologically or economically feasible. However, in the absence of any specific information indicating that the state's existing limits for these source categories are no longer technologically or economically feasible and considering the EPA's intent to disapprove the rules as proposed without such a demonstration of infeasibility, the TCEQ is obligated under the FCAA to revise the proposed rules to only include the CTG-recommended VOC limits that are equivalent to or lower than the state's existing limits. Where the EPA's new CTG-recommended emission limits are less stringent than the original CTG recommended limits, the TCEQ is retaining the original emission limit in the current rules, except for the high performance architectural coatings limit for miscellaneous metal parts and products category.

In response to comments, the TCEQ determined that some of the pleasure craft coating VOC emission limits included in the EPA's 2008 Miscellaneous Metal and Plastic Parts Coatings CTG recommendations are not technologically feasible at this time and therefore do not constitute RACT for Texas. The adopted rules include higher VOC limits for extreme high-gloss coating, finish primer/surfacer coating, and other substrate antifoulant coating. Additionally, VOC limits have been introduced for antifoulant sealer/tie coating, a new coating category.

**Potential controversial concerns and legislative interest:**

The EPA commented that the Dallas-Fort Worth area will unlikely attain the 1997 eight-hour ozone standard by 2012 based on current monitoring data.

The Keller monitor forth high eight-hour ozone values are 2009 - 90 ppb, 2010 - 85 ppb, and 2011- 95 ppb. The preliminary ozone design value for 2011 is 90 ppb.

Due to the broad applicability recommended in the Industrial Cleaning Solvents and Miscellaneous Industrial Adhesive CTG documents, the concurrent Chapter 115 CTG-related rulemaking impacts many small businesses. In response to comments, the TCEQ determined that some of the pleasure craft coating VOC limits included in the EPA's 2008 Miscellaneous Metal and Plastic Parts Coatings CTG recommendations are not technologically feasible at this time and therefore do not constitute RACT for Texas. The EPA may not agree with this conclusion.

The production-based applicability threshold (barrels per year) for the requirement to control flash emissions from condensate storage tanks in the DFW area is based on an emission factor of 33.3 pounds of VOC per barrel of condensate. This emission factor provides a conservative estimate of the production threshold below which a regulated entity is exempt from demonstrating that the uncontrolled VOC emissions from an affected storage tank or tank battery are below 50 tpy. Above this production threshold, the

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regulated entity must either demonstrate that the uncontrolled VOC emissions from the affected storage tank or tank battery are below 50 tpy or install controls in accordance with the rule requirements. However, new data from Phase II of the Barnett Shale Special Inventory indicate that a lower emission factor may be more representative of the average VOC emissions per barrel of condensate in the 23-county Barnett Shale area, which includes the DFW area. Industry may object to the use of the 33.3 pounds of VOC per barrel emission factor to determine rule applicability for sources in the DFW area.

**Does this SIP revision affect any current policies or require development of new policies?**

No

**What are the consequences if this SIP revision does not go forward? Are there alternatives to the SIP revision?**

The commission could choose not to comply with requirements to develop and submit this attainment demonstration SIP revision to the EPA. If an attainment demonstration SIP revision is not submitted by January 19, 2012, the EPA could impose sanctions on the state and promulgate a Federal Implementation Plan (FIP). Sanctions could include transportation funding restrictions, grant withholdings, and 200% emissions offsets requirements for new construction and major modifications of stationary sources in the DFW area. The EPA would be required to impose such sanctions and implement a FIP until the state submitted and EPA approved a replacement SIP for the area.

There are no practical alternatives to the CTG RACT update portion of this SIP revision. The FCAA and the EPA require sources of VOC emissions in ozone nonattainment areas classified as moderate and above to implement RACT measures and require states to submit revisions to the SIP in response to any CTG document issued between 1990 and the area's date of attainment. States can adopt and implement the recommendations contained within the CTG documents if they are determined to be RACT, or they can adopt alternative approaches, but in either circumstance, the RACT analysis and any rule revisions must be submitted to the EPA for review and approval as part of the SIP. If a finding of failure to submit is issued by the EPA, states that do not submit RACT determinations within 18 months after such a finding could be subject to federal sanctions.

EPA Region 6 has verbally indicated that the EPA is considering issuing a finding of failure to submit for states that have not submitted RACT determinations for the 11 consumer and commercial products CTG documents issued from 2006 through 2008. Additionally, failure to submit an updated RACT analysis for the remaining CTG categories that the TCEQ has not yet previously submitted RACT demonstrations could jeopardize the approvability of the DFW AD SIP revision.

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