Eastern Kern
Air Pollution Control District

REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT) STATE IMPLEMENTATION PLAN (SIP)

Board Adopted
NEED DATE

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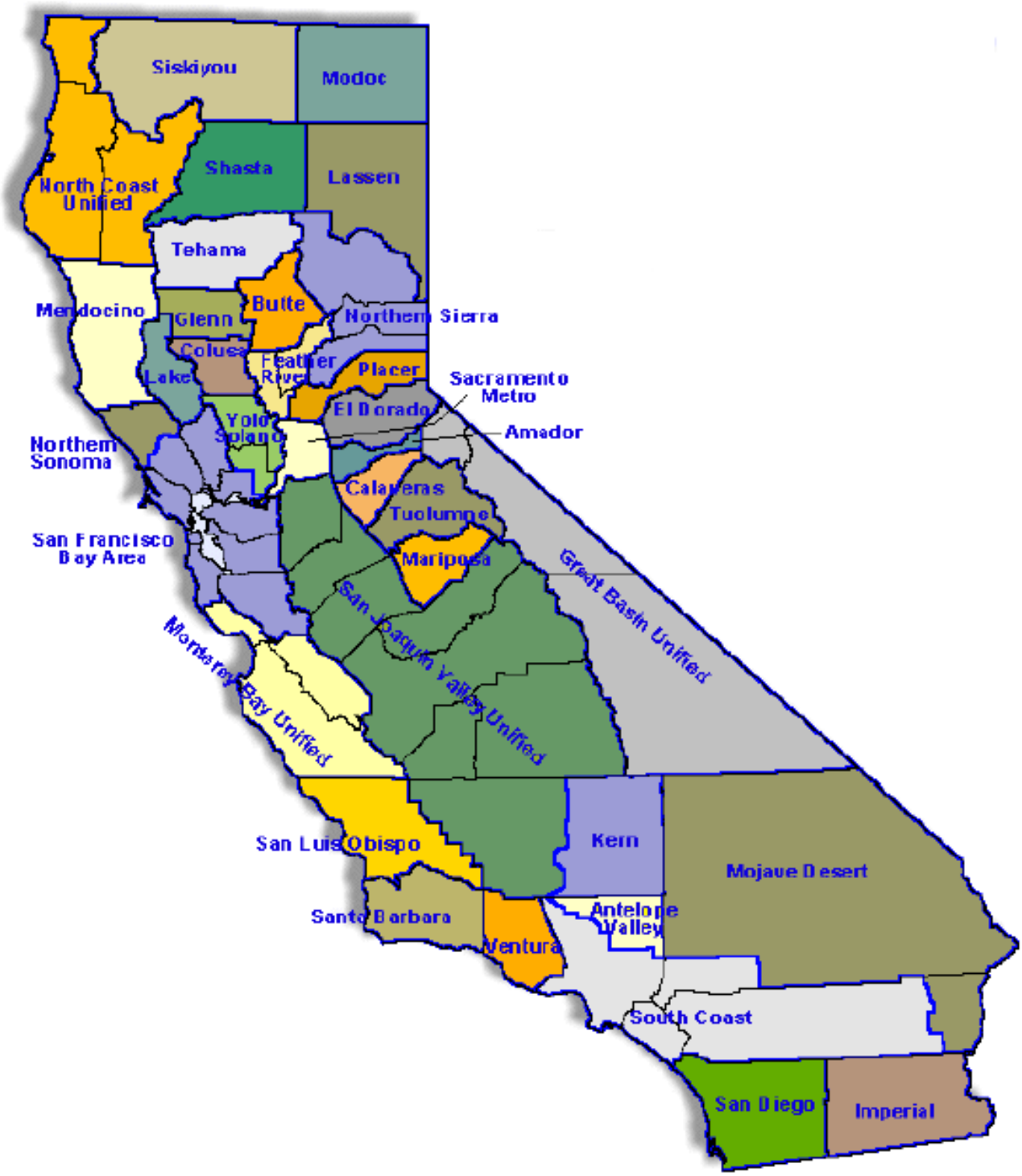

Figure 1: California Air Districts

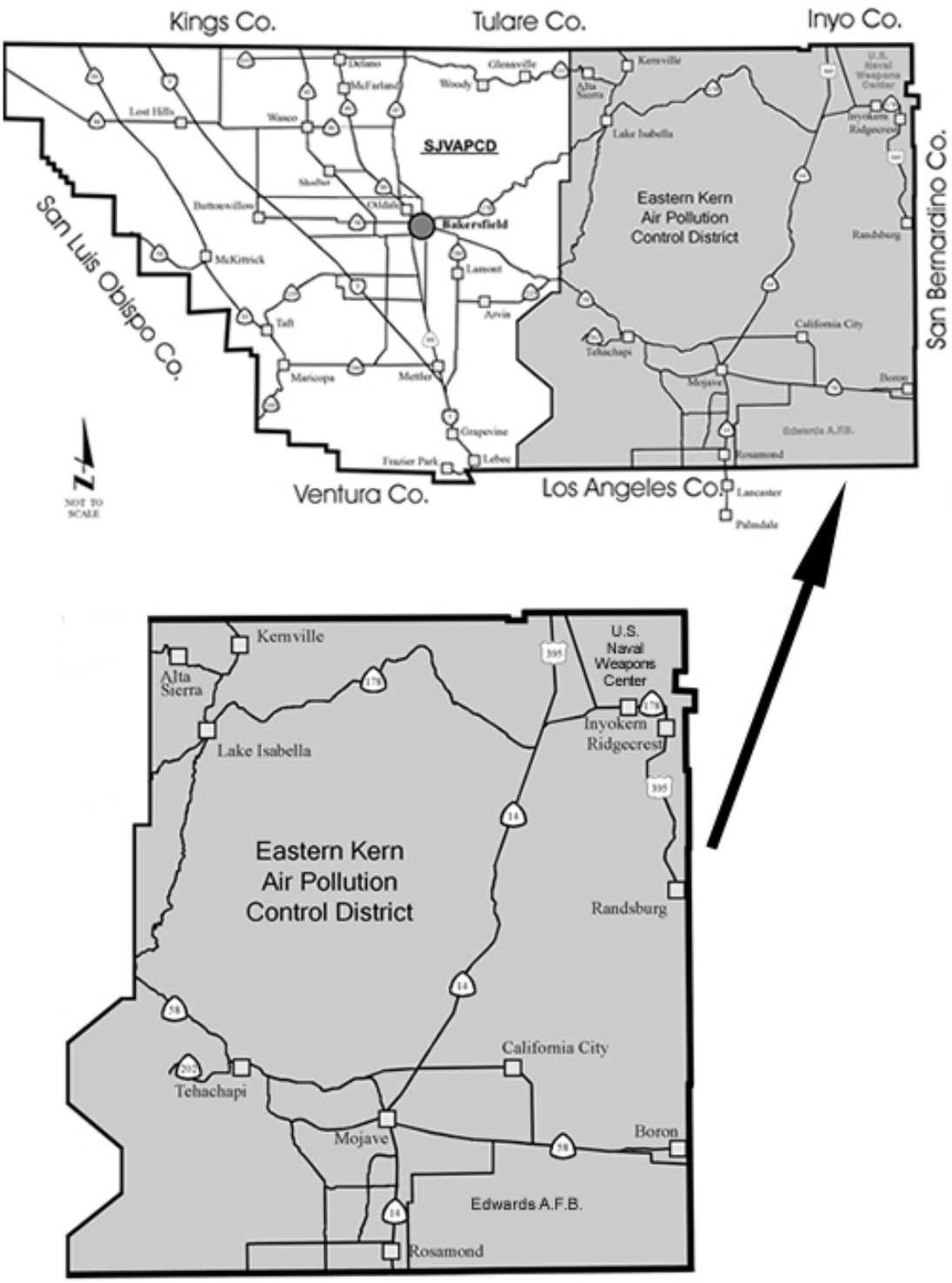

Figure 2: EKAPCD Boundary

I. INTRODUCTION

A. Ozone

Stratospheric ozone occurs naturally and is beneficial in the upper atmosphere, shielding the earth from harmful ultraviolet radiation from the sun. However, ground-level (tropospheric) ozone (O_3) is a colorless gas with a pungent, irritating odor and is a highly reactive harmful air pollutant that can damage living tissues and man-made materials upon contact.

O_3 is not directly emitted from sources, but formed in the air by reactions of ozone precursor emissions—volatile organic compounds (VOC) and oxides of nitrogen (NOx)—in the presence of sunlight and heat. Accordingly, peak O_3 levels occur during the sunnier, warmer times of the year, typically April through October.

The health effects of O_3 are focused on the respiratory tract. When inhaled, O_3 can irritate and inflame the lining of the lungs, much like sunburn damage on skin. Potential health impacts include aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis. Individuals with respiratory problems are most vulnerable to O_3, but outdoor activities on “high” O_3 days can even affect people that are normally healthy.

B. Background

The Clean Air Act of 1970 (CAA) required the United States Environmental Protection Agency (EPA) to develop health-based National Ambient Air Quality Standards (NAAQS) for several categories of air pollutants, including O_3. The CAA also requires EPA to periodically review the standards and associated scientific basis in determining appropriate revisions. Accordingly, EPA will establish new O_3 standards following advances in scientific understanding of the pollutant and its potential health effects.

Section 110 (a)(1) of the Federal Clean Air Act Amendments (FCAAA) of 1977 required EPA to divide the United States into "Planning Areas" and designate these areas "attainment", "nonattainment", or "unclassified" within 3 years of adopting the NAAQS.

The FCAAA of 1990 gave states the primary responsibility for achieving the NAAQS. The principal mechanism for complying with the FCAAA is developing and adopting a State Implementation Plan (SIP). A SIP outlines the programs, actions, and commitments a state will carry out to implement its responsibilities under the FCAAA. The EPA must approve all SIPs before they can be implemented by state and local governments. Once approved by the EPA, a SIP becomes a legally binding document under both state and federal law, and may be enforced by either government.

In 1990, EPA viewed all of Kern County as one “Planning Area” even though it was divided between two air basins. Unfortunately, there was not an O_3 monitoring station located in Eastern Kern County at that time and the only data available was from the San

Joaquin Valley portion of Kern County. Consequently, all of Kern County was classified as Serious Nonattainment, with respect to the 1990 FCAAA. The statutory attainment date became November of 1999.

Table 1 below details the Ozone nonattainment classifications and mandatory attainment dates established in Section 181(a) of the FCAAA of 1990.

Table 1, 1990 FCAAA

Area Class	Ozone Design Value[1]	Primary Standard Attainment Date[2]
Marginal	0.121 up to 0.138	3 years after enactment
Moderate	0.138 up to 0.160	6 years after enactment
Serious	0.160 up to 0.180	9 years after enactment
Severe	0.180 up to 0.280	15 years after enactment
Extreme	0.280 and above	20 years after enactment

C. Kern County Split

In 1992, Kern County was split between two air districts. The San Joaquin Valley portion of Kern County became part of the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) and the Eastern Kern, high-desert portion of the County remained the Kern County Air Pollution Control District (KCAPCD)[3]. Even though the District is located in the Mojave Desert air basin, EPA continued to consider it part of the San Joaquin Valley Federal Ozone Planning Area. In November 2001, upon the District's request, EPA formally agreed to consider KCAPCD as a separate O_3 planning area.

D. 1994 Plan Requirements

Section 182 (c) of the 1990 FCAAA prescribed requirements and schedules for attainment planning. In accordance the following three plans were required:

1. A minus 15% VOC Rate-of-Progress (ROP) Plan by November 15, 1993;
2. A minus 3% Per Year VOC or NOx Reasonable Further Progress (RFP) Plan by November 15, 1994; and
3. An Attainment Plan by November 15, 1994.

KCAPCD prepared and submitted its ROP Plan by November 15, 1993 and submitted its RFP and Attainment Plans by November 15, 1994.

[1] The design value is measured in parts per million (ppm).
[2] The primary standard attainment date is measured from the date of the enactment of the Clean Air Amendments of 1990.
[3] In 2010 KCAPCD appropriately changed its name to Eastern Kern Air Pollution Control District.

E. 1994 Attainment Plan

KCAPCD's 1994 Ozone Attainment Demonstration (Attainment Plan) was approved by EPA on September 25, 1996 (62 Fed. Reg. 1150, January 8, 1997). The Attainment Plan was presented in two parts: I (Transport Analysis) and II (Attainment Demonstration).

Part I showed KCAPCD is overwhelmingly impacted by O_3 transport from both the San Joaquin Valley Air Basin and the South Coast Air Basin. Eastern Kern air pollutant emission sources, by themselves, do not cause NAAQS or California Ambient Air Quality Standards (CAAQS) exceedances.

Part II showed KCAPCD would attain NAAQS but not CAAQS for O_3 by 1999. This, in fact, did occur. O_3 data collected from 1999-2002 at the District's O_3 monitor located in Mojave showed attainment of the NAAQS.

Table 2, District 1990 FCAAA Attainment

Ozone Data from 923 Poole Street (Mojave) Monitor				
Design Value Year:	1999	2000	2001	2002
Ozone ppm:	0.096	0.097	0.096	0.095

F. 1997 8-Hour NAAQS

An 8-hour O_3 NAAQS was established in 1997 at a level of 0.08 ppm. The 8-hour averaging time was selected to address the impacts of exposure to longer periods of elevated O_3 pollution. The standard is attained when: Each monitor in the region shows a three-year average, of the annual fourth-highest daily maximum 8-hour average O_3 concentration, is no more than 0.084 ppm (based on the rounding convention dictated in federal regulation)[4]. Three years of O_3 concentrations are averaged due to the impacts of year-to-year variations in meteorology on ozone formation.

In 2004, at request of the California Air Resources Board (CARB), EPA divided the District into two O_3 planning areas: The Indian Wells Valley (IWV), which attained the 1997 8-hour ozone NAAQS of 0.08 ppm, and the remainder of Eastern Kern County (Nonattainment Area). By 2011, the Design Value[5] of the District's Ozone Nonattainment Area dropped from 0.098 ppm (2003 level) to 0.080 ppm. On December 3, 2012, EPA announced they found that the Eastern Kern (Kern County APCD) nonattainment area attained the 1997 8-hour O_3 NAAQS.[6] With this finding, effective January 3, 2013, the entire District was deemed to have "clean data" with respect to the 1997 standard.

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[4] Appendix I to 40 CFR 50, "Interpretation of the Eight-Hour Primary and Secondary National Ambient Air Quality Standards for Ozone."

[5] The three year average of the fourth highest 8-hour ozone value for the target year and the two preceding years is the design value for that year. To determine attainment that design value is compared to the Ozone NAAQS.

[6] 77 Federal Register 71551-71555; December 3, 2012

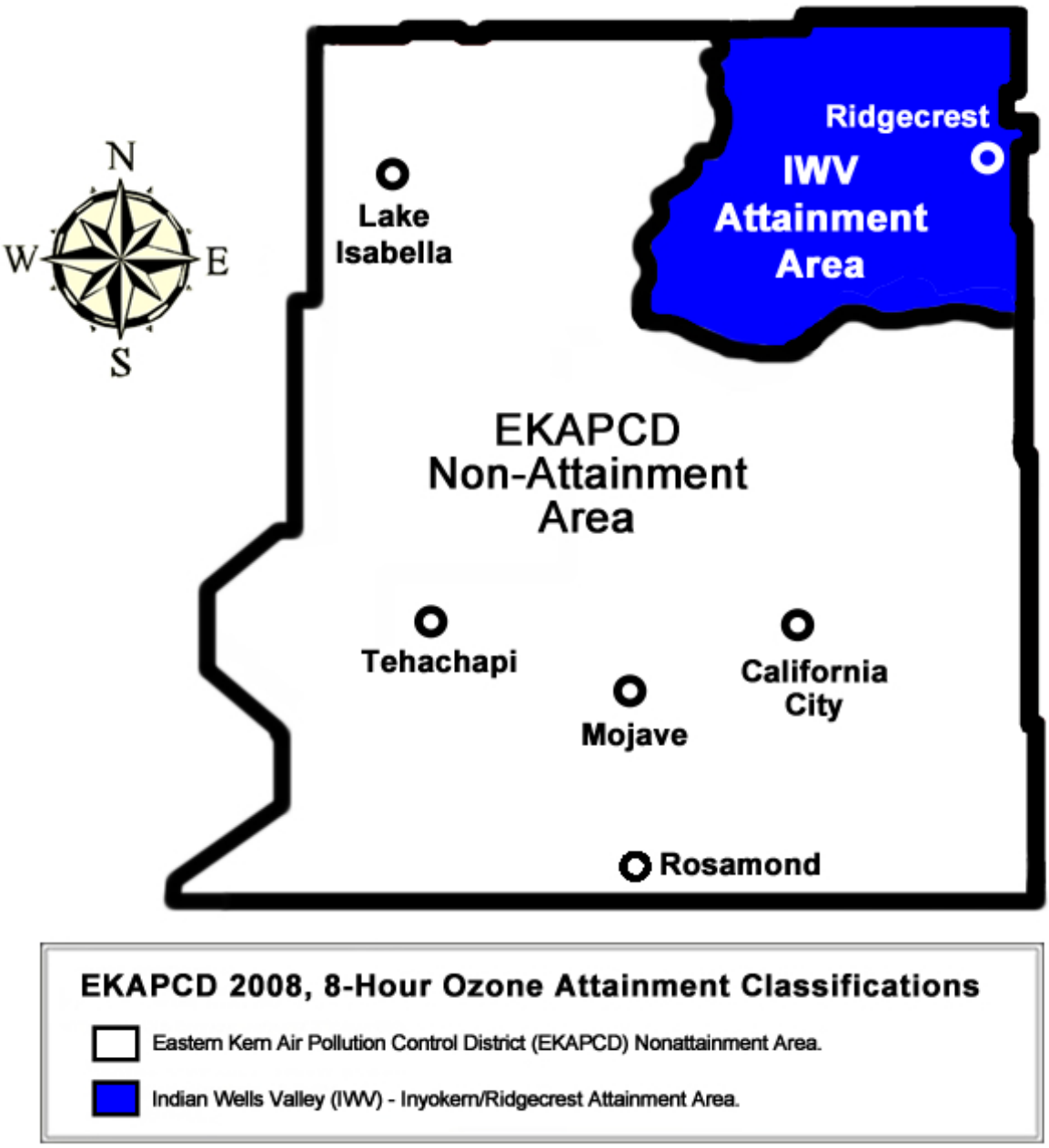

Figure 3: Indian Wells Valley Attainment Area

G. 2008 8-Hour Standard

In 2008, the EPA adopted a more stringent 8-hour Ozone NAAQS of 0.075 ppm[7]. Although the District showed a significant reduction in O_3 levels by attaining the 1997 Ozone NAAQS, and IWV[8] planning area met the new standard, the District's Design Value remained higher than the 2008 8-hour Ozone NAAQS.

In 2012, the District was classified as "Marginal" nonattainment pursuant to EPA's Final Rule for the 2008 8-hour Ozone NAAQS Air Quality Designations[9]. In 2016, EPA published Final Rule "Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas for the 2008 Ozone NAAQS[10]". In the Rule, EPA determined the District failed to meet the 2008 8-Hour Ozone NAAQS by the applicable attainment date of July 20, 2015. Therefore, under CAAA section 181(b)(2)(A), the District was reclassified by operation of law as "Moderate" nonattainment, effective June 3, 2016. As a result, the District is required to submit a SIP revision that meets the statutory and regulatory requirements applicable to the 2008, 8-Ozone NAAQS for the nonattainment area classified as "Moderate" by January 1, 2017.

Additionally, the District plans to request EPA reclassify the O_3 nonattainment area from moderate nonattainment to serious nonattainment because the District did not attain the 2008 8-Hour Ozone NAAQS by the appropriate deadline.

II. DISTRICT NAME CHANGE

On May 13, 2010, the District's Governing Board formally changed the District's name to the Eastern Kern Air Pollution Control District. As a result, all references to Kern County Air Pollution Control District contained in documents dated March 20, 1991 (formation date of the San Joaquin Valley Unified Air Pollution Control District) or later, shall mean Eastern Kern Air Pollution Control District (District).

III. CHALLENGES

A. Geography

The District is located on the western edge of the Mojave Desert. This area is separated from populated valleys and coastal areas to the west and south by several mountain ranges. These valleys and coastal areas are the major source of O_3 precursor emissions

[7] 73 FR 16436; 40 CFR 50.15, "National Primary and Secondary Ambient Air Quality Standards for Ozone."
[8] The Indian Wells Valley portion of Eastern Kern Air Pollution Control District was found attainment/unclassified for the 2008 Ozone NAAQS by EPA in 2011.
[9] 77 Federal Register 30088; May 21, 2012
[10] 81 Federal Register 26697; May 4, 2016

affecting O_3 exceedances within Eastern Kern's part of the Mojave Desert. Surrounding mountain ranges contain a limited number of passes serving as "transport corridors". These passes include Tehachapi Pass, connecting the western Mojave Desert to the southern San Joaquin Valley, and Soledad Pass and Cajon Pass connecting to the South Coast Air Basin. The Kern County portion of the western Mojave Desert is influenced primarily by transport through the Tehachapi Pass corridor with some potential influence through Soledad Pass. Soledad Pass and Cajon Pass mainly influence air quality in the eastern portion of the Mojave Desert due to prevailing wind directions.

B. Pollutant Transport

It is common for pollutants to be transported between air basins, especially into a basin that is downwind. Transported pollutant significance on air quality in a downwind air basin depends on several factors. These include: Quantity of emissions in the upwind air basin compared to the downwind air basin; Prevailing wind direction; and Wind speed during times of high pollutant concentrations. Atmospheric chemistry and pollutant emissions in the downwind area also determine how transported pollutants affect downwind O_3 concentrations.

Transported O_3 and its precursors, VOCs and NOx, affect O_3 concentrations in a downwind area. Transport from an upwind area to a downwind area occurs when winds are of sufficient magnitude, direction and duration. Transport can take place from the surface up to several thousand feet elevation.

C. Meteorology

Meteorological data from several ambient air monitoring stations[11] and airports[12] located in Kern, Los Angeles, and San Bernardino Counties along with data obtained from ARB were analyzed. Data analysis revealed relative humidity in the desert to be very low in the summer with an average humidity below 10 percent during the hottest part of the day.

Temperatures can be in excess of 100° Fahrenheit for sixty to seventy days per year between the months of May and September with almost no rainfall. This combination of dry hot, clear days results in intense solar radiation, instrumental in formation of photochemical O_3. Concurrence of these meteorological conditions are favorable to overwhelming transport of O_3 into the District[13].

[11] Ambient air monitoring data was collected at air monitoring stations in Mojave (Eastern Kern APCD), Bakersfield, Edison, Oildale, and Arvin (San Joaquin Valley APCD); Lancaster (South Coast AQMD), and Barstow and Trona (Mojave Desert AQMD).

[12] Meteorological data came from the following airports: Mojave Airport, Edwards Air Force Base, Meadows Field, Naval Air Weapons Station, Lancaster, Ontario, San Bernardino, and Daggett.

[13] The following components were analyzed: surface winds, winds aloft, estimated transport time, daily streamlines, surface airflow types, air parcel trajectories and daily maximum temperature.

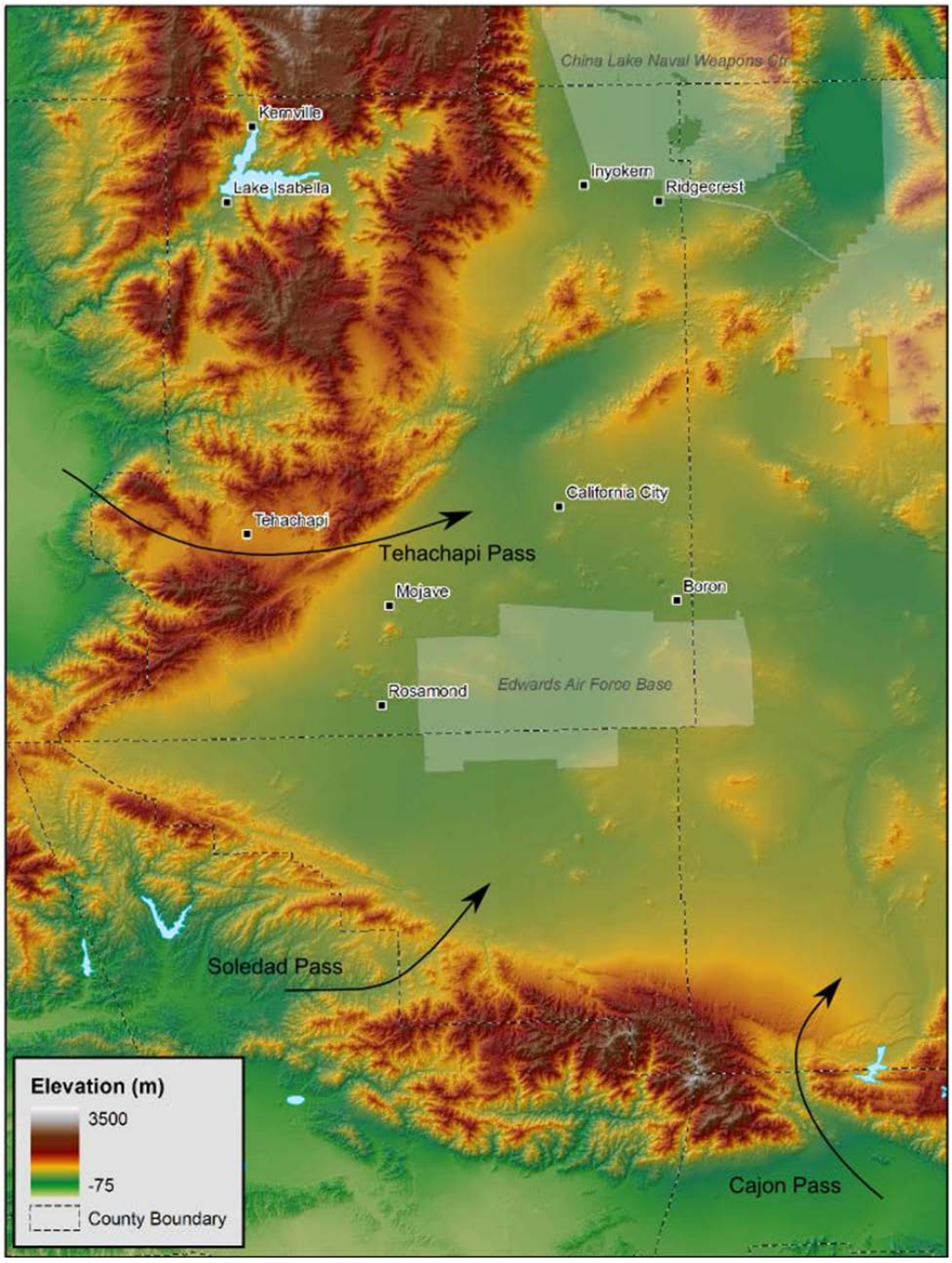

Figure 4: Transport Corridors Surrounding EKAPCD

IV. RACT SIP REQUIREMENTS

Sections 182(b)(2) and 182(f) of the FCAAA (42 U.S.C. §7511(a)) require O_3 nonattainment areas to implement Reasonably Available Control Technology (RACT) emission standards for "major sources" of VOCs and NOx (O_3 precursors). RACT is also required for sources of air pollution that are subject to Control Techniques Guidelines (CTGs) issued by EPA[14]. RACT is defined as the lowest emissions limitation that a particular source is capable of meeting by the application of air pollution control technology that is reasonably available considering technological and economic feasibility (44 FR 53762; September 17, 1979). [15]

RACT requirements are included in the CAA to assure that significant source categories of O_3 precursor emissions are controlled to a "reasonable" extent, but not necessarily to the more stringent Best Available Control Technology (BACT) or Maximum Achievable Control Technology (MACT) levels expected for new or modified major stationary sources.

According to the EPA's Implementation of the 2008 Ozone NAAQS: SIP Requirements (80 FR 12263; March 6, 2015); Areas classified as moderate nonattainment or higher, must submit a demonstration that their current rules fulfill the 8-hour O_3 RACT for all CTG categories and all non-CTG major sources as a revision to their O_3 SIP.

On May 18, 2006, EPA released an official guidance document for preparing RACT SIPs titled: *Questions Related to RACT in 8-hour Ozone Implementation*. In addition, EPA Region 9 issued a basic framework to be used for a RACT SIP revision[16]. The framework notes a RACT SIP revision should contain the following information:

- Describe efforts to identify all source categories within the District requiring RACT, including CTG sources (i.e., covered by an EPA Control Technique Guideline document) and major non-CTG sources.

- Submit negative declarations where there are no facilities (major or minor) within the District subject to a CTG.

- For all categories needing RACT, list the state/local regulation that implements RACT. It may also be helpful to list the date EPA approved these regulations as fulfilling RACT.

[14] CTGs are guidance documents that define RACT for existing sources of air pollution. Emission sources subject to CTGs are called CTG sources. RACT controls are also required on major VOC and NOx stationary sources not covered by CTGs. Such sources are called non-CTG sources.

[15] RACT requirements are included in the Clean Air Act to ensure that significant source categories at major sources of ozone precursor emissions are controlled to a "reasonable" extent, but not necessarily to the more stringent best available control technology (BACT) or maximum achievable control technology (MACT) levels expected for new or modified major stationary sources.

[16] The framework was contained in a March 9, 2006 letter from EPA Region 9 to California Air Resources Board (ARB)

- Describe the basis for concluding that the regulations fulfill RACT. Documents useful in establishing RACT include: CTGs, Alternative Control Technique guidance (ACTs), [17] MACT standards, New Source Performance Standards (NSPS), California Suggested Control Measures (SCM) and RACT/Best Available Retrofit Control Technology (BARCT) determinations, regulations adopted in other Districts, and guidance documents and rules developed by other state and local agencies.

- Some Districts may use CAPCOA's September 2003, *Potential All Feasible Measures (AFM) Report* to help demonstrate RACT. If so, the RACT SIP should certify that local regulations are equivalent to AFM, justify the assumption that the AFM fulfilled RACT in 2003, and include some sort of certification/ demonstration that no additional controls have become more reasonably available since then.

V. DETERMINATION OF RACT AND FINDINGS

A. CTG Source Categories

EPA issued CTGs defining RACT for existing facilities that emit air pollutants. District staff reviewed the list of CTG source categories and compared them to existing District Rules for applicable permitted sources.

Table 3 lists CTG source categories, reference documents, existence of affected sources in the District, and applicable District Rules. Existence of affected sources operating in the District was determined by District permit records, the emissions inventory database, and District permitting and enforcement staff.

Table 4 lists all applicable CTGs and associated District rules. Table 4 includes Rule adoption dates, amendment dates, and EPA Rule approval dates along with CTG applicability threshold/emission limits and District Rule applicability threshold/emission limits.

B. Non-CTG Major Sources

Sources not subject to CTGs are referred to as non-CTG sources. RACT is required for non-CTG sources that collectively exceed the major source threshold at any permitted facility. As the District drafts an ozone SIP, that includes a request for re-designation to serious non-attainment, this RACT SIP is based on a major source threshold of 50 tons per year (tpy) of either VOCs or NOx because serious non-attainment areas have major source threshold of 50 tons per year (tpy) of either VOC or NOx. Therefore, District staff

[17] CTG and ACT guidance documents can be found at: https://www.epa.gov/ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques-documents-reducing.

examined non-CTG sources with a potential to emit (PTE) 50 tpy or more of either VOCs or NOx collectively at any individual facility.

Table 5 lists VOC and NOx emissions from all major sources located in District's nonattainment area. Table 5 includes each facility's name, subject emission unit permit number, process equipment name, pollutant, PTE, applicable District rules, and CTG source categories.

C. Negative Declarations

District is required to submit negative declarations for CTG source categories that have no applicable sources operating within the District's nonattainment area. Table 6 lists CTG source categories with no applicable source located within the District's nonattainment area. CTGs listed in Table 6 constitute Negative Declarations for District's RACT SIP.

This is determined by review of District permit records, emissions inventory database, and District consulting with permitting and enforcement staff. The District determined one or more of the following situations exist for each CTG source category listed in Table 6:

- There are no sources located within the District's nonattainment area of the specified CTG source category; or

- There are no sources located within the District's nonattainment area with emissions exceeding the specific applicability threshold of the specified CTG source category.

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Table 3 - CTG Categories, Reference Documents, Sources, and Applicable District Rules

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	District Rule
Gasoline Service Stations	Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations (EPA-450/R-75-102, 1975/11)	Applies to filling of gasoline storage tanks from gasoline tank trucks.	Yes	Rule 412.1 – Transfer of Gas to Vehicle Fuel Tanks
Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks (EPA-450-2-77-008, 1977/05)	Cans – applies to sheet basecoat and over varnish, two-piece can exterior basecoat and over varnish, two and three-piece can interior body spray, two-piece can exterior end spray or roll coat, three piece can side seam spray, and end sealing compound. Coils – applies to prime and topcoat or single coat operations. Paper and Fabrics – applies to all coatings put on paper, fabric, or plastic film including decorative coatings on metal foil such as gift wrap and packaging. Automobile & light truck – applies to all objects surface coated in automotive and light duty truck assembly plants (Does not apply to customizers, body shops or other repainters)	None	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations Rule 410.7 – Graphic Arts
Solvent Metal Cleaning	Control of Volatile Organic Emissions from Solvent Metal Cleaning (EPA-450/2-77-022, 1977/11)	Applies to cold cleaners, open top vapor degreasers, and conveyorized degreasers which use volatile solvents to clean metal parts.	Yes	Rule 410.3 – Organic Solvent Degreasing Operations
Petroleum Refineries	Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds (EPA-450/2-77-025, 1977/10)	Applies to vacuum producing systems, wastewater separators and process unit turnarounds from petroleum refineries.	None	Rule 414 – Wastewater Separators
Tank Trucks Gasoline Loading Terminals	Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals (EPA-450/2-77-026, 1977/10)	Applies to tank truck gasoline loading terminals with daily throughputs greater than 76,000 liters (20,064 gallons).	None	Rule 412 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants

Table 3 - CTG Categories, Reference Documents, Sources, and Applicable District Rules (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	District Rule
Surface Coating of Metal Furniture	Control of VOC Emissions from Existing Stationary Sources – Volume III: Surface Coating of Metal Furniture (EPA-450/2-77-032, 1977/12)	Applies to surface coating of metal furniture from metal furniture industry.	None	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations
Surface Coating for Insulation of Magnet Wire	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume IV: Surface Coating of Insulation of Magnet Wire (EPA-450/2-77-033, 1977/12)	Applies to wire coating curing ovens.	None	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations
Surface Coating of Large Appliances	Control of VOC Emissions from Existing Stationary Sources – Volume V: Surface Coating of Large Appliances (EPA-450/2-77-034, 1977/12)	Applies to large appliance plant that manufactures one or two different types of appliances and contains only one or two lines.	None	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations
Bulk Gasoline Plants	Control of VOC Emissions from Bulk Gasoline Plants (EPA-450/2-77-035, 1977/12)	Applies to bulk gasoline plants with daily throughputs of 76,000 liters (20,064 gallons) or less.	None	Rule 412 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants
Storage of Petroleum Liquids in Fixed-Roof Tanks	Control of VOC Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks (EPA-450/2-77-036, 1977/12)	Applies to storage vessels with capacities greater than 150,000 liters containing petroleum liquids with a true vapor pressure greater than 10.5 KPa.	None	Rule 411 – Storage of Organic Liquids
Cutback Asphalt from Paving Operation	Control of VOC Emissions from Use of Cutback Asphalt (EPA-450/2-77-037, 1977/12)	Applies to use of cutback asphalt used in paving operation.	None	Rule 410.5 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations
Surface Coating of Miscellaneous Metal Parts and Products	Control of VOC Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products (EPA-450/2-78-015, 1978/06)	Applies to industries that are not covered by other specific CTGs (Specific CTGs have been published for can, coil, automobile and light-duty truck, metal furniture, magnet wire, and large appliances).	Yes	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations

Table 3 - CTG Categories, Reference Documents, Sources, and Applicable District Rules (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	District Rule
Surface Coating of Flat Wood Paneling	Control of VOC Emissions from Existing Stationary Sources – Volume VII: Factory Surface Coating of Flat Wood Paneling (EPA-450/2-78-032, 1978/06)	Applies to printed interior wall panels made of hardwood plywood and thin particle-board, natural finish hardwood plywood panels and Class II finishes for hardboard paneling.	None	Rule 410.9 – Wood Products Surface Coating Operations
Leaks from Petroleum Refinery Equipment	Control of VOC Leaks from Petroleum Refinery Equipment (EPA-450/2-78-036, 1978/06)	Applies to leaks from equipment such as pump seals, compressor seals, seal oil degassing vents, pipeline valves, flanges and other connections, pressure relief devices, process drains and open ended pipes.	None	Rule 414.1 – Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants Rule 414.5 – Pump and Compressor Seals at Petroleum Refineries and Chemical Plants
Synthesized Pharmaceutical Products	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products (EPA-450/2-78-029, 1978/12)	Applies to manufacturer of synthesized pharmaceutical products.	None	N/A
Manufacture of Pneumatic Rubber Tire	Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires (EPA-450/2-78-030, 1978/12)	Applies to manufacturing processes; under tread cementing, tread-end cementing, bead dipping, and green tire spraying.	None	N/A
Graphic Arts	Control of VOC Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography (EPA-450/2-78-033, 1978/12)	Applies to graphic arts operations that use flexographic and rotogravure printing processes as applied to both publication and packaging printing.	None	Rule 410.7 – Graphic Arts
Storage of Petroleum Liquids in External Floating Roof Tanks	Control of VOC Emissions from Petroleum Liquid Storage in External Floating Roof Tanks (EPA-450/2-78-047, 1978/12)	Applies to external floating roof tanks larger than 150,000 liters (39,600 gallons or 950 barrels) capacity storing petroleum liquids.	None	Rule 411 – Storage of Organic Liquids

Table 3 - CTG Categories, Reference Documents, Sources, and Applicable District Rules (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	District Rule
Gasoline Tank Trucks and Vapor Collection Systems	Control of VOC Leaks from Gasoline Tank Trucks and Vapor Collection Systems (EPA-450/2-78-051, 1978/12)	Applies to gasoline tank trucks that are equipped with vapor collection systems and the vapor collection systems at bulk terminals, bulk plants and service stations.	Yes	Rule 412 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants
Large Petroleum Dry Cleaners	Control of VOC Emissions from Large Petroleum Dry Cleaners (EPA-450/3-82-009, 1982/09)	Applies to petroleum solvent dry cleaning facilities that consume 123,000 liters or more of petroleum solvents, perchloroethylene (perc) and trichlorotrifluoroethane per year.	None	Rule 410.6A – Petroleum Solvent Dry Cleaning Operations
Polymers and Resins Manufacturing Industry	Control of VOC Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins (EPA-450/3-83-008, 1983/11)	Applies to manufacturing of high-density polyethylene, polypropylene, and polystyrene.	None	N/A
Equipment Leaks from Natural Gas/Gasoline Processing Plants	Control of VOC Equipment Leaks from Natural Gas/Gasoline Processing Plants (EPA-450/3-83-007, 1983/12)	Applies to facilities engaged in the separation of natural gas liquids from field gas and/or fraction of the liquids into natural gas products such as ethane, propane, butane and natural gasoline. Not applicable to compressor stations, dehydration units, sweetening units, field treatment, underground storage facilities, liquefied natural gas units and field gas gathering systems unless they are located at a gas plant.	None	Rule 414.1 – Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants Rule 414.5 – Pump and Compressor Seals at Petroleum Refineries and Chemical Plants
Equipment Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment	Control of VOC Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment (EPA-450/3-83-006, 1984/03)	Applies to leaks of process fluids (gaseous or liquid) from plant equipment such as pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators and cooling towers.	None	Rule 414.1 – Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants Rule 414.5 – Pump and Compressor Seals at Petroleum Refineries and Chemical Plants

Table 3 - CTG Categories, Reference Documents, Sources, and Applicable District Rules (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	District Rule
Synthetic Organic Chemical Manufacturing Industry	Control of VOC Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry (EPA-450/3-84-015, 1984/12)	Applies to air oxidation processes used in the synthetic organic chemical manufacturing industry.	None	N/A
Synthetic Organic Chemical Manufacturing Industry	Control of VOC Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry (EPA-450/4-91-031, 1993/08)	Applies to reactor processes that chemically change feed stocks into products or intermediate chemicals and distillation processes used to separate chemicals in the synthetic organic chemical manufacturing industry.	None	N/A
Wood Furniture Manufacturing Operations	Control of VOC Emissions from Wood Furniture Manufacturing Operations (EPA-453/R-96-007, 1996/04)	Applies to any facility that manufactures wood and wood product furniture and its cleaning and finishing operations.	Yes	Rule 410.9 – Wood Products Surface Coating Operations
Shipbuilding and Ship Repair Operations	Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating) (61 FR 44050 8/27/1996, 1996/08)	Applies to coatings and solvents used for building or repairing, repainting, converting, or alteration of ships: any marine or fresh-water vessel, including self-propelled by other craft (barges), and navigational aids (buoys).	None	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations
Surface Coating Operations of Aerospace Manufacturing and Rework Operations	Control of VOC Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations (EPA-453/R-97-004, 1997/12), See also Aerospace MACT (59 FR-29216 6/6/94, 1994/06)	Applies to aerospace coatings and cleaning solvents used at aerospace manufacturing and rework operations.	Yes	Rule 410.8 – Aerospace Assembly and Coating Operations
Industrial Cleaning Solvents	Control Techniques Guidelines for Industrial Cleaning Solvents (EPA-453/R-06-001, 2006/09)	Applies to industrial cleaning operations using organic solvents.	Yes	N/A
Offset Lithographic Printing and Letterpress Printing	Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing (EPA-453/R-06-002, 2006/09)	Applies to the offset lithographic printing industry and the letterpress printing industry.	Yes	Rule 410.7 – Graphic Arts

Table 3 - CTG Categories, Reference Documents, Sources, and Applicable District Rules (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	District Rule
Flexible Package Printing	Control Techniques Guidelines for Flexible Package Printing (EPA-453/R-06-003, 2006/09)	Applies to inks, coatings, adhesives and cleaning materials used in flexible packaging printing operations.	None	Rule 410.7 – Graphic Arts
Flat Wood Paneling Coatings	Control Techniques Guidelines for Flat Wood Paneling Coatings (EPA-453/R-06-004, 2006/09)	Applies to wood paneling products that are any interior, exterior or tileboard (class I hardboard) panel.	None	Rule 410.9 – Wood Products Surface Coating Operations
Paper, Film, and Foil Coatings	Control Techniques Guidelines for Paper, Film, and Foil Coatings (EPA-453/R-07-003, 2007/09)	Applies to facilities where the total actual VOC emissions from all paper, film and foil coating operations, including cleaning activities, are at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls.	None	N/A
Large Appliance Coatings	Control Techniques Guidelines for Large Appliance Coatings (EPA-453/R-07-004, 2007/09)	Applies to the use of coatings in large appliance coating operations.	None	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations
Metal Furniture Coatings	Control Techniques Guidelines for Metal Furniture Coatings (EPA-453/R-07-005, 2007/09)	Applies to the use of coatings in metal furniture surface coating operations.	None	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations
Miscellaneous Metal and Plastic Parts Coatings	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings (EPA-453/R-08-003, 2008/09)	Applies to the use of coatings in miscellaneous metal products and miscellaneous plastic parts surface coating operations.	Yes	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations
Fiberglass Boat Manufacturing	Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials (EPA-453/R-08-004, 2008/09)	Applies to facilities that manufacture hulls or decks of boats from fiberglass, or build molds to make fiberglass boat hulls or decks, where total actual VOC emissions from all fiberglass boat manufacturing operations, including cleaning activities, covered by the CTG are at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls.	None	N/A

Table 3 - CTG Categories, Reference Documents, Sources, and Applicable District Rules (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	District Rule
Miscellaneous Industrial Adhesives	Control Techniques Guidelines for Miscellaneous Industrial Adhesives (EPA-453/R-08-005, 2008/09)	Applies to each miscellaneous industrial adhesive application process at facilities where total actual VOC emissions from all industrial adhesive operations, including cleaning activities, are at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls.	None	N/A
Automobile and Light-Duty Truck Assembly Coatings	Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings (EPA-453/R-08-006, 2008/09)	For automobile and light truck coating, applies to all objects surface coated in automotive and light duty truck assembly plants. Does not apply to customizers, body shops or other repaints.	None	Rule 410.4A – Motor Vehicle and Mobile Equipment Refinishing Operations
Oil and Natural Gas Industry	Control Techniques Guidelines for the Oil and Natural Gas Industry (EPA-453/B-16-001, 2016/10)	Applies to a tank or other vessel in the oil and natural gas industry that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water, and that is constructed primarily of non-earthen materials that provide structural support.	None	N/A

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Table 4 – Applicable CTG Source Categories & Associated District Rules

Applicable CTG Source Category	District Rule	Adopted	Last Amended	EPA Rule Approval	CTG Applicability Threshold/Emission Limit	District Rule Applicability Threshold/Emission Limit
Gasoline Service Stations	Rule 412.1 –Transfer of Gas to Vehicle Fuel Tanks	12/17/1974	11/9/1992	10/7/1996	N/A	Transfer 250 Gallons of Gasoline
Solvent Metal Cleaning	Rule 410.3 – Organic Solvent Degreasing Operations	6/26/1979	5/7/1998	4/2/1999	N/A	N/A
Surface Coating of Miscellaneous Metal Parts and Products	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations	6/26/1979	3/13/2014	5/17/2016	N/A	Various VOC Content Limits
Gasoline Tank Trucks and Vapor Collection Systems	Rule 412 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants	4/18/1972	5/6/1991	2/15/1995	N/A	Transfer 250 Gallons of Gasoline
Wood Furniture Manufacturing Operations	Rule 410.9 – Wood Products Surface Coating Operations	3/13/2014	N/A	6/16/2016	N/A	Various VOC Content Limits
Surface Coating Operations of Aerospace Manufacturing and Rework Operations	Rule 410.8 – Aerospace Assembly and Coating Operations	3/13/2014	N/A	5/17/2016	CTG applicability threshold of 25 tons per year of VOC	Various VOC Content Limits
Offset Lithographic Printing and Letterpress Printing	Rule 410.7 – Graphic Arts	6/29/1981	3/7/1996	11/13/1998	CTG applicability threshold of 15 lb/day of VOC	Various VOC Content Limits
Miscellaneous Metal and Plastic Parts Coatings	Rule 410.4 – Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations	6/26/1979	3/13/2014	1/13/2000	CTG applicability threshold of 15 lb/day of VOC	Various VOC Content Limits

Table 5 – Major Sources with Applicable District Rules

Facility Name	Permit No.	Process Equipment	Pollutant	PTE	District Rule	Source Category
California Portland Cement Company	1003020	Gasoline Storage & Dispensing System	VOC	0.04 lb/day	Rule 412 Rule 412.1	CTG
	1003026	Pyroprocessing System	NOx	20,520 lb/day	Rule 425.3	Non-CTG
	1003062	Paint Spray Operation	VOC	5.27 lb/day	Rule 410.4	CTG
	1003065	Finish Mill System (Heater)	NOx	17.16 lb/day	Rule 425.2	Non-CTG
National Cement Company	1128018	Gasoline Storage & Dispensing System	VOC	0.23 lb/day	Rule 412 Rule 412.1	CTG
	1128042	Pyroprocessing System	NOx	11,560 lb/day	Rule 425.3	Non-CTG
Lehigh Southwest Cement Company	1147017	Pyroprocessing System	NOx	6,752 lb/day	Rule 425.3	Non-CTG
	1147041	Gasoline Storage & Dispensing System	VOC	0.10 lb/day	Rule 412 Rule 412.1	CTG
U.S. Borax	1004005	Heater	NOx	12.37 lb/day	Rule 425.2	Non-CTG
	1004027	Heater	NOx	96 lb/day	Rule 425.2	Non-CTG
	1004040	Boiler	NOx	600 lb/day	Rule 425.2	Non-CTG
	1004041	Boiler	NOx	600 lb/day	Rule 425.2	Non-CTG
	1004056	Boiler	NOx	1322.4 lb/day	Rule 425.2	Non-CTG
	1004077	Gas Turbine	NOx	1425.36 lb/day	Rule 425	Non-CTG
	1004089	Gasoline Storage & Dispensing System	VOC	2.59 lb/day	Rule 412 Rule 412.1	CTG

Table 5 – Major Sources with Applicable District Rules (cont'd)

Facility Name	Permit No.	Process Equipment	Pollutant	PTE	District Rule	Source Category
U.S. Borax	1004179	Paint Spray Booth	VOC	13.87 lb/day	Rule 410.4	CTG
	1004222	Heater	NOx	3.46 lb/day	Rule 425.2	Non-CTG
	1004278	Boiler	NOx	80.35 lb/day	Rule 425.2	Non-CTG
	1004284	Boiler	NOx	85.54 lb/day	Rule 425.2	Non-CTG
Edwards Air Force Base	0126005	Gasoline Storage & Dispensing System	VOC	2.03 lb/day	Rule 412 Rule 412.1	CTG
	0126006	Gasoline Storage & Dispensing System	VOC	2.03 lb/day	Rule 412 Rule 412.1	CTG
	0126025	Gasoline Bulk Loading Facility	VOC	2.03 lb/day	Rule 412 Rule 412.1	CTG
	0126030	Gasoline Storage & Dispensing System	VOC	7.13 lb/day	Rule 412 Rule 412.1	CTG
	0126032	Gasoline Storage & Dispensing System	VOC	0.53 lb/day	Rule 412 Rule 412.1	CTG
	0127027	Painting Operation	VOC	17.16 lb/day	Rule 410.4 Rule 410.8	CTG
	0127028	Paint Spray Booth	VOC	27.31 lb/day	Rule 410.4 Rule 410.8	CTG
	0127187	Paint Spray Booth	VOC	36.32 lb/day	Rule 410.4 Rule 410.8	CTG
	0127188					
	0127189					
	0127299	Painting Operation	VOC	10.00 lb/day	Rule 410.4 Rule 410.8	CTG

Table 5 – Major Sources with Applicable District Rules (cont'd)

Facility Name	Permit No.	Process Equipment	Pollutant	PTE	District Rule	Source Category
Edwards Air Force Base	0132004	Gasoline Storage & Dispensing System	VOC	0.46 lb/day	Rule 412 Rule 412.1	CTG
	0132005	Gasoline Storage & Dispensing System	VOC	0.46 lb/day	Rule 412 Rule 412.1	CTG
	0132013	Painting Operation	VOC	33.18 lb/day	Rule 410.4 Rule 410.8	CTG
	0132014	Painting Operation	VOC	8.30 lb/day	Rule 410.4 Rule 410.8	CTG
	0132107	Paint Spray Booth	VOC	46.73 lb/day	Rule 410.4 Rule 410.8	CTG
	0134050	Steam Generator	NOx	67.39 lb/day	Rule 425.2	Non-CTG
	0134051	Steam Generator	NOx	67.39 lb/day	Rule 425.2	Non-CTG
	0134065	Steam Generator	NOx	18.24 lb/day	Rule 425.2	Non-CTG
	0134066	Steam Generator	NOx	18.24 lb/day	Rule 425.2	Non-CTG
	0134067	Steam Generator	NOx	18.24 lb/day	Rule 425.2	Non-CTG
	0134068	Steam Generator	NOx	18.24 lb/day	Rule 425.2	Non-CTG
	0134070	Steam Generator	NOx	5.93 lb/day	Rule 425.2	Non-CTG
	0134071	Steam Generator	NOx	5.93 lb/day	Rule 425.2	Non-CTG
	0134072	Steam Generator	NOx	5.93 lb/day	Rule 425.2	Non-CTG
	0138057	Painting Operation	VOC	18.50 lb/day	Rule 410.4 Rule 410.8	CTG
	0138063	Painting Operation	VOC	24.05 lb/day	Rule 410.4 Rule 410.8	CTG

Table 5 – Major Sources with Applicable District Rules (cont'd)

Facility Name	Permit No.	Process Equipment	Pollutant	PTE	District Rule	Source Category
Edwards Air Force Base	0139019	Gasoline Storage & Dispensing System	VOC	0.51 lb/day	Rule 412 Rule 412.1	CTG
	0144010	Gasoline Storage & Dispensing System	VOC	0.28 lb/day	Rule 412 Rule 412.1	CTG
	0143208	Organic Solvent Degreasing Operation	VOC	0.77 lb/day	Rule 410.3	CTG
	0143238	Gasoline Storage & Dispensing System	VOC	0.17 lb/day	Rule 412 Rule 412.1	CTG
	0143244	Gasoline Storage & Dispensing System	VOC	1.78 lb/day	Rule 412 Rule 412.1	CTG
	0143245					

Table 6 – CTG Categories with No Applicable Source

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	RACT Analysis
Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks (EPA-450-2-77-008, 1977/05)	Cans – applies to sheet basecoat and over varnish, two-piece can exterior basecoat and over varnish, two and three-piece can interior body spray, two-piece can exterior end spray or roll coat, three piece can side seam spray, and end sealing compound. Coils – applies to prime and topcoat or single coat operations. Paper and Fabrics – applies to all coatings put on paper, fabric, or plastic film including decorative coatings on metal foil such as gift wrap and packaging. Automobile & light truck – applies to all objects surface coated in automotive and light duty truck assembly plants (Does not apply to customizers, body shops or other repainters)	None	N/A
Petroleum Refineries	Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds (EPA-450/2-77-025, 1977/10)	Applies to vacuum producing systems, wastewater separators and process unit turnarounds from petroleum refineries.	None	N/A
Tank Trucks Gasoline Loading Terminals	Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals (EPA-450/2-77-026, 1977/10)	Applies to tank truck gasoline loading terminals with daily throughputs greater than 76,000 liters (20,064 gallons).	None	N/A
Surface Coating of Metal Furniture	Control of VOC Emissions from Existing Stationary Sources – Volume III: Surface Coating of Metal Furniture (EPA-450/2-77-032, 1977/12)	Applies to surface coating of metal furniture from metal furniture industry.	None	N/A
Surface Coating for Insulation of Magnet Wire	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume IV: Surface Coating of Insulation of Magnet Wire (EPA-450/2-77-033, 1977/12)	Applies to wire coating curing ovens.	None	N/A

Table 6 – CTG Categories with No Applicable Source (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	RACT Analysis
Surface Coating of Large Appliances	Control of VOC Emissions from Existing Stationary Sources – Volume V: Surface Coating of Large Appliances (EPA-450/2-77-034, 1977/12)	Applies to large appliance plant that manufactures one or two different types of appliances and contains only one or two lines.	None	N/A
Bulk Gasoline Plants	Control of VOC Emissions from Bulk Gasoline Plants (EPA-450/2-77-035, 1977/12)	Applies to bulk gasoline plants with daily throughputs of 76,000 liters (20,064 gallons) or less.	None	N/A
Storage of Petroleum Liquids in Fixed-Roof Tanks	Control of VOC Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks (EPA-450/2-77-036, 1977/12)	Applies to storage vessels with capacities greater than 150,000 liters containing petroleum liquids with a true vapor pressure greater than 10.5 KPa.	None	N/A
Cutback Asphalt from Paving Operation	Control of VOC Emissions from Use of Cutback Asphalt (EPA-450/2-77-037, 1977/12)	Applies to use of cutback asphalt used in paving operation.	None	N/A
Surface Coating of Flat Wood Paneling	Control of VOC Emissions from Existing Stationary Sources – Volume VII: Factory Surface Coating of Flat Wood Paneling (EPA-450/2-78-032, 1978/06)	Applies to printed interior wall panels made of hardwood plywood and thin particle-board, natural finish hardwood plywood panels and Class II finishes for hardboard paneling.	None	N/A
Leaks from Petroleum Refinery Equipment	Control of VOC Leaks from Petroleum Refinery Equipment (EPA-450/2-78-036, 1978/06)	Applies to leaks from equipment such as pump seals, compressor seals, seal oil degassing vents, pipeline valves, flanges and other connections, pressure relief devices, process drains and open ended pipes.	None	N/A
Synthesized Pharmaceutical Products	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products (EPA-450/2-78-029, 1978/12)	Applies to manufacturer of synthesized pharmaceutical products.	None	N/A
Manufacture of Pneumatic Rubber Tire	Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires (EPA-450/2-78-030, 1978/12)	Applies to manufacturing processes; under tread cementing, tread-end cementing, bead dipping, and green tire spraying.	None	N/A

Table 6 – CTG Categories with No Applicable Source (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	RACT Analysis
Graphic Arts	Control of VOC Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography (EPA-450/2-78-033, 1978/12)	Applies to graphic arts operations that use flexographic and rotogravure printing processes as applied to both publication and packaging printing.	None	N/A
Storage of Petroleum Liquids in External Floating Roof Tanks	Control of VOC Emissions from Petroleum Liquid Storage in External Floating Roof Tanks (EPA-450/2-78-047, 1978/12)	Applies to external floating roof tanks larger than 150,000 liters (39,600 gallons or 950 barrels) capacity storing petroleum liquids.	None	N/A
Large Petroleum Dry Cleaners	Control of VOC Emissions from Large Petroleum Dry Cleaners (EPA-450/3-82-009, 1982/09)	Applies to petroleum solvent dry cleaning facilities that consume 123,000 liters or more of petroleum solvents, perchloroethylene (perc) and trichlorotrifluoroethane per year.	None	N/A
Polymers and Resins Manufacturing Industry	Control of VOC Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins (EPA-450/3-83-008, 1983/11)	Applies to manufacturing of high-density polyethylene, polypropylene, and polystyrene.	None	N/A
Equipment Leaks from Natural Gas/Gasoline Processing Plants	Control of VOC Equipment Leaks from Natural Gas/Gasoline Processing Plants (EPA-450/3-83-007, 1983/12)	Applies to facilities engaged in the separation of natural gas liquids from field gas and/or fraction of the liquids into natural gas products such as ethane, propane, butane and natural gasoline. Not applicable to compressor stations, dehydration units, sweetening units, field treatment, underground storage facilities, liquefied natural gas units and field gas gathering systems unless they are located at a gas plant.	None	N/A
Equipment Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment	Control of VOC Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment (EPA-450/3-83-006, 1984/03)	Applies to leaks of process fluids (gaseous or liquid) from plant equipment such as pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators and cooling towers.	None	N/A

Table 6 – CTG Categories with No Applicable Source (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	RACT Analysis
Synthetic Organic Chemical Manufacturing Industry	Control of VOC Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry (EPA-450/3-84-015, 1984/12)	Applies to air oxidation processes used in the synthetic organic chemical manufacturing industry.	None	N/A
Synthetic Organic Chemical Manufacturing Industry	Control of VOC Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry (EPA-450/4-91-031, 1993/08)	Applies to reactor processes that chemically change feed stocks into products or intermediate chemicals and distillation processes used to separate chemicals in the synthetic organic chemical manufacturing industry.	None	N/A
Shipbuilding and Ship Repair Operations	Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating) (61 FR 44050 8/27/1996, 1996/08)	Applies to coatings and solvents used for building or repairing, repainting, converting, or alteration of ships: any marine or fresh-water vessel, including self-propelled by other craft (barges), and navigational aids (buoys).	None	N/A
Industrial Cleaning Solvents	Control Techniques Guidelines for Industrial Cleaning Solvents (EPA-453/R-06-001, 2006/09)	Applies to industrial cleaning operations using organic solvents.	Yes	No sources with emissions greater than CTG applicability threshold of 15 lb/day
Flexible Package Printing	Control Techniques Guidelines for Flexible Package Printing (EPA-453/R-06-003, 2006/09)	Applies to inks, coatings, adhesives and cleaning materials used in flexible packaging printing operations.	None	N/A
Flat Wood Paneling Coatings	Control Techniques Guidelines for Flat Wood Paneling Coatings (EPA-453/R-06-004, 2006/09)	Applies to wood paneling products that are any interior, exterior or tileboard (class I hardboard) panel.	None	N/A
Paper, Film, and Foil Coatings	Control Techniques Guidelines for Paper, Film, and Foil Coatings (EPA-453/R-07-003, 2007/09)	Applies to facilities where the total actual VOC emissions from all paper, film and foil coating operations, including cleaning activities, are at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls.	None	N/A

Table 6 – CTG Categories with No Applicable Source (cont'd)

CTG Source Category	CTG Reference Document[17]	Applicability	District Source	RACT Analysis
Large Appliance Coatings	Control Techniques Guidelines for Large Appliance Coatings (EPA-453/R-07-005, 2007/09)	Applies to the use of coatings in large appliance coating operations.	None	N/A
Metal Furniture Coatings	Control Techniques Guidelines for Metal Furniture Coatings (EPA-453/R-07-005, 2007/09)	Applies to the use of coatings in metal furniture surface coating operations.	None	N/A
Fiberglass Boat Manufacturing	Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials (EPA-453/R-08-004, 2008/09)	Applies to facilities that manufacture hulls or decks of boats from fiberglass, or build molds to make fiberglass boat hulls or decks, where total actual VOC emissions from all fiberglass boat manufacturing operations, including cleaning activities, covered by the CTG are at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls.	None	N/A
Miscellaneous Industrial Adhesives	Control Techniques Guidelines for Miscellaneous Industrial Adhesives (EPA-453/R-08-005, 2008/09)	Applies to each miscellaneous industrial adhesive application process at facilities where total actual VOC emissions from all industrial adhesive operations, including cleaning activities, are at least 6.8 kg/day (15 lb/day) of VOC before consideration of controls.	None	N/A
Automobile and Light-Duty Truck Assembly Coatings	Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings (EPA-453/R-08-006, 2008/09)	For automobile and light truck coating, applies to all objects surface coated in automotive and light duty truck assembly plants. Does not apply to customizers, body shops or other repaints.	None	N/A
Oil and Natural Gas Industry	Control Techniques Guidelines for the Oil and Natural Gas Industry (EPA-453/B-16-001, 2016/10)	Applies to a tank or other vessel in the oil and natural gas industry that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water, and that is constructed primarily of non-earthen materials that provide structural support.	None	N/A

VI. RACT ANALYSIS

A. Background

Emission sources covered by CTGs are known as CTG sources. The CAA[18] requires O_3 nonattainment areas to implement RACT for sources subject to CTGs issued for major sources of O_3 precursors. RACT requirements are included in the CAA to assure VOC and NOx emissions from major sources are controlled to a "reasonable" extent, but not necessarily to the more stringent BACT or "lowest achievable emission rate" (LAER) levels expected of new or modified major stationary sources.

CTG documents represent presumptive RACT levels of control for applicable sources of air pollution. The RACT SIP must contain adopted CTG-equivalent regulations for affected sources operating within the District's nonattainment area. Demonstration of existing regulations applicable to non-CTG major sources is appropriate for satisfying RACT when the cumulative PTE from a single source (facility) exceeds the nonattainment area's major source emission threshold. This RACT SIP is designed to demonstrate compliance with RACT requirements for major sources with a PTE 50-tpy or greater of VOCs or NOx. Negative declaration of CTG-equivalent rule necessity is required when there is no applicable source operating in the District's O_3 nonattainment area to which a CTG could apply, including sources located within the District's nonattainment area with emissions below the applicability threshold of the specified CTG source category.

District must provide notice and opportunity for public to comment on the draft RACT SIP, even where District certifies the existing regulation(s) satisfy RACT requirements, or where the District adopts a negative declaration. District must also submit appropriate supporting information for their RACT demonstrations. Once EPA approves the District's request to re-classify the O_3 nonattainment area to "Serious" nonattainment, attainment of the 2008, 8-hour O_3 NAAQS by the "moderate" attainment deadline of December 31, 2020, will not be feasible.

B. RACT Evaluations for CTG Sources

The summaries below compare elements and emission limits in CTG documents to the corresponding elements of applicable District rules of the same source category. District rule elements are also compared to corresponding provisions of South Coast Air Quality Management District (SCAQMD) and San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) rules that regulate emissions from non-CTG major sources.

<u>RULE 410.3: ORGANIC SOLVENT DEGREASING OPERATIONS (Last Revised 5/7/1998)</u>

Rule 410.3 reduces VOC emissions from solvent metal cleaning (degreasing) by specifying equipment/categories, their design requirements, and their operating practice requirements. Those three equipment/categories are cold cleaners, open top vapor degreasers, and conveyorized degreasers. The rule is essentially equivalent to CTG: Control of Volatile Organic

[18] Section 182(b)(2) and 182(f) of the federal Clean Air Act (42 U.S.C. §7511a).

Emissions from Solvent Metal Cleaning. Therefore, Rule 410.3 meets RACT and does not require an update at this time.

RULE 410.4: METAL, PLASTIC, AND PLEASURE CRAFT PARTS AND PRODUCTS COATING OPERATIONS (Last Revised 3/13/2014)

Rule 410.4 reduces VOC emissions by specifying VOC content limits in coatings used to coat metal parts and products, large appliances parts and products, metal furniture, plastic parts and products, automotive/transportation and business machines parts and products, and pleasure crafts, and from cleaning, storage, and disposal of organic solvents and waste solvent materials associated with such coating operations. For coating used for above operations, SCAQMD Rule 1107 (amended 1/6/2006) and SJVAPCD Rule 4603 (amended 9/17/2009) apply to similar sources as Rule 410.4. The coating with VOC content restrictions are mostly equivalent with Rule 410.4. Rule 410.4 has equivalent requirements to SCAQMD Rule 1107 and SJVAPCD Rule 4603; therefore, District Rule 410.4 meets RACT and does not require an update at this time.

RULE 410.7: GRAPHIC ARTS (Last Revised 3/7/1996)

Rule 410.7 reduces VOC emissions from the use of inks, coatings, adhesives, and fountain solutions used at graphic arts printing operations through limiting VOC contents of inks, coatings, adhesives, and fountain solutions. There are no graphic arts printing facilities in the District that are equal to or exceed RACT applicability thresholds of 15 lb/day of total actual VOC emissions; therefore, Rule 410.7 is not required to meet RACT requirements.

RULE 410.8: AEROSPACE ASSEMBLY AND COATING OPERATIONS (Last Revised 3/13/2014)

Rule 410.8 reduces VOC emissions from manufacturing, assembling, coating, masking, bonding, paint stripping, surface cleaning, service, and maintenance of aerospace components, and the cleanup of equipment, storage, and disposal of solvents and waste solvent materials associated with these operations. SCAQMD Rule 1124 (amended 9/21/2001) and SJVAPCD Rule 4605 (amended 6/16/2011) apply to sources similar to those subject to Rule 410.8.

Rule 410.8 limits the emissions of VOC from the application of coatings or adhesives on aerospace components. This rule contains limits on the VOC content of coatings, adhesives and cleaners used at aerospace component manufacturing operations. VOC contents limit requirements of this rule are equivalent to SCAQMD Rule 1124, Aerospace Assembly and Component Manufacturing Operations and SJVAPCD Rule 4605, Aerospace Assembly and Component Coating Operations, with a few variations in limits for specialty coatings and adhesives. Additionally, VOC content limits in Rule 410.8 are equivalent or more stringent to all corresponding VOC content limits in the CTG. Therefore, Rule 410.8 meets RACT requirements and no changes are required at this time.

RULE 410.9: WOOD PRODUCTS SURFACE COATING OPERATIONS (Last Revised 3/13/2014)

Rule 410.9 reduces VOC emissions from wood products coatings and cleaning materials by limiting VOC content of the coats and by requiring certain application methods. Rule 410.9 has equivalent in VOC content limits for all wood product coats with SJVAPCD Rule 4606 (amended 10/16/2008). Rule 410.9 also has equivalent in VOC content limits to most coats from SCAQMD Rule 1136 (amended 6/4/1996) and more stringent to some coats from SCAQMD Rule 1136. Therefore, Rule 410.9 meets RACT and no changes are required at this time.

RULE 412: GASOLINE TRANSFER INTO STATIONARY STORAGE CONTAINERS, DELIVERY VESSELS, AND BULK PLANTS (Last Revised 5/6/1991)

Rule 412 reduces VOC emissions from equipment used to transfer gasoline into stationary tanks, gasoline delivery vessels and gasoline bulk plants having a true vapor pressure of 1.5 psia or greater with a capacity of more than 250 gallons. California Air Resources Board (CARB) sets vapor recovery system standards and is responsible for certifying systems to meet those standards. California's local air districts have the primary authority for regulating gasoline dispensing facilities under vapor recovery rules. CARB implemented enhanced vapor recovery requirements during the 10 years starting in 2001 and vapor recovery systems are capable of recovering displaced gasoline vapors to an efficiency of ninety-five (95) percent or greater. Therefore, Rule 412 meets RACT and no changes are required at this time.

RULE 412.1: TRANSFER OF GAS TO VEHICLE FUEL TANKS (Last Revised 11/9/1992)

Rule 412.1 reduces VOC emissions from transfer of gasoline into vehicle fuel tanks from stationary storage containers subject to the requirements of Rule 412 (Gasoline Transfer into Stationary Storage Containers, Delivery Vessels and Bulk Plants). A person shall not transfer or permit the transfer of gasoline from a stationary storage container into a motor vehicle fuel tank with a maximum capacity of more than five (5) gallons unless the gasoline dispensing unit is equipped with and has in correct operation a CARB-Certified Phase II Vapor Recovery System. California's local air districts have the primary authority for regulating gasoline dispensing facilities under vapor recovery rules. CARB enhanced vapor recovery systems are capable of recovering displaced gasoline vapors to an efficiency of ninety-five (95) percent or greater. Therefore, Rule 412.1 meets RACT and no changes are required at this time.

C. RACT Evaluation for Non-CTG Major Sources

RULE 425: COGENERATION GAS TURBINE ENGINES (Last Revised 8/16/1993)

Rule 425 was last adopted in August 16, 1993. Since then, the technology of reducing NOx emissions from gas turbine engines has advanced. Rule 425 is not as stringent as other California district rules such as San Diego Air Pollution Control District (SDAPCD) or Bay Area Air Quality Management District (BAAQMD). Therefore, the District is proposing to amend Rule 425 to correct RACT deficiencies.

RULE 425.2: BOILERS, STEAM GENERATORS, AND PROCESS HEATERS (Last Amended 7/10/1997)

Rule 425.2 was last amended in July 10, 1997. Rule 425.2 requires NOx emission limits to be 70-ppmv for gaseous fuel and 115-ppmv for liquid fuel. These limits are referenced at dry stack gas conditions, adjusted to 3 percent by volume stack gas oxygen. District staff looked at SDAPCD Rule 69.2 and BAAQMD Rule 9-7. Both rules have NOx limits more stringent than Rule 425.2 and both rules proved to be able to satisfy RACT. Therefore, District is proposing to amend Rule 425.2 to correct RACT deficiencies.

RULE 425.3: PORTLAND CEMENT KILNS (Last Adopted 10/13/1994)

Rule 425.3 was last adopted in October 13, 1994. Rule 425.3 requires NOx emission limits to be 6.4 pounds per ton of clinker produced when averaged over any 30 consecutive day period. The District was provided with similar rules that have more stringent NOx emission limits from other nonattainment areas that appeared to satisfy RACT. Therefore, District is proposing to amend Rule 425.3 to correct RACT deficiencies.

D. RACT SIP Evaluation Findings

All rules applicable to CTG source categories were determined to meet or exceed CTG requirements. However, three District NOx rules applicable to non-CTG major sources were found to have deficiencies. The District will formally revise these rules to adequately correct their deficiencies and amend them to fulfill RACT requirements.

E. Rule 210.1 (New and Modified Stationary Source Review) Revision

New and Modified Stationary Source Review (NSR), last amended May 4, 2000, is based on Serious nonattainment. Therefore, the Offset Emission Offset Ratio (1.2 to 1.0) and Offset threshold for NOx and VOC (greater than or equal to 25-tpy) listed in District Rule 210.1 do not need to be revised. However, EPA recently informed the District of out-of-date terms and definitions used in Rule 210.1. EPA is concerned these out-of-date terms and definitions could lead to potential deficiencies in the rule. EPA suggests the District revise Rule 210.1 to include updated language consistent with EPA requirements. The District is proposing to amend Rule 210.1 to comply with EPA's request.

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