# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AGENDA ITEM REQUEST

for State Implementation Plan Revision Adoption

AGENDA REQUESTED: June 10, 2020

DATE OF REQUEST: May 22, 2020

# **INDIVIDUAL TO CONTACT REGARDING CHANGES TO THIS REQUEST, IF NEEDED:** Jamie Zech, (512) 239-3935

**CAPTION: Docket No. 2019-0904-SIP.** Consideration of the adoption of the 2015 Eight-Hour Ozone National Ambient Air Quality Standard (NAAQS) Emissions Inventory (EI) State Implementation Plan (SIP) Revision for the Houston-Galveston-Brazoria (HGB), Dallas-Fort Worth (DFW), and Bexar County Nonattainment Areas.

States are required to submit current EI information from all sources in ozone nonattainment areas within two years of the effective date of designations. This SIP revision satisfies the Federal Clean Air Act, §172(c)(3) and §182(a)(1) EI reporting requirements for areas designated nonattainment for the 2015 eighthour ozone NAAQS. The SIP revision also includes certification statements to confirm that emissions statement and nonattainment new source review SIP requirements have been met for the HGB, DFW, and Bexar County 2015 eighthour ozone nonattainment areas. (Mary Ann Cook, Amy Browning, and Terry Salem) (Non-Rule Project No. 2019-111-SIP-NR)

Tonya Baer Deputy Director Donna F. Huff Division Director

Jamie Zech Agenda Coordinator

Copy to CCC Secretary? NO X YES

# Texas Commission on Environmental Quality Interoffice Memorandum

To: Commissioners

Date: May 22, 2020

- Thru: Bridget C. Bohac, Chief Clerk Toby Baker, Executive Director
- From: Tonya Baer, Deputy Director Office of Air
- **Docket No.:** 2019-0904-SIP
- **Subject:** Commission Approval for Adoption of the Emissions Inventory (EI) State Implementation Plan (SIP) Revision for the 2015 Eight-Hour Ozone National Ambient Air Quality Standard (NAAQS) for the Houston-Galveston-Brazoria (HGB), Dallas-Fort Worth (DFW), and Bexar County Nonattainment Areas

EI SIP Revision for the 2015 Eight-Hour Ozone NAAQS Non-Rule Project No. 2019-111-SIP-NR

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

On October 1, 2015, the United States Environmental Protection Agency (EPA) revised the primary and secondary eight-hour ozone NAAQS from 0.075 parts per million (ppm) to 0.070 ppm. The 2015 eight-hour ozone NAAQS became effective on December 28, 2015 (80 *Federal Register* (FR) 65291).

Effective August 3, 2018, the EPA designated six HGB area counties (Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery) and nine DFW area counties (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, and Wise) as nonattainment for the 2015 eight-hour ozone NAAQS (83 FR 25766). Effective September 24, 2018, the EPA designated Bexar County as nonattainment for the 2015 eight-hour ozone NAAQS (83 FR 35136). Each of the three nonattainment areas in Texas were assigned a marginal classification.

The Federal Clean Air Act (FCAA) requires the following SIP elements for areas designated nonattainment with a marginal classification:

- a baseline EI, followed by periodic EI updates;
- a major source (100 tons per year (tpy) threshold) emissions statement, and
- a nonattainment new source review (NSR) program.

FCAA, §172(c)(3) and §182(a)(1) require states to submit a comprehensive, accurate, and current inventory of actual emissions from all relevant sources in an ozone nonattainment area within two years of the effective date of designation and then every three years thereafter (2020, 2023, etc.). Base year emissions reporting for the 2015 eighthour ozone NAAQS is due by August 3, 2020 for the HGB and DFW nonattainment areas, and by September 24, 2020 for the Bexar County nonattainment area. This SIP revision addresses the baseline EI requirements of FCAA, §172 and §182 for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas. The periodic EI submittals under the Air Emissions Reporting Requirements (AERR) Rule satisfy ongoing SIP EI submission requirements until the nonattainment area is redesignated to attainment. This SIP revision also includes a certification statement to confirm that the emissions statement and nonattainment NSR requirements have been met for the HGB, DFW, and Bexar County 2015 eight-hour ozone nonattainment areas.

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Per the December 2008 AERR Rule, the EPA no longer requires the reporting of biogenic emissions. Although biogenic emissions inventories may be developed in the future for air quality modeling purposes, the TCEQ's comprehensive triennial EI has not included emissions from biogenic sources since the 2011 reporting year. The 2017 EIs in this SIP revision represent anthropogenic sources only.

#### Scope of the SIP revision:

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

This SIP revision addresses the initial EI reporting requirement for nonattainment areas under the 2015 eight-hour ozone NAAQS. It provides emissions information for ozone precursors (nitrogen oxides and volatile organic compounds) from point, area, on-road mobile, and non-road mobile emissions source categories. It satisfies the 2017 base year initial emissions inventory requirements for the HGB, DFW, and Bexar County nonattainment areas. In addition, this SIP revision satisfies the emissions statement and nonattainment NSR SIP element requirements for the HGB, DFW, and Bexar County nonattainment areas. Those requirements are met with the state's certification that current regulations provide the means for complying with applicable nonattainment planning requirements for the 2015 eight-hour ozone NAAQS.

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

Within two years of the effective date of a nonattainment designation for the 2015 eighthour ozone NAAQS, states are required to submit a comprehensive, accurate, and current inventory of actual emissions from all sources in the nonattainment area, as described in FCAA, §172(c)(3) and §182(a)(1). The EPA specified in its final 2015 eight-hour ozone standard SIP requirements rule that states use 2017 or, alternatively, the year of designation (2018) as a base year (83 FR 62998). In addition to the base year inventory requirement, states are required to submit a periodic inventory of emissions sources in the nonattainment areas to meet the requirements of FCAA, §182(a)(3)(A). Each periodic inventory must be submitted no later than the end of each three-year period after the required submission of the base year inventory for the nonattainment area until the area is redesignated to attainment. As noted in the final 2015 eight-hour ozone standard SIP requirements rule, states may rely on their three-year cycle inventory submittals required by the AERR to meet the periodic inventory obligations.

# C.) Additional staff recommendations that are not required by federal rule or state statute:

According to the EPA's final 2015 eight-hour ozone standard SIP requirements rule, states must submit a SIP element to meet each FCAA, §182 nonattainment area planning requirement for the 2015 eight-hour ozone NAAQS. An air agency may provide a written statement certifying a determination that an existing regulation is adequate to meet the applicable nonattainment area planning requirements of FCAA, §182 for a revised ozone NAAQS in lieu of submitting new or revised regulations. This EI SIP revision includes a written statement certifying that existing regulations are adequate to meet applicable nonattainment area planning requirements for the 2015 eight-hour ozone NAAQS,

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including emissions statements and nonattainment NSR, for the HGB, DFW, and Bexar County marginal nonattainment areas.

#### Statutory authority:

The authority to propose and adopt SIP revisions is derived from the following sections of 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; TCAA, §382.011, which authorizes the commission to control the quality of the state's air; TCAA, §382.012, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air, and §382.014, which authorizes the commission to develop an inventory of emissions of air contaminants in the state. This EI SIP revision is also adopted under the commission's general authority under Texas Water Code, §5.102, General Powers and §5.105, General Policy. This SIP revision is adopted under 42 United States Code, §§7420 et seq., which requires states to submit SIP revisions that specify the way the NAAQS will be achieved and maintained within each air quality control region of the state. The EPA published the final rule establishing the 2015 eight-hour ozone NAAQS in the *Federal Register* on October 26, 2015 (80 FR 65291).

#### Effect on the:

#### A.) Regulated community:

The adopted SIP revision should have no new effect on the regulated community. Federal rules require regulated entities to submit to the TCEQ the emissions information that is used to develop the EI.

#### **B.) Public:**

This SIP revision will have no new effect on the public.

#### C.) Agency programs:

This SIP revision will have no new effect on agency programs.

#### Stakeholder meetings:

The proposed SIP revision went through a public review and comment period, and three public hearings were offered.

#### **Public comment:**

The public comment period opened on November 22, 2019 and closed on January 10, 2020. The commission offered public hearings for the proposed SIP revision on January 7, 2020 at 2:00 p.m. in Arlington at the Arlington City Hall Council Chambers, on January 8, 2020 at 2:00 p.m. in Houston at the Texas Department of Transportation District Office, and on January 9, 2020 at 2:00 p.m. in San Antonio at the TCEQ Region 13 Office. Notice of the public hearings was published in the *Texas Register* as well as the *Dallas Morning News, Houston Chronicle, and San Antonio Express-News* newspapers. No attendees arrived to make comments on the record. Therefore, the public hearings were not formally opened for comment.

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During the comment period, written comments were received from the Southwest Research Institute, the Alamo Area Council of Governments, CPS Energy, and the Regional Transportation Council of the North Central Texas Council of Governments. The major concern expressed was related to the TCEQ's choice to use the EPA-recommended 2017 year for the baseline emissions inventory. The comments received are summarized and addressed in this EI SIP revision.

#### Significant changes from proposal:

None.

#### Potential controversial concerns and legislative interest:

On August 28, 2018, Governor Greg Abbott and Attorney General Ken Paxton filed a petition for the United States (U.S.) Court of Appeals for the Fifth Circuit to review the EPA's final action designating Bexar County as nonattainment for the 2015 eight-hour ozone NAAQS. Oral arguments on that petition were heard on October 9, 2019. If the nonattainment designation for Bexar County is overturned, this EI SIP revision would not include Bexar County. Texas also petitioned the U.S. Court of Appeals for the District of Columbia Circuit for review of the 2015 eight-hour ozone NAAQS. The court upheld the standard in an August 23, 2019 decision.

# 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 this SIP revision?

The commission could choose not to comply with the requirements to develop and submit this EI SIP revision to the EPA. However, if an EI SIP revision is not submitted to the EPA by the statutory deadline, the EPA could issue a finding of failure to submit, requiring that the TCEQ submit the required SIP revision within a specified period and impose sanctions on the state. The EPA would be required to promulgate a federal implementation plan (FIP) any time within two years after finding the TCEQ failed to make the required submission. Sanctions could include transportation funding restrictions, grant withholdings, and 2-to-1 emissions offsets requirements for new construction and major modifications of stationary sources in the HGB, DFW, and Bexar County nonattainment areas. The EPA could impose such sanctions and implement a FIP until the state submitted and the EPA approved a replacement EI SIP revision for these areas.

#### Key points in the adoption SIP revision schedule:

Anticipated adoption date: June 10, 2020 EPA due date: August 3, 2020

#### Agency contacts:

Mary Ann Cook, SIP Project Manager, Air Quality Division, (512) 239-6739 Amy Browning, Staff Attorney, (512) 239-0891 Terry Salem, Staff Attorney, (512) 239-0469 Commissioners Page 5 May 22, 2020

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Jamie Zech, Agenda Coordinator, (512) 239-3935

cc: Chief Clerk, 2 copies Executive Director's Office Jim Rizk Morgan Johnson Brody Burks Office of General Counsel Mary Ann Cook Jamie Zech

#### REVISIONS TO THE STATE OF TEXAS AIR QUALITY IMPLEMENTATION PLAN FOR THE CONTROL OF OZONE AIR POLLUTION

# EMISSIONS INVENTORY FOR THE 2015 EIGHT-HOUR OZONE STANDARD NONATTAINMENT AREAS



#### TEXAS COMMISSION ON ENVIRONMENTAL QUALITY P.O. BOX 13087 AUSTIN, TEXAS 78711-3087

#### EMISSIONS INVENTORY STATE IMPLEMENTATION PLAN REVISION FOR THE 2015 EIGHT-HOUR OZONE NATIONAL AMBIENT AIR QUALITY STANDARD FOR THE HOUSTON-GALVESTON-BRAZORIA, DALLAS-FORT WORTH, AND BEXAR COUNTY NONATTAINMENT AREAS

PROJECT NUMBER 2019-111-SIP-NR

Adoption June 10, 2020 This page intentionally left blank

#### EXECUTIVE SUMMARY

The Federal Clean Air Act (FCAA) requires states to submit emissions inventory (EI) information for all relevant sources in areas that are designated nonattainment for any of the National Ambient Air Quality Standards (NAAQS). On October 1, 2015, the United States Environmental Protection Agency (EPA) lowered the eight-hour ozone standard from 0.075 parts per million (ppm) to 0.070 ppm. The 2015 eight-hour ozone NAAQS became effective on December 28, 2015 (80 *Federal Register* (FR) 65291). Effective August 3, 2018, the EPA designated six Houston-Galveston-Brazoria (HGB) area counties (Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery) and nine Dallas-Fort Worth (DFW) area counties (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, and Wise) as nonattainment for the 2015 eight-hour ozone NAAQS (83 FR 25766). Effective September 24, 2018, the EPA designated Bexar County as nonattainment for the 2015 eight-hour ozone NAAQS (83 FR 35136). Each of the three nonattainment areas in Texas were assigned a marginal classification.

FCAA, §182 specifies graduated planning and control requirements for ozone nonattainment areas based on classification. For nonattainment areas classified marginal for an ozone NAAQS, the FCAA-required SIP elements are: (1) a baseline EI, followed by periodic EI updates, (2) major source emissions statements, and (3) a nonattainment new source review (NSR) program. This SIP revision satisfies initial FCAA requirements for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS marginal nonattainment areas.

FCAA, §§172(c)(3) and 182(a)(1) require states to submit a comprehensive, accurate, current inventory of actual emissions from all relevant sources in an ozone nonattainment area within two years of the effective date of designation and then every three years thereafter. This SIP revision addresses the initial EI reporting requirement for nonattainment areas under the 2015 eight-hour ozone NAAQS by providing emissions information for ozone precursors (nitrogen oxides and volatile organic compounds) from point, area, on-road mobile, and non-road mobile source categories as the 2017 base year initial emissions inventories for the HGB, DFW, and Bexar County nonattainment areas. The EPA has not required the reporting of biogenic emissions since issuing its December 2008 Air Emissions Reporting Requirements (AERR) Rule. The 2017 EIs in this SIP revision represent anthropogenic sources only.

The baseline EIs for Texas 2015 eight-hour ozone NAAQS marginal nonattainment areas are due to the EPA by August 3, 2020 for the HGB and DFW areas, and by September 24, 2020 for Bexar County. These required baseline EIs are provided in Chapter 2: *Emissions Inventories,* along with Appendices A through L of this SIP revision.

The submission of a 2017 EI is also required under the EPA's AERR Rule. The AERR Rule requires states to submit three-year cycle EIs for inclusion in the National Emissions Inventory (NEI), a comprehensive and detailed estimate of air emissions of both criteria and hazardous air pollutants. As directed by the AERR Rule, the NEI includes statewide coverage. Annual and summer day emissions are reported on a three-year cycle for the AERR Rule. The final 2015 eight-hour ozone standard SIP

requirements rule<sup>1</sup> provides that states may rely on their three-year cycle inventory as described by the AERR Rule to meet the FCAA, §182(a)(3)(A) periodic inventory obligations (83 FR 62998). Periodic EI submissions for the 2015 eight-hour ozone NAAQS nonattainment areas will be due to the EPA in the same years as the AERR Rule-required submittals. The first periodic EI for the 2015 eight-hour ozone NAAQS marginal nonattainment areas in Texas is due to the EPA by December 31, 2021 and will include 2020 EI information for point, area, and mobile sources.

In addition to satisfying the initial EI reporting requirement, this SIP revision satisfies the major source emissions statements and nonattainment NSR program SIP element requirements for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas with the state's certification that current regulations provide the means for complying with applicable nonattainment planning requirements for the 2015 eight-hour ozone NAAQS. The periodic EI, major source emissions statements, and nonattainment NSR program SIP requirements are discussed in Chapter 3: *Additional Federal Clean Air Act Requirements* of this SIP revision.

<sup>&</sup>lt;sup>1</sup> EPA. Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements. 83 FR 62998. December 6, 2018.

#### SECTION V-A: LEGAL AUTHORITY

#### **General**

The Texas Commission on Environmental Quality (TCEQ) has the legal authority to implement, maintain, and enforce the National Ambient Air Quality Standards (NAAQS) and to control the quality of the state's air, including maintaining adequate visibility.

The first air pollution control act, known as the Clean Air Act of Texas, was passed by the Texas Legislature in 1965. In 1967, the Clean Air Act of Texas was superseded by a more comprehensive statute, the Texas Clean Air Act (TCAA), found in Article 4477-5, Vernon's Texas Civil Statutes. The legislature amended the TCAA in 1969, 1971, 1973, 1979, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019. In 1989, the TCAA was codified as Chapter 382 of the Texas Health and Safety Code.

Originally, the TCAA stated that the Texas Air Control Board (TACB) was the state air pollution control agency and was the principal authority in the state on matters relating to the quality of air resources. In 1991, the legislature abolished the TACB effective September 1, 1993, and its powers, duties, responsibilities, and functions were transferred to the Texas Natural Resource Conservation Commission (TNRCC). In 2001, the 77th Texas Legislature continued the existence of the TNRCC until September 1, 2013 and changed the name of the TNRCC to the TCEQ. In 2009, the 81st Texas Legislature, during a special session, amended section 5.014 of the Texas Water Code, changing the expiration date of the TCEQ to September 1, 2011, unless continued in existence by the Texas Sunset Act. In 2011, the 82nd Texas Legislature continued the existence of the TCEO until 2023. With the creation of the TNRCC (and its successor the TCEQ), the authority over air quality is found in both the Texas Water Code and the TCAA. Specifically, the authority of the TCEQ is found in Chapters 5 and 7. Chapter 5, Subchapters A - F, H - J, and L, include the general provisions, organization, and general powers and duties of the TCEO, and the responsibilities and authority of the executive director. Chapter 5 also authorizes the TCEQ to implement action when emergency conditions arise and to conduct hearings. Chapter 7 gives the TCEO enforcement authority.

The TCAA specifically authorizes the TCEQ to establish the level of quality to be maintained in the state's air and to control the quality of the state's air by preparing and developing a general, comprehensive plan. The TCAA, Subchapters A - D, also authorize the TCEQ to collect information to enable the commission to develop an inventory of emissions; to conduct research and investigations; to enter property and examine records; to prescribe monitoring requirements; to institute enforcement proceedings; to enter into contracts and execute instruments; to formulate rules; to issue orders taking into consideration factors bearing upon health, welfare, social and economic factors, and practicability and reasonableness; to conduct hearings; to establish air quality control regions; to encourage cooperation with citizens' groups and other agencies and political subdivisions of the state as well as with industries and the federal government; and to establish and operate a system of permits for construction or modification of facilities.

Local government authority is found in Subchapter E of the TCAA. Local governments have the same power as the TCEQ to enter property and make inspections. They also

may make recommendations to the commission concerning any action of the TCEQ that affects their territorial jurisdiction, may bring enforcement actions, and may execute cooperative agreements with the TCEQ or other local governments. In addition, a city or town may enact and enforce ordinances for the control and abatement of air pollution not inconsistent with the provisions of the TCAA and the rules or orders of the commission.

Subchapters G and H of the TCAA authorize the TCEQ to establish vehicle inspection and maintenance programs in certain areas of the state, consistent with the requirements of the Federal Clean Air Act; coordinate with federal, state, and local transportation planning agencies to develop and implement transportation programs and measures necessary to attain and maintain the NAAQS; establish gasoline volatility and low emission diesel standards; and fund and authorize participating counties to implement vehicle repair assistance, retrofit, and accelerated vehicle retirement programs.

### Applicable Law

The following statutes and rules provide necessary authority to adopt and implement the state implementation plan (SIP). The rules listed below have previously been submitted as part of the SIP.

### <u>Statutes</u>

All sections of each subchapter are included, unless other	wise noted.
TEXAS HEALTH & SAFETY CODE, Chapter 382	September 1, 2019
TEXAS WATER CODE	September 1, 2019

#### Chapter 5: Texas Natural Resource Conservation Commission Subchapter A: General Provisions

- Subchapter B: Organization of the Texas Natural Resource Conservation Commission
- Subchapter C: Texas Natural Resource Conservation Commission
- Subchapter D: General Powers and Duties of the Commission
- Subchapter E: Administrative Provisions for Commission
- Subchapter F: Executive Director (except §§5.225, 5.226, 5.227, 5.2275, 5.231, 5.232, and 5.236)

Subchapter H: Delegation of Hearings

Subchapter I: Judicial Review

Subchapter J: Consolidated Permit Processing

Subchapter L: Emergency and Temporary Orders (§§5.514, 5.5145, and 5.515 only) Subchapter M: Environmental Permitting Procedures (§5.558 only)

# Chapter 7: Enforcement

Subchapter A: General Provisions (§§7.001, 7.002, 7.0025, 7.004, and 7.005 only) Subchapter B: Corrective Action and Injunctive Relief (§7.032 only)

Subchapter C: Administrative Penalties

Subchapter D: Civil Penalties (except §7.109)

Subchapter E: Criminal Offenses and Penalties: §§7.177, 7.179-7.183

<u>Rules</u>

All of the following rules are found in 30 Texas Administrative Code, as of the following latest effective dates:

Chapter 7: Memoranda of Understanding, §§7.110 and 7.119

December 13, 1996 and May 2, 2002

Chapter 19: Electronic Reporting	March 15, 2007
Chapter 35: Emergency and Temporary Orders and Permits; Temporary Suspension or Amendment of Permit Conditions Subchapter A: Purpose, Applicability, and Definitions Subchapter B: Authority of Executive Director Subchapter C: General Provisions Subchapter K: Air Orders	December 10, 1998 December 10, 1998 March 24, 2016 July 20, 2006
Chapter 39: Public Notice Subchapter H: Applicability and General Provisions, §§39.402(a) - (6), (8), and (10) - (12), 39.405(f)(3) and (g), (h)(1)(A) - (4), (6), (8) (11), (i) and (j), 39.407, 39.409, 39.411(a), (e)(1) - (4)(A)(i) and (iii) (4)(B), (5)(A) and (B), and (6) - (10), (11)(A)(i) and (iii) and (iv), (11) - (F), (13) and (15), and (f)(1) - (8), (g) and (h), 39.418(a), (b)(2)(A), (b)(3), and (c), 39.419(e), 39.420 (c)(1)(A) - (D)(i)(I) and (II), (D)(ii), (c)(2), (d) - (e), and (h), and Subchapter K: Public Notice of Air Quality Permit Applications, §§39.601 - 39.605	-
Chapter 55: Requests for Reconsideration and Contested Case Hearings; Public Comment, all of the chapter, except §55.125(a)(5) a (6)	and May 31, 2018
Chapter 101: General Air Quality Rules	October 12, 2017
Chapter 106: Permits by Rule, Subchapter A	April 17, 2014
Chapter 111: Control of Air Pollution from Visible Emissions and Particulate Matter	August 3, 2017
Chapter 112: Control of Air Pollution from Sulfur Compounds	July 16, 1997
Chapter 113: Standards of Performance for Hazardous Air Pollutan and for Designated Facilities and Pollutants	ts May 14, 2009
Chapter 114: Control of Air Pollution from Motor Vehicles	April 26, 2018
Chapter 115: Control of Air Pollution from Volatile Organic Compounds	March 26, 2020
Chapter 116: Control of Air Pollution by Permits for New Construct or Modification	ion November 22, 2018

Chapter 117: Control of Air Pollution from Nitrogen Compounds	March 26, 2020
Chapter 118: Control of Air Pollution Episodes	March 5, 2000
Chapter 122: §122.122: Potential to Emit	February 23, 2017
Chapter 122: §122.215: Minor Permit Revisions	June 3, 2001
Chapter 122: §122.216: Applications for Minor Permit Revisions	June 3, 2001
Chapter 122: §122.217: Procedures for Minor Permit Revisions	December 11, 2002
Chapter 122: §122.218: Minor Permit Revision Procedures for Perm Revisions Involving the Use of Economic Incentives, Marketable	nit
Permits, and Emissions Trading	June 3, 2001

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# LIST OF ACRONYMS

AEO	Annual Energy Outlook
AERR	Air Emissions Reporting Requirements
APU	Auxiliary Power Units
ASLRRA	American Short Line and Regional Railroad Association
CFR	Code of Federal Regulations
CMV	commercial marine vessel
DFW	Dallas-Fort Worth
EDMS	Emissions and Dispersion Modeling System
EI	emissions inventory
EIA	United States Energy Information Administration
EPA	United States Environmental Protection Agency
ERG	Eastern Research Group
FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act
FMVCP	Federal Motor Vehicle Control Program
FR	Federal Register
GIS	Geographic Information System
HGB	Houston-Galveston-Brazoria
I/M	inspection and maintenance
MOVES	Motor Vehicle Emissions Simulator
NAAQS	National Ambient Air Quality Standard
NSR	new source review
NEI	National Emissions Inventory
$NO_x$	nitrogen oxides
PEI	periodic emissions inventory
ppm	parts per million
RFG	Reformulated Gasoline
RRC	Railroad Commission of Texas
RVP	Reid vapor pressure
SIP	state implementation plan
STARS	State of Texas Air Reporting System
TAC	Texas Administrative Code

TABC	Texas Air Control Board
TCAA	Texas Clean Air Act
TCEQ	Texas Commission on Environmental Quality (commission)
TDM	travel demand model
TexN	Texas NONROAD Model
TNRCC	Texas Natural Resource Conservation Commission
tpd	tons per day
tpy	tons per year
TTI	Texas A&M Transportation Institute
TxDOT	Texas Department of Transportation
TxLED	Texas Low Emission Diesel
VMT	vehicle miles traveled
VOC	volatile organic compounds

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Appendix L	2017 County-Level NO <sub>x</sub> and VOC Emissions

# CHAPTER 1: GENERAL

## **1.1 BACKGROUND**

Information on the Texas State Implementation Plan (SIP) and a list of SIP revisions and other air quality plans adopted by the commission can be found on the <u>Texas State</u> <u>Implementation Plan</u> webpage (http://www.tceq.texas.gov/airquality/sip) on the <u>Texas</u> <u>Commission on Environmental Quality's (TCEQ)</u> website (http://www.tceq.texas.gov).

## **1.2 INTRODUCTION**

On October 1, 2015, the United States Environmental Protection Agency (EPA) lowered the eight-hour ozone standard from 0.075 parts per million (ppm) to 0.070 ppm. The 2015 eight-hour ozone National Ambient Air Quality Standard (NAAQS) became effective on December 28, 2015 (80 *Federal Register* (FR) 65291). Effective August 3, 2018, the EPA designated six Houston-Galveston-Brazoria (HGB) area counties (Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery) and nine Dallas-Fort Worth (DFW) area counties (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, and Wise) as nonattainment for the 2015 eight-hour ozone NAAQS (83 FR 25766). Effective September 24, 2018, the EPA designated Bexar County as nonattainment for the 2015 eight-hour ozone NAAQS (83 FR 35136). Each of the three nonattainment areas in Texas were assigned a marginal classification.

Federal Clean Air Act (FCAA), §182 specifies graduated planning and control requirements for ozone nonattainment areas based on classification. For nonattainment areas classified marginal for an ozone NAAQS, the FCAA-required SIP elements are: (1) a baseline emissions inventory (EI), followed by periodic EI updates, (2) major source emissions statements, and (3) a nonattainment new source review (NSR) program. This SIP revision satisfies initial FCAA requirements for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS marginal nonattainment areas.

FCAA, §§172(c)(3) and 182(a)(1) require states to submit a comprehensive, accurate, current inventory of actual emissions from all relevant sources in an ozone nonattainment area within two years of the effective date of designation and then every three years thereafter. Tropospheric ozone is produced when ozone precursors. nitrogen oxides ( $NO_x$ ) and volatile organic compounds (VOC), undergo photochemical reactions in the presence of sunlight, therefore, states are required to compile information on the important sources of these precursor pollutants. The EIs provide data for a variety of air quality planning tasks including establishing baseline emission levels, calculating federally required emission reduction targets, emission inputs into air quality simulation models, and tracking emissions over time. This SIP revision addresses the initial EI reporting requirement for nonattainment areas under the 2015 eight-hour ozone NAAQS by providing emissions information for ozone precursors (NO<sub>x</sub> and VOC) from point, area, on-road mobile, and non-road mobile source categories as the 2017 base year initial emissions inventories for the HGB, DFW, and Bexar County nonattainment areas. The EPA specified that states use 2017 as the base year in the final 2015 eight-hour ozone standard SIP requirements rule (83 FR 62998). The required baseline emissions inventories for Texas 2015 eight-hour ozone NAAQS marginal nonattainment areas, due to the EPA by August 3, 2020 for the HGB and DFW areas, and by September 24, 2020 for Bexar County, are provided in Chapter 2: Emissions Inventories, along with Appendices A through L of this SIP revision.

The submission of a 2017 EI is also required under the EPA's Air Emissions Reporting Requirements (AERR) Rule. The AERR Rule requires states to submit three-year cycle EIs for inclusion in the National Emissions Inventory (NEI), a comprehensive and detailed estimate of air emissions of both criteria and hazardous air pollutants. As directed by the AERR Rule, the NEI includes statewide coverage. Annual and summer day emissions are reported on a three-year cycle for the AERR Rule. The final 2015 eight-hour ozone standard SIP requirements rule<sup>2</sup> provides that states may rely on their three-year cycle inventory obligations (83 FR 62998). Periodic EI submissions for the 2015 eight-hour ozone NAAQS nonattainment areas will be due to the EPA in the same years as the AERR Rule-required submittals. The first periodic EI for the 2015 eight-hour ozone NAAQS marginal nonattainment areas in Texas is due to the EPA by December 31, 2021 and will include 2020 EI information for point, area, and mobile sources.

In addition to satisfying the initial EI reporting requirement, this SIP revision satisfies the major source emissions statements and nonattainment NSR program SIP element requirements for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas with the state's certification that current regulations provide the means for complying with applicable nonattainment planning requirements for the 2015 eight-hour ozone NAAQS. The periodic EI, major source emissions statements, and nonattainment NSR program SIP requirements are discussed in Chapter 3: *Additional Federal Clean Air Act Requirements* of this SIP revision.

# **1.3 HEALTH EFFECTS**

In 2015, the EPA revised the primary ozone standard to 0.070 ppm. To support the 2015 eight-hour primary ozone standard, the EPA provided information that suggested that health effects may potentially occur at levels lower than the previous 0.075 ppm standard. Breathing relatively high levels of ground-level ozone can cause acute respiratory problems like cough and respiratory irritation and can aggravate the symptoms of asthma. Repeated exposures to high levels of ozone can make people more susceptible to respiratory infection and lung inflammation and can aggravate preexisting respiratory diseases such as bronchitis and emphysema.

Children are at a higher risk from exposure to ozone when compared to adults because they breathe more air per pound of body weight than adults and because children's respiratory systems are still developing. Children also spend a considerable amount of time outdoors during summer and during the start of the school year (August through October) when high ozone levels are typically recorded. Adults most at risk from exposures to elevated ozone levels are people working or exercising outdoors and individuals with respiratory diseases.

# **1.4 PUBLIC HEARING AND COMMENT INFORMATION**

The public comment period opened on November 22, 2019 and closed on January 10, 2020. The commission offered public hearings for this SIP revision on January 7, 2020 at 2:00 p.m. in Arlington at the Arlington City Hall Council Chambers, on January 8,

<sup>&</sup>lt;sup>2</sup> EPA. Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements. 83 FR 62998. December 6, 2018.

2020 at 2:00 p.m. in Houston at the Texas Department of Transportation District Office, and on January 9, 2020 at 2:00 p.m. in San Antonio at the TCEQ Region 13 Office. Notice of the public hearings was published in the *Texas Register* as well as the *Dallas Morning News, Houston Chronicle, and San Antonio Express-News* newspapers. No attendees arrived to make comments on the record. Therefore, the public hearings were not formally opened for comment.

Written comments were accepted via mail, fax, and through the <u>eComments</u> system (https://www6.tceq.texas.gov/rules/ecomments/). During the comment period, written comments were received from the Southwest Research Institute, the Alamo Area Council of Governments, CPS Energy, and the Regional Transportation Council of the North Central Texas Council of Governments. The comments received are summarized and addressed in the Response to Comments for this SIP revision.

### **1.5 SOCIAL AND ECONOMIC CONSIDERATIONS**

Because this SIP revision does not create new regulations, there are no changes that will impact society or the economy.

### **1.6 FISCAL AND MANPOWER RESOURCES**

The TCEQ has determined that its fiscal and manpower resources are adequate and will not be adversely affected by implementing this plan.

## **CHAPTER 2: EMISSIONS INVENTORIES (EI)**

# **2.1 INTRODUCTION**

The Federal Clean Air Act (FCAA) requires that base year EIs be prepared for ozone nonattainment areas. Ground-level (tropospheric) ozone is produced when ozone precursors, nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC), undergo photochemical reactions in the presence of sunlight.

The Texas Commission on Environmental Quality (TCEQ) maintains an inventory of current information for sources of  $NO_x$  and VOC that identifies the types of emissions sources present in an area, the amount of each pollutant emitted, and the types of processes and control devices employed at each plant or source category. The total inventory of  $NO_x$  and VOC emissions for an area is derived from estimates developed for five general categories of emissions sources: point, area, non-road mobile, on-road mobile, and biogenic. The EI provides data for a variety of air quality planning tasks, including establishing baseline emissions levels, calculating federally required emission reduction targets, developing emissions inputs for air quality models, and tracking actual emissions reductions against established emissions growth and control budgets.

The federal Air Emissions Reporting Requirements (AERR) Rule requires states to develop and submit periodic emissions inventories (PEI) to the United States Environmental Protection Agency (EPA) every three years. Per the AERR Rule, the 2017 PEI was reported to the EPA's National Emissions Inventory (NEI) as a comprehensive and detailed estimate of air emissions, including ozone precursors (NO<sub>x</sub> and VOC). As directed by the AERR Rule, the Texas PEI includes annual emissions for the entire state and ozone season daily emissions for the 2015 eight-hour ozone National Ambient Air Quality Standard (NAAQS) nonattainment areas in Texas.

# **2.2 POINT SOURCES**

# 2.2.1 Point Source EI Development

Stationary point source emissions data are collected annually from sites that meet the reporting requirements of 30 Texas Administrative Code (TAC) §101.10. This rule, referred to as the TCEQ EI reporting rule, establishes point source EI reporting thresholds in ozone nonattainment areas that are currently at or less than major source thresholds in the ozone nonattainment areas. Therefore, some minor sources in the ozone nonattainment areas report to the point source EI.

To collect the data, the TCEQ sends notices to all sites identified as potentially 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. Per FCAA, §182(a)(3)(B) and 30 TAC §101.10(d)(1), company representatives certify that reported emissions are true, accurate, and fully represent emissions that occurred during the calendar year, to the best of the representatives' knowledge.

All data submitted in the EI are reviewed for quality-assurance purposes and then stored in the State of Texas Air Reporting System (STARS) database. EI guidance

documents and historical point source emissions of criteria pollutants are available on the <u>TCEQ's Point Source Emissions Inventory</u> webpage (https://www.tceq.texas.gov/airquality/point-source-ei/psei.html). Additional

information is available upon request from the TCEQ's Air Quality Division.

The 2017 point source EI data were extracted from STARS on October 7, 2019. The extracted data include reported ozone season daily and annual emissions of NO<sub>x</sub> and VOC from each site in the three 2015 eight-hour ozone NAAQS nonattainment areas that submitted a 2017 EI, and the data reflect revisions reviewed, approved, and entered in STARS on or before the extract date. Site-level 2017 NO<sub>x</sub> and VOC emissions data are summarized and provided in Appendix A: *Houston-Galveston-Brazoria, Dallas-Fort Worth, and Bexar County Nonattainment Areas Site-Level Point Source Emissions*.

Summaries of 2017 point source EI data for the Houston-Galveston-Brazoria (HGB), Dallas Fort-Worth (DFW), and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas are presented in Table 2-1: *Summary of the HGB Area 2017 NO<sub>x</sub> and VOC Emissions (tons per day and tons per year)*, Table 2-2: *Summary of* the *DFW Area 2017 NO<sub>x</sub> and VOC Emissions (tons per day and tons per year)*, and Table 2-3: *Summary of* the *Bexar County Area 2017 NO<sub>x</sub> and VOC Emissions (tons per day and tons per year)*. Further information, including 2017 unit-level NO<sub>x</sub> and VOC emissions data, is available upon request.

# **2.3 AREA SOURCES**

Stationary emissions sources that do not meet the reporting requirements for point sources are classified as area sources. Area sources are small-scale stationary industrial, commercial, and residential sources that use materials or perform processes that generate emissions. Examples of typical VOC emissions sources include oil and gas production, printing operations, industrial coatings, degreasing solvents, house paints, gasoline service station underground tank filling, and vehicle refueling operations. Examples of typical fuel combustion sources that emit NO<sub>x</sub> include oil and gas production, stationary source fossil fuel combustion at residences and businesses, outdoor refuse burning, and structure fires.

Area source emissions are calculated as county-wide totals rather than as individual sources. Area source emissions are typically calculated by multiplying an established emissions factor (emissions per unit of activity) by the appropriate activity or activity surrogate responsible for generating emissions. Population is one of the more commonly used activity surrogates for area source calculations. Other activity data commonly used include the amount of gasoline sold in an area, employment by industry type, and crude oil and natural gas production.

# 2.3.1 Area Source EI Development

The 2017 area source EI was developed per the AERR Rule reporting requirements. The 2017 EI was developed using a combination of methodologies and data: EPA-generated EIs, TCEQ-contracted projects, TCEQ staff projects, and categories grown from the 2014 EI using factors derived from study data compiled by Eastern Research Group (ERG), the <u>Economy and Consumer Credit Analytics</u> website

(http://www.economy.com/default.asp), and the United States Energy Information Administration's (EIA) *Annual Energy Outlook (AEO)* publication.

The EPA developed EIs for states to use for many source categories as part of the NEI. States access the area source-related data through the <u>EPA's NEI</u> website (https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventorynei-plan). These source categories include but are not limited to industrial coatings; degreasing; residential, commercial/institutional, and industrial fuel use; commercial cooking; aviation fuel use; and consumer products. For many source categories, the TCEQ developed state-specific emissions estimates by acquiring applicable statespecific activity data and applying appropriate emissions factors. These source categories include, but are not limited to, gasoline storage tanks, structure fires, dry cleaners, automobile fires, and asphalt plants.

Significant resources have been expended developing the oil and gas area source production categories. The NO<sub>x</sub> and VOC emissions from these sources were developed using a state-specific oil and gas area source emissions calculator. This oil and gas area source emissions calculator uses county-level production and local equipment activity data with local emissions requirements to estimate emissions from individual production categories including compressor engines, condensate and oil storage tanks, loading operations, heaters, and dehydrators. Development of the oil and gas emissions calculator is documented in Appendix B: *Characterization of Oil and Gas Production Equipment and Development of a Methodology to Estimate Statewide Emissions*. A significant update made to the oil and gas calculator was the development of refined emissions factors for VOC emissions from condensate storage tanks. Development of the refined emissions factors is documented in Appendix C: *Condensate Tank Oil and Gas Activities*.

Summaries of 2017 area source EI data for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas are presented in Table 2-1: *Summary of the HGB Area 2017 NO<sub>x</sub> and VOC Emissions (tons per day and tons per year)*, Table 2-2: *Summary of the DFW Area 2017 NO<sub>x</sub> and VOC Emissions (tons per day and tons per year)*, and Table 2-3: *Summary of the Bexar County Area 2017 NO<sub>x</sub> and VOC Emissions (tons per day and tons per year)*, et al. *Summary of the Bexar County Area 2017 NO<sub>x</sub> and VOC Emissions (tons per day and tons per year)*.

# 2.4 NON-ROAD MOBILE SOURCES

Non-road vehicles do not normally operate on roads or highways and are often referred to as off-road or off-highway vehicles. Non-road emissions sources include agricultural equipment, commercial and industrial equipment, construction and mining equipment, lawn and garden equipment, aircraft and airport equipment, locomotives, drilling rigs, and commercial marine vessels (CMV).

For this SIP revision, 2017 EI's for non-road sources were developed for the following subcategories: NONROAD model categories, airports, locomotives, CMVs, and drilling rigs used in upstream oil and gas exploration activities. The airport subcategory includes estimates for emissions from aircraft, auxiliary power units (APU), and ground support equipment (GSE) subcategories added together and presented as a total.

### 2.4.1 Non-road EI Development

A Texas-specific utility called Texas NONROAD (TexN2) was used in conjunction with the EPA's latest Motor Vehicle Emissions Simulator (MOVES) model to calculate 2017 emissions from all non-road mobile source equipment and recreational vehicles, with the exception of airports, locomotives, CMVs, and drilling rigs used in upstream oil and gas exploration activities. The TexN2 utility allows TCEQ staff to replace the EPA MOVES model's default non-road data with more specific local survey data. Several equipment surveys studies have been conducted that focused on various equipment categories operating in different areas in Texas. The resulting survey data were used as inputs to the TexN2 utility to more accurately estimate non-road emissions. Procedures used to develop the non-road model category EI are documented in Appendix D: Development of Texas Statewide 2017 AERR Inventory for Nonroad Model Category Mobile Sources.

The 2017 airport EI was developed from a TCEQ-commissioned study using the Federal Aviation Administration's (FAA) Aviation Environmental Design Tool (AEDT). AEDT is the most recent FAA model for estimating airport emissions and has replaced the FAA's Emissions and Dispersion Modeling System. The airport emissions categories used for this SIP revision include aircraft (commercial air carriers, air taxis, general aviation, and military), APU, and GSE operations. Procedures used to develop the airport EIs are documented in Appendix E: *2017 Texas Statewide Aircraft Emissions Inventory.* 

The 2017 CMV EI was developed from a TCEQ-commissioned study using EPA-accepted EI development methods. The CMV EI includes at-port and underway emissions activity data from Category I, II, and III CMVs by county for applicable counties in the HGB nonattainment area. Procedures used to develop the CMV EI are documented in Appendix F: *2014 Texas Statewide Commercial Marine Vessel Emissions Inventory and 2008 through 2040 Trend Inventories.* 

The 2017 drilling rig diesel engine EI was developed from a TCEQ-commissioned study using EPA-accepted EI development methods. The study surveyed oil and gas exploration and production companies to develop updated drilling rig emissions characterization profiles. The profiles from this study were combined with 2017 county-level drilling activity data obtained from the Railroad Commission of Texas to develop the drilling rig EI. Procedures used to develop the 2017 drilling rig EI are documented in Appendix G: *2014 Statewide Drilling Rig Emissions Inventory with Updated Trends Inventories.* 

The 2017 locomotive EI was developed from a TCEQ-commissioned study using EPAaccepted EI development methods. The locomotive EI includes line haul and yard emissions activity data from all Class I, II, and III locomotive activity and emissions by rail segment. Procedures used to develop the locomotive EI are documented in Appendix H: 2014 Texas Statewide Locomotive Emissions Inventory and 2008 through 2040 Trend Inventories.

Summaries of 2017 non-road mobile EI data for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas are presented in Table 2-1, Table 2-2, and Table 2-3.

# 2.5 ON-ROAD MOBILE SOURCES

On-road mobile emissions sources consist of automobiles, trucks, motorcycles, and other motor vehicles traveling on public roadways. On-road mobile source ozone precursor emissions are usually categorized as combustion-related emissions or evaporative hydrocarbon emissions. Combustion-related emissions are estimated for vehicle engine exhaust. Evaporative hydrocarbon emissions are estimated for the fuel tank and other evaporative leak sources on the vehicle. To calculate emissions, both the rate of emissions per unit of activity (emissions factors) and the number of units of activity must be determined.

# 2.5.1 On-road Mobile Source EI Development

The 2017 on-road mobile source EIs for this SIP revision were developed under contract by the Texas A&M Transportation Institute (TTI) for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas. The inventories are those for the areas designated as nonattainment for the 2015 eight-hour ozone NAAQS: the six-county HGB area, the nine-county DFW area, and Bexar County. As required by the AERR implementation rules, the on-road inventories are based on vehicle miles traveled (VMT) estimates and emission rates for an average summer work weekday. The EPA's mobile source emission model, the MOVES model, MOVES2014a<sup>3</sup>, was used to estimate the summer weekday emission rates in units of grams per mile for NO<sub>x</sub> and VOC. The roadway link-level VMT estimates were obtained from travel demand modeling for the six-county HGB, nine-county DFW, and Bexar County nonattainment areas.

Emissions factors for this SIP revision were developed using the EPA's mobile emissions factor model, MOVES2014a. The MOVES2014a model may be run using national default information, or the default information may be modified to simulate data specific to an area such as the control programs, driving behavior, meteorological conditions, and vehicle characteristics. Because modifications to the national default values influence emissions factors calculated by the MOVES2014a model, the parameters used reflect local conditions to the extent that local values were available. The localized inputs used to develop the on-road mobile source EI include vehicle speeds for each roadway link; vehicle populations; vehicle hours idling; temperature; humidity; vehicle age distributions for each vehicle type; percentage of miles traveled for each vehicle type; type of applicable inspection and maintenance (I/M) program; fuel control programs; and gasoline Reid vapor pressure (RVP) controls.

To estimate on-road mobile source emissions, emissions factors calculated by the MOVES2014a model must be multiplied by the level of vehicle activity. On-road mobile source emissions factors are expressed in units of grams per mile, grams per vehicle (evaporative), and grams per hour (extended idle); therefore, the activity data required to complete the inventory calculation are VMT in units of miles per day, vehicle populations, truck hoteling activity, and source hours idling. The level of vehicle travel activity is developed using travel demand models (TDM) run by the Texas Department of Transportation or by the local metropolitan planning organizations. The TDMs are

<sup>&</sup>lt;sup>3</sup> For on-road EI development, MOVES2014a is technically the most recent on-road release. The more recent MOVES2014b update only impacts non-road model components and does not change the on-road portion of the model.

validated against many ground counts, i.e., traffic passing over counters placed in various locations throughout a county or area. For SIP inventories, VMT estimates are calibrated against outputs from the federal Highway Performance Monitoring System, a model built from a different set of traffic counters. Vehicle populations by source type are derived from the Texas Department of Motor Vehicles' registration database and, as needed, national estimates for vehicle source type population.

In addition to the number of miles traveled on each roadway link, the speed on each roadway type or segment is also needed to complete an on-road EI. Roadway speeds, required inputs for the MOVES2014a model, are calculated by using the activity volumes from the TDM and a post-processor speed model.

# 2.5.2 HGB On-road Mobile Source EI

The 2017 on-road mobile source EI for the HGB 2015 eight-hour ozone NAAQS nonattainment area was developed using emissions factors calculated using the MOVES2014a version of the MOVES model. All control strategies implemented by 2017 were included in the input to the EI development for the 2017 on-road mobile source base year EI. Those controls include the effects of the federal motor vehicle control program (FMVCP), reformulated gasoline (RFG), the HGB vehicle I/M program, federal ultra-low sulfur diesel, and the Texas Low Emission Diesel (TxLED) Program.

The VMT was developed using the latest activity estimates from the HGB TDM 2017 network. The activity levels used to calculate the EI reflect the 2017 roadway network with 2017 VMT and speeds. A summary of the 2017 on-road mobile EI for the HGB 2015 eight-hour ozone NAAQS nonattainment area is presented in Table 2-1.

For complete documentation of the development of the 2017 HGB on-road emissions inventories, and details on MOVES2014a model inputs, refer to Appendix I: 2017 Onroad Mobile Source Annual, Summer Weekday and Winter Weekday Emissions Inventories: Houston-Galveston-Brazoria Area.

# 2.5.3 DFW On-road Mobile Source EI

The 2017 on-road mobile source EI for the DFW 2015 eight-hour ozone NAAQS nonattainment area was developed using emissions factors calculated using the MOVES2014a version of the MOVES model. All control strategies implemented by 2017 were included in the input to the EI development for the 2017 on-road mobile source base year EI. Those controls include the effects of the FMVCP, RFG, the East Texas Regional Low RVP Gasoline Program, the DFW vehicle I/M program (excluding Wise County), federal ultra-low sulfur diesel, and the TxLED program.

The VMT was developed using the latest activity estimates from the DFW TDM 2017 network. The activity levels used to calculate the EI reflect the 2017 roadway network with 2017 VMT and speeds. A summary of the 2017 on-road mobile EI for the DFW 2015 eight-hour ozone NAAQS nonattainment area is presented in Table 2-2.

For complete documentation of the development of the 2017 DFW on-road EIs and details on MOVES2014a model inputs, refer to Appendix J: *2017 On-road Mobile Source Annual, Summer Weekday and Winter Weekday Emissions Inventories: Dallas-Fort Worth Area.* 

# 2.5.4 Bexar County On-road Mobile Source EI

The 2017 on-road mobile source EI for the Bexar County 2015 eight-hour ozone NAAQS nonattainment area was developed using emissions factors calculated using the MOVES2014a version of the MOVES model. All control strategies implemented by 2017 were included in the input to the EI development for the 2017 on-road mobile source base year EI. Those controls include the effects of the FMVCP, the East Texas Regional Low RVP Gasoline Program, federal ultra-low sulfur diesel, and the TxLED program.

The VMT was developed using the latest activity estimates from the Bexar County TDM 2017 network. The activity levels used to calculate the EI reflect the 2017 roadway network with 2017 VMT and speeds. A summary of the 2017 on-road mobile EI for the Bexar County 2015 eight-hour ozone NAAQS nonattainment area is presented in Table 2-3.

For complete documentation of the development of the 2017 Bexar County on-road EIs and details on MOVES2014a model inputs, refer to Appendix K: *2017 On-road Mobile Source Annual, Summer Weekday and Winter Weekday Emissions Inventories: San Antonio Area.* 

# **2.6 BIOGENIC SOURCES**

Biogenic sources include VOC emissions from crops, lawn grass, and trees as well as small amounts of  $NO_x$  from soils and other sources. Previously, under the Consolidated Emissions Reporting Rule (June 2002) and earlier emissions reporting rules, biogenic sources were required to be reported along with point, nonpoint, on-road mobile, and non-road mobile sources. Beginning with the AERR Rule (December 2008), the emissions required to be reported to the EPA no longer include emissions from biogenic sources. Therefore, as of the 2011 reporting year, the TCEQ's comprehensive triennial EI no longer includes emissions from biogenic sources. Biogenic inventories may still be developed for air quality modeling purposes, as necessary. The 2017 EIs in this SIP revision represent anthropogenic sources only.

# 2.7 EMISSIONS SUMMARY

Summaries of 2017 NO<sub>x</sub> and VOC emissions for the HGB, DFW, and Bexar County 2015 eight-hour ozone NAAQS nonattainment areas for each source category are presented in Table 2-1, Table 2-2, and Table 2-3. For county-level 2017 NO<sub>x</sub> and VOC emissions, refer to Appendix L: 2017 County-Level NO<sub>x</sub> and VOC Emissions.

Table 2-1: Summary of the HGB Area 2017  $NO_{x}$  and VOC Emissions (tons per day and tons per year)

Emissions Inventory Source	Ozone Season Weekday NO <sub>x</sub> (tpd)	Annual NO <sub>x</sub> (tpy)	Ozone Season Weekday VOC (tpd)	Annual VOC (tpy)
Point Sources	97.31	33,799.73	73.34	25,341.38
Area Sources	32.12	11,865.79	287.74	97,119.98
Non-Road Mobile Sources	86.34	29,341.21	32.29	10,788.74
On-Road Mobile Sources	101.49	38,388.46	58.65	19,775.20
Total of All Sources	317.26	113,395.19	452.02	153,025.30

Table 2-2: Summary of the DFW Area 2017  $NO_{x}$  and VOC Emissions (tons per day and tons per year)

Emissions Inventory Source	Ozone Season Weekday NO <sub>x</sub> (tpd)	Annual NO <sub>x</sub> (tpy)	Ozone Season Weekday VOC (tpd)	Annual VOC (tpy)
Point Sources	29.90	9,777.70	21.04	7,084.67
Area Sources	41.82	16,184.53	293.62	95,157.97
Non-Road Mobile Sources	74.79	24,533.02	31.74	10,133.06
On-Road Mobile Sources	125.13	46,847.43	60.56	20,617.10
Total of All Sources	271.64	97,342.68	406.96	132,992.80

Table 2-1:	Summary of the Bexar County Area 2017 NO <sub>x</sub> and VOC Emissions (tons
per day an	d tons per year)

Emissions Inventory Source	Ozone Season Weekday NO <sub>x</sub> (tpd)	Annual NO <sub>x</sub> (tpy)	Ozone Season Weekday VOC (tpd)	Annual VOC (tpy)
Point Sources	29.88	9,399.11	3.56	1,312.72
Area Sources	6.62	2,454.09	74.61	24,441.49
Non-Road Mobile Sources	11.42	3,717.01	7.09	2,332.61
On-Road Mobile Sources	35.70	12,928.54	20.84	6,879.62
Total of All Sources	83.62	28,498.75	106.10	34,966.44

# CHAPTER 3: ADDITIONAL FEDERAL CLEAN AIR ACT REQUIREMENTS

# **3.1 INTRODUCTION**

Federal Clean Air Act (FCAA), §182 sets out a graduated control program for ozone nonattainment areas. For nonattainment areas classified marginal for an ozone National Ambient Air Quality Standard (NAAQS), the FCAA-required SIP elements are: (1) a baseline emissions inventory (EI), followed by periodic EI updates, (2) major source emissions statements, and (3) a nonattainment new source review (NSR) program.

According to the EPA's final 2015 eight-hour ozone standard SIP requirements rule, states must submit a SIP element to meet each FCAA, §182 nonattainment area planning requirement for the 2015 eight-hour ozone NAAQS (83 *Federal Register* (FR) 62998). Where an air agency determines that an existing regulation is adequate to meet the applicable nonattainment area planning requirements of FCAA, §182 for a revised ozone NAAQS, that air agency's SIP revision may provide a written statement certifying that determination in lieu of submitting new revised regulations. This chapter certifies that Texas meets all additional FCAA nonattainment area requirements applicable to the Houston-Galveston-Brazoria (HGB), Dallas-Fort Worth (DFW), and Bexar County 2015 eight-hour ozone NAAQS marginal nonattainment areas, including periodic EIs, major source emissions statements, and nonattainment NSR program requirements.

# **3.2 PERIODIC EMISSIONS INVENTORY UPDATES**

States must submit inventories for nonattainment areas every three years, starting the third year after submission of base year inventories, until the area is redesignated to attainment. These periodic EIs must meet the same requirements as the base year inventories and shall likewise cover actual, peak season emissions of nitrogen oxides  $(NO_x)$  and volatile organic compounds (VOC).

In accordance with FCAA, §182(a)(1), the Texas Commission on Environmental Quality (TCEQ) submits periodic emissions inventories to the United States Environmental Protection Agency (EPA) every three years and will continue to do so. The first periodic EI for the 2015 eight-hour ozone NAAQS marginal nonattainment areas in Texas is due to the EPA by December 31, 2021, and will include 2020 EI information for point, area, and mobile sources.

# 3.3 MAJOR SOURCE EMISSIONS STATEMENTS

SIP planning requirements for marginal ozone nonattainment areas mandate the submission of annual statements from owners and operators of stationary sources of  $NO_x$  and VOC emissions that reveal the actual  $NO_x$  and VOC emissions of each such source. The emissions threshold for a major source in a marginal ozone nonattainment area is 100 tons per year (tpy).

On August 26, 1994, the EPA approved a revision to the Texas SIP that included revisions to <u>30 Texas Administrative Code (TAC) §101.10: Emissions Inventory</u> <u>Requirements of the General Air Quality Rules.</u><sup>4</sup> The purpose of this revision was to

<sup>&</sup>lt;sup>4</sup> https://www.epa.gov/sips-tx/texas-sip-30-tac-10110-emissions-inventory-requirements-general-airquality-rules

implement an emissions statement program for stationary sources within Texas ozone nonattainment areas (59 FR 44036).

The TCEQ has determined that 30 TAC §101.10 of the Texas SIP, as revised and adopted, which requires that stationary sources report  $NO_x$  and VOC emissions, continues to address the emissions statements requirement in FCAA, §182(a)(3)(B) for the 2015 eight-hour ozone NAAQS.

# 3.4 NONATTAINMENT NSR PROGRAM

Marginal ozone nonattainment area SIPs must include provisions to require permits for the construction and operation of new or modified stationary sources. Major stationary sources in marginal and moderate ozone nonattainment areas are those sources emitting at least 100 tpy of a regulated pollutant.

An NSR permitting program for nonattainment areas is required by FCAA, §182(a)(2)(C) and further defined in 40 Code of Federal Regulations (CFR) 51, Subpart I (Review of New Sources and Modifications). Under these requirements, new major sources or major modifications at existing sources in an ozone nonattainment area must comply with the lowest achievable emissions rate and obtain sufficient emissions offsets.

Nonattainment NSR permits for ozone authorize construction of new major sources or major modifications of existing sources of  $NO_x$  or VOC in an area that is designated nonattainment for the ozone NAAQS. Emissions thresholds and pollutant offset requirements under the nonattainment NSR program are based on the nonattainment area's classification. The NSR offset ratio for marginal ozone nonattainment areas is 1.10:1.

The EPA initially approved Texas' nonattainment NSR regulation for ozone on November 27, 1995 (60 FR 49781).

The TCEQ has determined that because the Texas SIP already includes 30 TAC §116.12 (Nonattainment and Prevention of Significant Deterioration Review Definitions) and 30 TAC §116.150 (New Major Source or Major Modification in Ozone Nonattainment Area), the nonattainment NSR SIP requirements are met for Texas for the 2015 eighthour ozone NAAQS for the HGB, DFW, and Bexar County marginal nonattainment areas. Further, the TCEQ already certified that Texas has EPA-approved rules that cover nonattainment NSR requirements with the timely-submitted 2015 Ozone NAAQS Infrastructure SIP Revision.

# Appendices Available Upon Request

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# RESPONSE TO COMMENTS RECEIVED CONCERNING THE EMISSIONS INVENTORY STATE IMPLEMENTATION PLAN (SIP) REVISION FOR THE 2015 EIGHT-HOUR OZONE NATIONAL AMBIENT AIR QUALITY STANDARD (NAAQS) FOR THE HOUSTON-GALVESTON-BRAZORIA (HGB), DALLAS-FORT WORTH (DFW), AND BEXAR COUNTY NONATTAINMENT AREAS

The Texas Commission on Environmental Quality (TCEQ or commission) offered public hearings for the proposed SIP revision on January 7, 2020 at 2:00 p.m. in Arlington at the Arlington City Hall Council Chambers, on January 8, 2020 at 2:00 p.m. in Houston at the Texas Department of Transportation District Office, and on January 9, 2020 in San Antonio at the TCEQ Region 13 Office. No persons registered to speak at any of the public hearings; therefore, the hearings were not officially opened. During the comment period, which closed on January 10, 2020, the TCEQ received written comments from Alamo Area Council of Governments (AACOG), CPS Energy, the Regional Transportation Council of the North Central Texas Council of Governments (NCTCOG RTC), and the Southwest Research Institute (SwRI).

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#### **GENERAL COMMENTS**

The NCTCOG RTC expressed appreciation for its continued partnership with the TCEQ to reduce ozone-forming emissions in the DFW area and thanked TCEQ staff for their time and resources spent preparing this revision, holding public hearings, and receiving comments on this proposal. The NCTCOG RTC commended the TCEQ in devoting limited resources and quickly turning around DFW area SIP revisions for both the serious nonattainment area requirements under the 2008 eight-hour ozone NAAQS as well as the marginal nonattainment area requirements under the 2015 eight-hour ozone NAAQS.

The TCEQ appreciates the NCTCOG RTC's support and interest in air quality in the DFW area. The TCEQ will continue to work in partnership with NCTCOG toward improved air quality in the DFW area. No changes were made in response to these comments.

The NCTCOG RTC stated that proposed air quality rules and SIP revisions resulting from the 2008 eight-hour ozone standard serious reclassification indicate a regional design value of 72 parts per billion at the conclusion of the 2020 ozone season, pointing out that photochemical modeling suggests compliance with the 2008 eight-hour ozone NAAQS, but not with the 2015 eight-hour ozone NAAQS. The NCTCOG RTC

recommended that the attainment demonstration photochemical modeling utilize a more current baseline than 2012.

# These comments are outside the scope of this SIP revision, which is limited to requirements for marginal areas under the 2015 eight-hour ozone NAAQS. No changes were made in response to these comments.

AACOG expressed appreciation for the opportunity to provide comments regarding the EI SIP Revision and acknowledged that the EI SIP contains an accurate accounting of emissions from various source types across Bexar County.

#### The commission appreciates AACOG's support.

AACOG recommended that future public hearings conducted by the TCEQ begin with a brief overview of the document for which comments are being solicited.

The commission appreciates AACOG's suggestion. The commission has complied with all applicable requirements for public hearings. All documents applicable to the proposed SIP revision were made available on the TCEQ's website on October 30, 2019, approximately 68 days prior to the first public hearing. The hearing notices and information published on the agency's website on November 20, 2019 clearly laid out the focused intent of the scheduled hearings. At each hearing, commission staff provided basic information about the TCEO's public hearing process and made handouts available that provided an overview of the proposed SIP revision, links to the electronic documents and e-comments system, and instructions for submitting comments and joining the SIP Hot Topics listserv. Staff ensured that a copy of the SIP revision document was available to all hearing attendees for reference. In addition to an opportunity to present oral statements provided at each of the three public hearings offered for this SIP revision, opportunities to ask questions and discuss the proposal with staff were provided to attendees both before and after each hearing. No changes were made in response to this comment.

#### **EMISSIONS INVENTORY (EI) YEAR**

SwRI requested that the TCEQ designate a rolling average of three years as the baseline for EI development. SwRI stated that the three-year rolling average would capture SwRI's fluctuating business cycle better than use of a single year baseline.

The TCEQ cannot make the suggested change. The EPA's *Implementation of the* 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements; Final Rule (2015 eight-hour ozone standard SIP requirements rule), effective February 4, 2019, specifies that the baseline year shall be the calendar year for the most recently available triennial EI submitted to the EPA National Emissions Inventory (NEI) preceding the year of the area's effective date of nonattainment designation. For 2015 eight-hour ozone nonattainment areas, this would be the 2017 triennial EI. Alternatively, the 2015 eight-hour ozone standard SIP requirements rule provides that states may choose the year that corresponds with the year of the effective date of an area's nonattainment

# designation, which would be 2018. The 2015 eight-hour ozone standard SIP requirements rule does not allow for a baseline year inventory using a three-year rolling average. No changes were made in response to this comment.

SwRI stated that 2017 emissions data do not represent historical output for their site, and the TCEQ's use of those data for a 2017 baseline year EI for the 2015 eight-hour ozone NAAQS establishes a low baseline for project offsets required for major sources in nonattainment areas. SwRI commented that using 2017 data may unnecessarily penalize SwRI in consideration of future offset determinations. SwRI suggested that the TCEQ alternatively designate 2018, being the year of Bexar County's nonattainment designations, as the baseline year for the EI development to better represent historical emissions.

CPS Energy recommended that the TCEQ base its EI for electric generating units (EGU) on 2018 hourly emissions reported to the EPA's Clean Air Markets Division's (CAMD) Air Markets Program Data (AMPD). CPS Energy acknowledged 2017 as the year of submittal of the most recent triennial NEI but mentioned the EPA's alternative option to use 2018, the year of the nonattainment designation for Bexar County. CPS Energy stated that because EGUs report their hourly emissions to the EPA CAMD's AMPD quarterly, the TCEQ has access to 2018 emissions data for EGUs, which CPS energy characterized as more recent and more accurate.

The TCEO disagrees that a 2018 baseline year should be used for this EI SIP revision for the 2015 eight-hour ozone NAAQS. The EPA designated Bexar County as marginal nonattainment for the 2015 eight-hour ozone NAAQS, effective September 24, 2018, requiring a current inventory of actual emissions from all sources in that area within two years of designation. When the TCEQ began developing this SIP revision, 2017 emissions data were the most recently available for all source categories (point, area, and mobile sources), and 2017 represented the most recent triennial NEI year; therefore, 2017 was selected as the baseline EI year for all 2015 eight-hour ozone nonattainment areas and source categories. Additionally, SIP-quality 2018 EIs are not available for Texas area and mobile sources at this time. In addition, the 2015 eight-hour ozone standard SIP requirements rule does not provide guidance on the use of multiple baseline inventory years for different EI source categories (area, point, and mobile). With regard to the accuracy of the 2017 point source emissions inventory data for EGUs, regulated entities reporting to the point source inventory, including EGUs, were informed during the development of the proposed SIP revision that 2017 would be the baseline year and were provided an opportunity to revise and update their 2017 emissions by July 31, 2019 to ensure the accuracy of the 2017 baseline EI. No changes were made in response to these comments.

CPS Energy commented that the TCEQ has proposed other SIP revisions that rely on 2018 AMPD data.

The TCEQ acknowledges that 2018 AMPD data was part of the data used in the proposed HGB and DFW Serious Classification Attainment Demonstration SIP Revisions for the 2008 Eight-Hour Ozone NAAQS (Non-Rule Project Nos. 2019-077-

SIP-NR and 2019-078-SIP-NR). However, in those SIP revisions, the TCEQ used the AMPD data in conjunction with regulatory caps to develop future year (2020) emissions. Per 40 Code of Federal Regulations Section 51.1300(p), the baseline inventory must be based on actual emissions. Therefore, the TCEQ cannot use the same method to develop a baseline emissions inventory. No changes were made in response to this comment.

#### NON-ROAD SOURCES

AACOG commented that the EI SIP revision is unclear on how the TCEQ calculated county-level locomotive emissions for 2017. AACOG asked the TCEQ to explain how county-level locomotive emissions were calculated for years that only have statewide emissions figures available.

TCEQ contracted with Eastern Research Group (ERG) to collect activity data by surveying Locomotive and Rail Yard operators throughout Texas and then developed an EI for multiple years, including 2017, using EPA emissions factors, fuel consumption by county, engine counts, and projection factors to develop county-level emissions estimates. To keep the report size manageable, county-level emissions totals for every year were not included but are available upon request. Detailed information regarding the calculation of 2017 county-level locomotive emissions is included in Appendix H: 2014 Texas Statewide Locomotive Emissions Inventory and 2008 through 2040 trend inventories of the EI SIP revision. No changes were made in response to this comment.

#### **ON-ROAD SOURCES**

The NCTCOG RTC commented that their organization should be the contractor used to develop future Air Emissions Reporting Requirements Rule (AERR) on-road emissions inventories to be consistent with emissions inventories used for regional transportation conformity analyses, attainment demonstrations, and reasonable further progress assessments.

This comment is outside the scope of this SIP revision, which is limited to requirements for marginal areas under the 2015 eight-hour ozone NAAQS. No changes were made in response to these comments.

The NCTCOG RTC commented that the use of an alternative contractor limited the opportunity for review during EI development and introduces possible inconsistency in methods.

The Texas 2017 on-road mobile source emissions inventories to meet the reporting requirements of the EPA's AERR were developed, under contract with the TCEQ, by the Texas A&M Transportation Institute (TTI) to ensure a consistent approach was used to develop the county-level emissions for the entire state. Using a single contractor to develop a statewide inventory was determined to be more cost-effective than dividing the inventory development between multiple contractors. The TCEQ consulted with the NCTCOG regarding the 2017 on-road AERR development plan prior to EI development, and the NCTCOG provided data to TTI during EI development, which was based on the official regional travel demand

# modeling for North Central Texas. No changes were made in response to this comment.

The NCTCOG RTC urged the TCEQ to navigate through regulatory hurdles to ensure collected monies from the now defunct Low Income Vehicle Repair Assistance, Retrofit, and Accelerated Retirement Program (LIRAP) and Local Initiative Projects (LIP) be appropriated back and remain allocated to the counties where it was collected for emission reduction programs through innovative approaches by participating North Central Texas counties. The NCTCOG RTC also suggested that the implementation of more transportation emission reduction strategies would expand upon the initiatives contained in the SIP weight-of-evidence demonstration, assist in reducing the formation of ozone, and allow the region to comply with the ozone NAAQS.

These comments are outside the scope of this SIP revision, which is limited to requirements for marginal areas under the 2015 eight-hour ozone NAAQS. No changes were made in response to these comments.

#### ORDER ADOPTING REVISION TO THE STATE IMPLEMENTATION PLAN

#### Docket No. 2019-0904-SIP Project No. 2019-111-SIP-NR

On June 10, 2020, the Texas Commission on Environmental Quality (Commission), during a public meeting, considered adoption of the Emissions Inventory (EI) State Implementation Plan (SIP) Revision for the 2015 Eight-Hour Ozone National Ambient Air Ouality Standard (NAAOS) for the Houston-Galveston-Brazoria (HGB), Dallas-Fort Worth (DFW), and Bexar County Nonattainment Areas. The Commission adopts this revision to the SIP. The revision addresses the nonattainment planning requirements for the 2015 eighthour ozone NAAQS. It satisfies the initial EI reporting SIP requirement by providing a 2017 base year EI with emissions information for ozone precursors (nitrogen oxides and volatile organic compounds) from point, area, on-road mobile, and non-road mobile emissions source categories in the HGB, DFW, and Bexar County nonattainment areas. This SIP revision satisfies the emissions statement and nonattainment new source review SIP requirements with the state's certification that current regulations provide the means for complying with applicable nonattainment planning requirements for the 2015 eight-hour ozone NAAQS. Under Tex. Health & Safety Code Ann. §§ 382.011, 382.012, and 382.023 (West 2016), the Commission has the authority to control the quality of the state's air and to issue orders consistent with the policies and purposes of the Texas Clean Air Act, Chapter 382 of the Tex. Health & Safety Code. Notice of the proposed SIP revision was published for comment in the December 6, 2019, issue of the Texas Register (44 TexReq 7558).

Pursuant to 40 Code of Federal Regulations § 51.102 and after proper notice, the Commission conducted public hearings to consider the revision to the SIP. Proper notice included prominent advertisement in the areas affected at least 30 days prior to the dates of the hearings. Public hearings were offered in Arlington on January 7, 2020, in Houston on January 8, 2020, and in San Antonio on January 9, 2020.

The Commission circulated hearing notices of its intended action to the public, including interested persons, the Regional Administrator of the EPA, and all applicable local air pollution control agencies. The public was invited to submit data, views, and recommendations on the proposed SIP revision, either orally or in writing, at the hearings or during the comment period. Prior to the scheduled hearings, copies of the proposed SIP revision were available for public inspection at the Commission's central office and on the Commission's website.

Data, views, and recommendations of interested persons regarding the proposed SIP revision were submitted to the Commission during the comment period and were considered by the Commission as reflected in the analysis of testimony incorporated by reference to this Order. The Commission finds that the analysis of testimony includes the names of all interested groups or associations offering comment on the proposed SIP revision and their position concerning the same.

IT IS THEREFORE ORDERED BY THE COMMISSION that the revision to the SIP incorporated by reference to this Order are hereby adopted. The adopted revision to the SIP is incorporated by reference in this Order as if set forth at length verbatim in this Order.

IT IS FURTHER ORDERED BY THE COMMISSION that on behalf of the Commission, the Chairman should transmit a copy of this Order, together with the adopted revision to the SIP, to the Regional Administrator of EPA as a proposed revision to the Texas SIP pursuant to the Federal Clean Air Act, codified at 42 U.S. Code Ann. §§ 7401 - 7671q, as amended.

If any portion of this Order is for any reason held to be invalid by a court of competent jurisdiction, the invalidity of any portion shall not affect the validity of the remaining portions.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Jon Niermann, Chairman

Date Signed