

Yolo-Solano Air Quality Management District
1947 Galileo Court, Suite 103
Davis, CA 95616
(530)757-3650
www.ysaqmd.org



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YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

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

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Prepared by:

Matt Jones, Planning Manager

EXECUTIVE SUMMARY

The Clean Air Act (CAA), Part D, Section 182(b)(2), requires ozone nonattainment areas to implement reasonably available control technology (RACT) for certain categories of sources. RACT is defined by the United States Environmental Protection Agency (US EPA) as the lowest emission limit that can be met through the implementation of control technology that is reasonably available while taking technological and economic feasibility into account.

The Yolo Solano Air Quality Management District (District) is included in the Sacramento Federal Nonattainment Area (SFNA) for ozone. USEPA has designated the SFNA as a severe ozone nonattainment area for the 2008 8-hour ozone national ambient air quality standard. Consequently, the RACT analysis requirement applies to the District.

RACT is required for each category of Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) sources covered by a Control Technology Guideline (CTG) document issued by EPA. The CAA also specifies that a RACT determination must be made for major sources of VOC or NOx operating in an air district that are not subject to a guidance document. If a local air district does not have any sources covered by a CTG document, the district may adopt a “negative declaration” for that source category. A negative declaration is a statement that a RACT determination is not needed for the applicable source category because no sources in that category exist in the district.

The District previously completed and submitted a RACT analysis in 2006. At that time, the District identified several areas where RACT was not met. The District has taken steps to address the issues identified by EPA regarding the 2006 analysis. Since 2006, new CTG documents have been published by the USEPA. This analysis evaluates the most recently published CTGs for each source category.

The RACT analysis demonstrates that RACT is being met for all but one source category for which a CTG has been published, and furthermore, that RACT is met for all of the major sources in the District. For the one source category for which RACT cannot be demonstrated, Offset Lithographic Printing and Letterpress Printing, the District is committing to amend the applicable District rule to ensure consistency with the appropriate CTG. The District is submitting this RACT SIP document for the 2008 ozone standard.

BACKGROUND

8-Hour National Ambient Air Quality Standards for Ozone

The CAA was adopted in 1970. The legislation authorized the development of federal and state regulations to limit emissions from stationary and mobile sources. The CAA also requires the US EPA to promulgate ambient air quality standards for “criteria pollutants”. The standards for the criteria pollutants have become lower over time as research provides new information about the health effects of air pollution.

Ground level ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. Ozone-related adverse health effects include decreased lung function and increased respiratory symptoms.

The US EPA first promulgated National Ambient Air Quality Standards (NAAQS) for ozone in 1971 with revisions in 1979, 1997, and 2008. The standard began as a 1-hour averaging period and later changed to an 8-hour averaging period, which was determined to be more protective of human health. On May 27, 2008 the USEPA lowered the 8-hour standard from 0.08 parts per million (ppm) to a standard of 0.075 ppm. This RACT SIP document is being prepared for the 0.075 ppm standard and also addresses issues raised by EPA for the RACT SIP analysis prepared for the 0.08 ppm standard.

Nonattainment Status of the District

The District’s boundaries incorporate all of Yolo County and the northeastern portion of Solano County. The District is included in the SFNA for ozone. The SFNA consists of the District, all of Sacramento County, and portions of Placer, El Dorado, and Sutter counties. USEPA has designated the SFNA as a severe ozone nonattainment area¹ for the 2008 8-hour ozone national ambient air quality standard. As a severe nonattainment area, the SFNA is required to meet the 2008 8-hour ozone NAAQS by December 31, 2027.

Reasonably Available Control Technology Requirement

The CAA requires certain categories of emission sources in ozone nonattainment areas to implement control methods that meet RACT. The US EPA defines RACT as the lowest emission limitation that a particular source is capable of meeting through the application of control technology (i.e., devices, systems, process modification, or other apparatus or techniques that reduce air pollution) that is reasonably available, considering technological and economic feasibility. The US EPA publishes CTGs for source categories that describe RACT for that category.

¹ 77 FR 30088 (May 21, 2012)

Specifically, the CAA requires RACT for sources as described in the following CAA sections:

- Section 182(b)(2)(A): Each category of VOC sources covered by a CTG document issued by the Administrator between the date of the enactment of the Clean Air Act Amendments of 1990 and the date of attainment.
- Section 182(b)(2)(B): All VOC sources in the area covered by any CTG issued before the date of the enactment of the Clean Air Act Amendments of 1990.
- Section 182(b)(2)(C): All other major stationary sources of VOCs that are located in the area.
- Section 182(f): The plan provisions required under this subpart for major stationary source of volatile organic compounds shall also apply to major stationary sources of oxides of nitrogen.

Alternatively, the District may declare that there are no sources in its jurisdiction subject to a RACT requirement, and that the requirement to adopt a rule for those sources is no longer applicable. In these cases, the District may adopt a negative declaration documenting that the District has no stationary sources or emitting facilities subject to the relevant U.S. EPA CTG documents. Negative declarations must go through the same public review requirements as any other SIP submittal.

DISTRICT RACT SIP HISTORY

As part of the SFNA for the 1997 ozone NAAQS, the District prepared a RACT Analysis for inclusion in the SIP for CTGs issued prior to 2006. The RACT Analysis was adopted by the District's Board of Directors at the September 13, 2006 meeting.

The 2006 RACT Analysis was proposed for disapproval by EPA in the August 18, 2008 Federal Register. The proposed disapproval was based on several identified deficiencies. The District has since corrected all of the deficiencies identified by EPA. These corrections are described below in the "Actions Taken Since Last District RACT Evaluation" Section.

ACTIONS TAKEN SINCE LAST DISTRICT RACT EVALUATION

The proposed EPA disapproval of the District's 2006 RACT SIP document was based on several deficiencies that were identified by EPA staff. Since this disapproval was proposed the District has addressed, or is addressing in this current document, all of the issues identified by EPA with respect to the 2006 RACT SIP. For each deficiency identified in the original proposal, the language from the Federal Register is provided in italics, followed by the District's resolution of the issue:

1. *YSAQMD identified three major non-CTG sources in the District that are not covered by RACT rules or SIP approved permits. Such rules or permits should be submitted to EPA for approval.*

The YSAQMD has adopted RACT rules for the three major non-CTG sources identified by EPA. These rules are:

- Rule 2.41 – Expandable Polystyrene Manufacturing Operations
- Rule 2.42 - Nitric Acid Productions
- Rule 2.43 – Biomass Boilers

Of these rules, Rule 2.41 was approved by EPA on 9/8/11, Rule 2.42 was approved by EPA on 5/10/10, and Rule 2.43 was approved by EPA on 7/2/12.

2. *YSAQMD's pharmaceutical manufacturing rule may be less stringent than the CTG. Rule 2.35 should be revised and submitted to EPA for approval.*

The District researched whether the CTG applied to any sources within the District. The District found that there were no applicable sources operating within the District's jurisdiction. Consequently, the District will adopt a negative declaration for the applicable CTG in this RACT SIP document for both the 1997 and 2008 ozone standards.

3. *On May 14, 2008, YSAQMD amended the solvent cleaning provisions in several rules to address RACT requirements. These rules need to be submitted to, and approved by, EPA.*

The YSAQMD last amended its solvent rule on May 8, 2013. EPA approved this rule into the SIP on April 28, 2015.

4. *YSAQMD should submit a negative declaration for the Wood Furniture CTG or submit Rule 2.39 for SIP approval.*

The YSAQMD is submitting a negative declaration for this CTG for both the 1997 and 2008 ozone standards as part of this RACT SIP analysis.

RACT ANALYSIS FOR 2008 OZONE NAAQS

Consistent with the RACT requirements of Section 182 of the CAA described above, the current RACT Analysis for the 2008 8-hour ozone NAAQS involves the following procedures:

- Identify all source categories in the District that require RACT. This would include sources covered by an EPA CTG 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 requiring RACT, list the local rule that implements RACT.
- Describe the basis for concluding that the regulations fulfill RACT. For major non-CTG sources, the District may determine RACT based on guidance such as New Source Performance Standards (NSPS), California Suggested Control Measures (SCM) and the rules and RACT/BARCT determinations of other California air districts.

STATE IMPLEMENTATION PLAN SUBMITTAL

The District will make this RACT Analysis and negative declaration available for public comment beginning August 11, 2017. The District will hold a public hearing on September 13, 2017, at which time the District Board of Directors will adopt the RACT SIP Analysis and direct staff to forward it to the California Air Resources Board (CARB) and eventually to the US EPA as a SIP revision.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

This RACT SIP analysis is an evaluation of current District air pollution rules and will not result in new or revised District regulations or any physical change in the environment. This project qualifies for a categorical exemption under the California Environmental Quality Act (CEQA Guidelines Section 15307, Action by Regulatory Agency for Protection of Natural Resources).

IDENTIFICATION OF CTG'S APPLICABLE TO DISTRICT SOURCES

District staff identified each source category covered by a CTG published by EPA for which any sources (either major or minor) operate in the District. For this process, staff used the list of CTG's published by the EPA at:

<https://www.epa.gov/ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques-documents-reducing>

The list of CTG's, along with a determination showing whether or not there are sources subject to each CTG, is shown in Table 1 below. The District permits sources through its local permitting program, so the District is able to determine which CTG source categories are present in the District. The EPA published CTG EPA 453/B-16-001, "Control Techniques Guidelines for the Oil and Natural Gas Industry", on October 10, 2016 (81 FR 74798). The EPA provided a two-year period from the effective date of the CTG for the required SIP submittal. Consequently, CTG EPA 453/B-16-001 is not analyzed in this RACT SIP document.

EPA Report	Description	Notes	YSAQMD Sources?
EPA-450/R-75-102	Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations; Note – This document is regarded as a CTG although it was never published with an EPA document number.	Applies to commercial service stations.	Yes
EPA-450/2-77-008	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks	Applies to coating operations at the listed manufacturing industries (Cans, coils, fabric, paper, automobiles & trucks)	No
EPA-450/2-77-025	Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds	Applies to petroleum refineries	No
EPA-450/2-77-026	Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals	Applies to bulk terminals	Yes
EPA-450/2-77-022	Control of Volatile Organic Emissions from Solvent Metal Cleaning	Solvent metal cleaning includes 3 broad categories: cold cleaners, open top vapor degreasers, and conveyORIZED degreasers; regardless of who is using the	Yes

Table 1 – Categories of Sources Covered by a CTG			
EPA Report	Description	Notes	YSAQMD Sources?
		equipment	
EPA-450/2-77-032	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume III: Surface Coating of Metal Furniture	Applies to coating operations at metal furniture manufacturing facilities	No
EPA-450/2-77-033	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume IV: Surface Coating of Insulation of Magnet Wire	Applies to plants that coating wire with an insulating varnish or enamel	No
EPA-450/2-77-034	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume V: Surface Coating of Large Appliances	Applies to plants that make large appliances	No
EPA-450/2-77-035	Control of Volatile Organic Emissions from Bulk Gasoline Plants	Applies to bulk plants	Yes
EPA-450/2-77-036	Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks	Applies to fixed roof gasoline storage tanks over 422,675 gallons	No
EPA-450/2-77-037	Control of Volatile Organic Emissions from Use of Cutback Asphalt	Applies to the use of cutback asphalt during paving	Yes
EPA-450/2-78-015	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products	Applies to coating of metal parts and products	Yes
EPA-450/2-78-032	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VII: Factory Surface Coating of Flat Wood Paneling	Applies to coatings on flat wood panels	No
EPA-450/2-78-036	Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment	Applies to petroleum refineries	No

Table 1 – Categories of Sources Covered by a CTG			
EPA Report	Description	Notes	YSAQMD Sources?
EPA-450/2-78-029	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products	Applies to the pharmaceutical industry	No
EPA-450/2-78-030	Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires	Applies to rubber tire manufacturing plants	No
EPA-450/2-78-033	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography	Applies to the graphic arts industry	No
EPA-450/2-78-047	Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks	Applies to external floating roof tanks over 39,626 gallons storing petroleum	Yes
EPA-450/2-78-051	Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems	Applies to gasoline tank trucks and vapor recovery at gdfs, bulk plants, and bulk terminals	Yes
EPA-450/3-82-009	Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners	Applies to 'large' dry cleaning - not defined well, but examples are plant cleaning 2,400 lbs/day or 5,400 lbs/day	No
EPA-450/3-83-008	Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins	Applies to facilities that make the resins, not those which use them	No
EPA-450/3-83-007	Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants	Applies to facilities engaged in the separation of natural gas liquids from field gas	No
EPA-450/3-83-006	Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment	Applies to leaks from facilities that make chemicals, including MTBE, polyethylene, polypropylene, and polystyrene (SOCMI)	No
EPA-450/3-84-015	Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry	Applies to facilities that make chemicals used in the SOCMI by reacting chemicals with oxygen.	No

Table 1 – Categories of Sources Covered by a CTG			
EPA Report	Description	Notes	YSAQMD Sources?
EPA-450/4-91-031	Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry	Applies to leaks from reactors and distillation columns at SOCOMI facilities.	No
EPA-453/R-96-007	Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations	Applies to facilities that coat wood products, with annual emissions over 25 tons VOC	No
61 FR-44050 8/27/96	Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating)	Applies to ship building and repair operations	No
EPA-453/R-97-004	Aerospace (CTG & MACT)	Applies to facilities that produce an aerospace vehicle component	No
EPA-453/R-06-001	Control Techniques Guidelines for Industrial Cleaning Solvents	Applies to industries that use organic solvents in cleaning units (tanks, booths, parts cleaners) or wipe cleaning that emits over 15 lbs/day; Doesn't include cleaning subject to a different industry specific CTG (like aerospace, printing, automotive)	Yes
EPA-453/R-06-002	Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing	Applies to litho/letterpress printing operations with emissions over 15 lbs/day	Yes
EPA-453/R-06-003	Control Techniques Guidelines for Flexible Package Printing	Applies to flexible package printing operations with emissions over 15 lbs/day	No
EPA-453/R-06-004	Control Techniques Guidelines for Flat Wood Paneling Coatings	Applies to coatings on flat wood panels	No
EPA 453/R-07-003	Control Techniques Guidelines for Paper, Film, and Foil Coatings	Applies to coating operations at the listed manufacturing industries (paper, film, and foil coatings)	No
EPA 453/R-07-004	Control Techniques Guidelines for Large Appliance Coatings	Applies to plants that make large appliances	No
EPA 453/R-	Control Techniques Guidelines for Metal Furniture Coatings	Applies to coating operations at metal furniture manufacturing	No

Table 1 – Categories of Sources Covered by a CTG			
EPA Report	Description	Notes	YSAQMD Sources?
07-005		facilities	
EPA 453/R-08-003	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings	Applies to coating of metal and plastic parts and products	Yes
EPA 453/R-08-004	Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials	Applies to companies that make boats from fiberglass, and that emit over 15 lbs/day (or 2.7 tons/year)	Yes
EPA 453/R-08-005	Control Techniques Guidelines for Miscellaneous Industrial Adhesives	Applies to facilities that use adhesives and have emissions over 15 lbs/day (or 3 tpy)	No
EPA 453/R-08-006	Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings	Applies to facilities that paint new cars and trucks	No

MAJOR SOURCES WITHIN THE DISTRICT

The District permits major sources through our local permit program and also administers the Federal Title V permitting program. Therefore, the universe of major sources in the District can be known with certainty. The District's major sources, along with a description of each source, are listed in Table 2 below.

Table 2 - Major Sources Within the District²		
Source Name	Source Description	CTG Source?
Buckeye Terminals, LLC	Petroleum Bulk Storage & Terminal Loading	Yes
California Medical Facility, California State Prison Solano, Prison Industry Authority	Psychiatric, Medical Care, Housing and Supervision for Level 3 Inmates, Correctional Detention Center for Male Inmates	No
Equilon	Petroleum Bulk Storage & Terminal Loading	Yes
Insulfoam, LLC	Processor of Expanding Polystyrene used for Building Industry Materials and Packaging	No
Recology Hay Road	Landfill Operations	No
Truck Accessories Group	Truck Cap and Tonneau Manufacturer	No
UC Davis	School University	No
Woodland Biomass	Biomass Fired Boiler System Supplying a Turbine Generating Electrical Power	No
Yolo County Central Landfill	Landfill Operations	No

² Stationary source facilities emitting or with the potential to emit 25 tons per year or more of VOC or NOx.

ADOPTION OF NEGATIVE DECLARATIONS

For each CTG category for which the District has no sources, the District must adopt a negative declaration. Table 3 lists the CTG source categories for which the District will adopt negative declarations. These negative declarations are being adopted for both the 1997 and 2008 ozone standards.

Table 3 – CTG Categories for Which YSAQMD Will Adopt a Negative Declaration	
EPA Report	Description
EPA-450/2-77-008	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks
EPA-450/2-77-025	Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds
EPA-450/2-77-032	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume III: Surface Coating of Metal Furniture
EPA-450/2-77-033	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume IV: Surface Coating of Insulation of Magnet Wire
EPA-450/2-77-034	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume V: Surface Coating of Large Appliances
EPA-450/2-77-036	Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks
EPA-450/2-78-029	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products (negative declaration is for both the 1997 and 2008 ozone standards)
EPA-450/2-78-032	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VII: Factory Surface Coating of Flat Wood Paneling
EPA-450/2-78-033	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography
EPA-450/2-78-036	Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment
EPA-450/2-78-030	Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires
EPA-450/3-82-009	Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners
EPA-450/3-83-008	Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins
EPA-450/3-83-007	Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants
EPA-450/3-83-	Control of Volatile Organic Compound Leaks from Synthetic Organic

Table 3 – CTG Categories for Which YSAQMD Will Adopt a Negative Declaration	
EPA Report	Description
006	Chemical Polymer and Resin Manufacturing Equipment
EPA-450/3-84-015	Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry
EPA-450/4-91-031	Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry
EPA-453/R-96-007	Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations (negative declaration is for both the 1997 and 2008 ozone standards)
61 FR-44050 8/27/96	Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating)
EPA-453/R-97-004	Aerospace (CTG & MACT)
EPA-453/R-06-003	Control Techniques Guidelines for Flexible Package Printing
EPA-453/R-06-004	Control Techniques Guidelines for Flat Wood Paneling Coatings
EPA 453/R-07-003	Control Techniques Guidelines for Paper, Film, and Foil Coatings
EPA 453/R-07-004	Control Techniques Guidelines for Large Appliance Coatings
EPA 453/R-07-005	Control Techniques Guidelines for Metal Furniture Coatings
EPA 453/R-08-005	Control Techniques Guidelines for Miscellaneous Industrial Adhesives
EPA 453/R-08-006	Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings
EPA 453/R-08-003	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings (plastic parts portion only)
EPA 453/B-16-001	Control Techniques Guidelines for the Oil and Natural Gas Industry

DISTRICT RULES IMPLEMENTING RACT

For each CTG source category for which the District has sources, as well as for all major sources, the District must list the local rule that implements RACT for that category. This list appears in Table 4, below.

Table 4 – CTG Source Categories for Which the District Has Sources					
CTG/Major Source	Description	District Rule	Amended	Submitted?	SIP Approval
EPA-450/R-75-102	Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations; Note – This document is regarded as a CTG although it was never published with an EPA document number.	Rule 2.22	1/14/2015	6/26/2015	2/9/2016
EPA-450/2-77-026	Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals	Rule 2.21	9/14/2005	10/20/2005	10/31/2006
			3/12/2014	6/26/2015	Awaiting
			9/14/2016	1/24/2017	Awaiting
EPA-450/2-77-022	Control of Volatile Organic Emissions from Solvent Metal Cleaning	Rule 2.31	5/8/2013	2/10/2014	4/28/2015
EPA-450/2-77-035	Control of Volatile Organic Emissions from Bulk Gasoline Plants	Rule 2.21	See Rule 2.21 above		
EPA-450/2-77-037	Control of Volatile Organic Emissions from Use of Cutback Asphalt	Rule 2.28	5/25/1994	11/30/1994	2/5/1996
EPA-450/2-78-015	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products	Rule 2.25	4/24/1994	11/30/1994	2/12/1996
EPA-450/2-78-033	Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts Rotogravure and Flexography	Rule 2.29	5/14/2008	no	5/25/1994
EPA-450/2-78-047	Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks	Rule 2.21	See Rule 2.21 above		
EPA-450/2-78-051	Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems	Rule 2.21	See Rule 2.21 above		
EPA-453/R-06-001	Control Techniques Guidelines for Industrial Cleaning Solvents	Rule 2.31	See Rule 2.31 above		
EPA-453/R-06-002	Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing	Rule 2.29	See Rule 2.29 above		
EPA-453/R-08-003	Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings	Rule 2.25	See Rule 2.25 above		
EPA-453/R-08-004	Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials	Rule 2.30	4/14/1999	6/3/1999	7/21/1999
EPA-453/R-08-005	Control Techniques Guidelines for Miscellaneous Industrial Adhesives	Rule 2.33	3/12/2003	6/5/2003	3/22/2004
Buckeye Terminals, LLC	Bulk Gasoline Plant	Rule 2.21	See Rule 2.21 above		
California Medical Facility & California State Prison – Solano Prison Authority	Prison (emissions from engines, boilers, printing, and coating operations)	Rule 2.25	See Rule 2.21 above		
		Rule 2.26	12/10/2008	6/26/2015	12/8/2015
		Rule 2.27	8/17/1996	10/18/1996	6/17/1997
		Rule 2.29	See Rule 2.29 above		
		Rule 2.32	10/10/2001	11/28/2001	1/28/2002
Equilon	Bulk Gasoline Plant	Rule 2.21	See Rule 2.21 above		
Insulfoam, LLC	Expandable Polystyrene Foam Plant	Rule 2.41	9/10/2008	12/23/2008	9/8/2011

Recology Hay Road	Municipal Solid Waste (MSW) Landfill	Rule 2.38	3/12/1997	*	*
Truck Accessories Group	Camper shell manufacturing (polyester resins & automotive painting)	Rule 2.30	See Rule 2.30 above		
		Rule 2.26	See Rule 2.26 above		
UC Davis	University (emissions from boilers, engines, coating operations, gdf, landfill gas collection)	Rule 2.22	See Rule 2.22 above		
		Rule 2.25	See Rule 2.25 above		
		Rule 2.27	See Rule 2.27 above		
		Rule 2.32	See Rule 2.32 above		
		Rule 2.38	See Rule 2.38 above		
		Rule 2.39	Not a major source because of this category		
Woodland Biomass	Biomass power plant	Rule 2.43	11/10/2010	4/5/2011	7/2/2012
Yolo County Central Landfill	MSW Landfill	Rule 2.38	3/12/1997	*	*
* Federally enforceable through California's 111(d) State Plan which was approved by EPA on September 23, 1999.					

RACT DEMONSTRATION

For each category for which RACT is required, the District must demonstrate that the appropriate local rule fulfills RACT. As stated earlier, the EPA defines RACT as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” The CTGs can be used to presumptively define RACT.

For each category the District will discuss the following:

- 1) The applicability of the CTG.
- 2) What the District believes the lowest achievable limit is.
- 3) The controls recommended by the CTG.
- 4) A comparison of the controls recommended by the CTG and the requirements of the applicable District rule.
- 5) For reference, an estimate of the number of sources in our District covered by the CTG.

Analysis for EPA-450/R-75-102, Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations; Note – This document is regarded as a CTG although it was never published with an EPA document number.

- 1) This CTG states that the design criteria apply primarily to commercial service stations where filling conditions are most severe. At such stations there are usually two or three storage tanks, each of which range up to 10,000 gallons in capacity.
- 2) For this source category, the lowest emission limitation available is certified phase I Vapor Recovery (VR) system, which achieves 95% control (by weight).
- 3) This CTG describes the control systems that were available in the mid 1970's, which involved the return of displaced vapors during filling of the tanks to the tank truck, which were capable of achieving 90% by weight vapor control.
- 4) Our rule that implements RACT for this category is Rule 2.22 - Gasoline Dispensing Facilities. The version that is federally enforceable was adopted January 14, 2015 and approved into the SIP by EPA on February 9, 2016. Section 304 requires any gasoline tank over 251 gallons to have ARB certified vapor recovery that achieves 95% control by weight. This is more stringent than the 90% suggested by the CTG and equivalent to the limit determined by the District to meet RACT for this source category.
- 5) Our District has approximately 120 retail gasoline dispensing facilities under permit, and all of them have Phase I Enhanced VR systems installed and are source tested on a recurring basis.

Analysis for EPA-450/2-77-026, Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals

- 1) This CTG applies to tank truck terminals with daily throughputs of greater than 20,077 gallons per day.
- 2) For this source category, the lowest emission limitation available is a vapor recovery system that captures the displaced vapors as tank trucks are being filled at the bulk terminals.
- 3) This CTG describes controls that can be implemented to achieve reductions of 80 milligrams of hydrocarbon per liter of gasoline loaded. This would convert to 0.000668 lbs/gallon, or 0.668 lbs/1,000 gallons.
- 4) RACT for this category is implemented by District Rule 2.21 - Organic Liquid Storage and Transfer. The version that is federally enforceable was adopted September 14, 2005, and approved into the SIP by EPA on October 31, 2006. Section 308 requires gasoline transfer at any gasoline terminal to meet an emission limit of 0.08 pounds 1,000 gallons transferred. This is well below the control limit suggested by the applicable CTG.

The District revised Rule 2.21 on March 12, 2014 and again on September 14, 2016 to remove the requirements for gasoline dispensing facilities from this rule, as they were duplicative to the gasoline dispensing facility requirements in Rule 2.22. The most recently revised Rule 2.21 was submitted to the ARB in September of 2016 and ARB forwarded to EPA on January 24, 2017 for inclusion in the SIP. As demonstrated above, the current federally enforceable version of Rule 2.21 can be shown to meet RACT. The District believes that the amended version that has been submitted for inclusion in the SIP is no less stringent than the current federally enforceable version, and therefore will meet RACT as well.

- 5) Our District has 2 gasoline terminals under permit, both of which have throughputs above 20,077 gallons per day.

Analysis for EPA-450/2-77-022, Control of Volatile Organic Emissions from Solvent Metal Cleaning

- 1) This CTG applies to cleaning of metals with solvents, and is broken into 3 major categories: cold cleaning, open top vapor degreasing, and conveyORIZED degreasing.
- 2) For this source category, the lowest emission limitation available is achieved using solvents with a low VOC content and/or following work practice standards.
- 3) This CTG states "...RACT for these source entails implementation of operating procedures which minimize solvent loss and retrofit of applicable control devices..."
- 4) Our rule that implements RACT for this category is Rule 2.31 - Surface Preparation and Cleanup adopted May 8, 2013. The EPA proposed direct final approval of this rule on April 28, 2015. In EPA's Technical Support Document, page 6, EPA concludes that '...Rule 2.31 implements RACT...'

This rule requires degreasing operations to use low VOC content solvents or use a specific device (cold cleaner, open top vapor degreaser, airtight cleaning equipment, or remote reservoir cold cleaner) and adhere to strict work practices. The work practices requirements are consistent with other California district's rule requirements and are intended to minimize solvent loss.

- 5) Our District has one (1) vapor degreaser under permit and no conveyORIZED degreasers under permit. We have many sources that perform surface preparation and cleanup, with at least some of these utilizing cold cleaners. Rule 2.31 contains VOC limits for specific types of solvents. Any solvents that do not fall into these specific categories would be required to meet the VOC limits for the "General" category of 25 grams of VOC per liter.

Analysis for EPA-450/2-77-035, Control of Volatile Organic Emissions from Bulk Gasoline Plants

- 1) This CTG applies to any facility loading gasoline into account trucks at a rate of 76,000 liters or less per day. The CTG covers control of VOC emissions that occur during the filling of account and transport trucks as well as control of VOC from breathing and drainage losses from storage tanks.
- 2) For this source category, certified vapor recovery systems have been shown to achieve 95% control of VOC during the transfer of organic liquid into transport vessels. Vapor loss control devices have been shown to effectively reduce fugitive emissions from organic liquid storage tanks.
- 3) This CTG states that vapor processing technology has been shown to reduce VOC emissions by 90 percent or more when applied to storage tanks and account trucks. The CTG also suggests that maintenance, operation, and housekeeping requirements be adopted to prevent leaks and ensure effective VOC collection by the vapor processing technology.
- 4) RACT for this category is implemented by District Rule 2.21 - Organic Liquid Storage and Transfer. The version that is federally enforceable was adopted September 14, 2005, and approved into the SIP by EPA on October 31, 2006. As discussed previously, the District revised rule (September 14, 2016) has been submitted to EPA on January 24, 2017 for inclusion in the SIP. Rule 2.21 applies to any above ground storage tank with a capacity of greater than 250 gallons, any gasoline bulk plant, any terminal, or any transport vessel that stores or transfers an organic liquid with a true vapor pressure of 0.5 psia or greater.

Rule 2.21 requires that any terminal or gasoline bulk plant be equipped with a vapor recovery system certified by the California Air Resources Board (CARB). Bulk plant vapor recovery systems must achieve at least 95% control efficiency. Transport vessels must have a valid CARB certification and are required to be connected to the loading facility vapor recovery system before any organic liquid is transferred. The 95% control efficiency required by Rule 2.21 is more stringent than the 90% VOC reduction that the CTG suggests is attainable through the use of vapor processing. Consequently, the provisions of Rule 2.21 meet RACT. Rule 2.21 also contains requirements for work practices to minimize evaporative loss and leaks.

As demonstrated above, the current federally enforceable version of Rule 2.21 can be shown to meet RACT. The District believes that the September 14, 2016 amended version that has been submitted for inclusion in the SIP is no less stringent than the current federally enforceable version, and therefore will meet RACT as well.

- 5) Our District has 5 bulk plant sources under permit subject to Rule 2.21.

Analysis for EPA-450/2-77-037, Control of Volatile Organic Emissions from Use of Cutback Asphalt

- 1) This CTG applies to the release of VOC during the application of paving asphalts liquefied with petroleum distillate, which is generally referred to as “cutback asphalt”.
- 2) For this source category, the District has determined that RACT is represented through the prohibition of rapid cure asphalt and medium cure asphalt, and by lowering the allowable amount of petroleum solvents in slow cure cutback asphalt to no more than 0.5 percent by volume.
- 3) This CTG recommends the substitution of cutback asphalt with emulsified asphalt. Emulsified asphalt uses a substitute for petroleum distillate that is water and emulsifier. The emulsifier is composed of non-volatile organic chemicals, which reduces VOC emissions.
- 4) The District has adopted Rule 2.28 - Cutback and Emulsified Asphalts to reduce VOC from this source category. The version that is federally enforceable was adopted May 25, 1994, and approved into the SIP by EPA on February 5, 1996. Rule 2.28 prohibits the use of rapid cure and medium cure asphalt. Rule 2.28 also limits the amount of petroleum solvents that can be contained in slow cure asphalt to no more than 0.5 percent by volume and limits the amount of petroleum solvents in emulsified asphalt to no more than three percent by volume.

The CTG was adopted in 1977. Rule 2.28 was approved into the State Implementation Plan by EPA in 1996, demonstrating that the EPA believed Rule 2.28 to be at least as stringent as the CTG.

- 5) The use of asphalt does not require permits with our District, so the number of sources in our district is unknown. However, anybody that performs paving in our jurisdiction must comply with the requirements of Rule 2.28.

Analysis for EPA-450/2-78-015, Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products

- 1) This CTG deals with the surface coating of miscellaneous metal parts and products, and provides guidance on VOC emission controls for industries which apply coating on metal substrates.
- 2) For this source category, the District has determined that RACT is met by requiring the use of low-VOC coatings for metal parts coatings operations that are at least as stringent as the limits found in the CTG, combined with work-practice requirements.
- 3) This CTG recommends the use of low-VOC coatings with organic solvent content ranging between 0.4 for powder coatings and up to 4.4 pounds per gallon. The CTG also notes that equivalent VOC control can be achieved through the use of certain add-on control devices.
- 4) The District has adopted Rule 2.25 - Metal Parts and Products Coatings Operations to regulate the emissions of VOC from this CTG category. The version that is federally enforceable was adopted April 27, 1994, and approved into the SIP by EPA on February 12, 1996. Rule 2.25 prohibits the use of coatings with VOC contents exceeding certain specified limits. The rule exempts certain types of coatings from the low-VOC requirements where it has not been demonstrated that low-VOC products exist for the coatings in question. Rule 2.25 also mandates work practices to reduce VOC emissions for coating application, storage and disposal.

The CTG was adopted in 1978. The CTG includes a number of suggestions for maximum VOC limits for various types of coatings. The coatings listed in the CTG do not necessarily line up with the coating categories described in Rule 2.25, as coating names and functions have changed since the CTG was published. However, the CTG, page V, does not list a maximum VOC limit for any coating (besides powder coating) of less than 3 lbs per gallon, whereas Rule 2.25 contains limits for General Coatings of 2.3 lbs per gallon for baked coatings and 2.8 lbs per gallon for air dried coatings. The only coating category listed in the CTG that is specifically addressed in Rule 2.25 is the “extreme performance” category. The CTG suggests a VOC limit of 3.5 lbs per gallon for this coating category. An equivalent VOC limit is found in Rule 2.25 for the same coating category.

EPA took direct final action on Rule 2.25, approving it into the State Implementation Plan, in 1996. The direct final action demonstrated that the EPA believed Rule 2.25 to be at least as stringent as the CTG. VOC limits in Rule 2.25 are either more stringent than those suggested in the CTG or equivalent to limits listed in the CTG.

- 5) Our District has about 20 sources under permit subject to Rule 2.25.

Analysis for EPA-450/2-78-047, Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks

- 1) This CTG describes available technologies for the control of VOC from the storage of petroleum liquids in external floating roof tanks.
- 2) To control VOC from this source category, floating roof tanks with closure devices consisting of primary and secondary seals have been shown to be effective. The District considers the installation of secondary seals on liquid storage tanks covered in this CTG category to be RACT.
- 3) This CTG recommends a rim-mounted secondary seal for external floating roof tanks. The CTG defines an appropriate rim-mounted secondary seal as being a continuous device extending from the floating roof to the tank wall, installed over the primary seal.
- 4) District Rule 2.21 - Organic Liquid Storage and Transfer implements RACT for this source category. The version that is federally enforceable was adopted September 14, 2005 and approved into the SIP by EPA on October 31, 2006. As discussed previously, the District revised rule (September 14, 2016) has been submitted to EPA on January 24, 2017 for inclusion in the SIP. Rule 2.21 applies to any above ground storage tank with a capacity of greater than 250 gallons, including external floating roof tanks.

Rule 2.21 requires that any tank above 40,000 gallons have controls of an internal floating roof, external floating roof, or vapor recovery system. If the control selected is an external floating roof tank, it must be equipped with primary and secondary seals. Secondary seals are required to be installed above the primary seals. Rule 2.21 contains requirements for secondary seals prohibiting holes, tears, or openings in secondary seals which could allow for VOC to escape from storage tanks. Rule 2.21 also specifies the maximum size of any gap allowed between a secondary seal and the tank shell. These requirements are at least as stringent as the requirements listed in the CTG.

The CTG for this source category was adopted in 1978. The 2005 version of District Rule 2.21 was submitted to EPA for approval for the SIP, and EPA issued a direct final approval of the rule in 2006. This further demonstrates that EPA believed that the requirements of Rule 2.21 were at least as stringent as the requirements of the CTG. The District has determined that Rule 2.21 contains requirements that are at least as stringent as the CTG, and therefore the rule meets RACT.

- 5) The District has 1 source (with 3 external floating roof tanks) subject to Rule 2.21.

Analysis for EPA-450/2-78-051, Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems

- 1) This CTG describes control technologies that are available for the control of VOC from gasoline tank trucks and vapor collection systems at bulk terminals, bulk plants and service stations.
- 2) The District believes that the lowest achievable limit for the control of VOC from this CTG category is represented by the installation of vapor recovery systems on tank trucks that meet the requirements of Section 41962 of the California Health and Safety Code. For vapor collection systems at terminals and bulk plants, the District considers the lowest achievable limit to be the requirements of Section 41954 of the California Health and Safety Code.
- 3) This CTG recommends that tank trucks maintain a minimum pressure when pressurized to 4500 pascals, with no avoidable visible liquid leaks. The CTG also sets minimum requirements for vapor collection systems at service stations, bulk plants and bulk terminals.
- 4) District Rules 2.21 - Organic Liquid Storage and Transfer and 2.22 - Gasoline Dispensing Facilities implement RACT for this source category. The version of Rule 2.21 that is federally enforceable was adopted September 14, 2005 and approved into the SIP by EPA on October 31, 2006. The version of Rule 2.22 that is federally enforceable was adopted January 14, 2015 and approved into the SIP by EPA on February 9, 2016.

The District revised Rule 2.21 on September 14, 2016 to remove the requirements for gasoline dispensing facilities from this rule, as they were duplicative to the gasoline dispensing facility requirements in Rule 2.22. As discussed previously, this revised rule 2.21 has been submitted to EPA for SIP inclusion.

Rule 2.21 separates requirements for storage tanks into those for tanks with capacities greater than 40,000 gallons, and those with capacities between 250 and 40,000 gallons (bulk plants and terminals). For tanks with capacities between 250 and 40,000 Rule 2.21 prohibits the transfer of organic liquid unless a vapor control system is employed that prevents the release of at least 95% by weight of the displaced organic vapor. For bulk plants and terminals, Rule 2.21 prohibits the transfer of organic liquid into any transport vessel unless it is equipped with a vapor recovery system that has been certified by the California Air Resources Board to meet the provisions of Section 41954 of the California Health and Safety Code.

Rule 2.22 requires that any transfer of gasoline into a storage tank with capacity of at least 251 gallons unless the tank is equipped with a CARB-certified Phase I enhanced vapor recovery system.

The CTG for this source category was adopted in 1978. District Rule 2.21 was submitted to EPA for approval into the SIP and EPA issued a direct final approval of the rule in

2006. The District believes that the amended version of this rule that has recently (January 24, 2017) been submitted to EPA is no less stringent than the current federally enforceable version, and therefore meets RACT as well. District Rule 2.22 was submitted to EPA for approval into the SIP and a direct final approval was issued by EPA in 2003. EPA's approval of rules 2.21 and 2.22 demonstrates that EPA believed that the requirements of the rules were at least as stringent as the requirements of the CTG. The District has determined that the requirements of California Health and Safety Code Section 41954 represent RACT for control of VOC during the transfer of organic liquids to bulk plants and terminals, and that Phase I enhanced vapor recovery represents RACT for control of VOC during the transfer of organic liquids to storage tanks at service stations. Moreover, the District has determined that California Health and Safety Code Section 41954 and Phase I enhanced vapor recovery are more stringent than the controls suggested in the CTG.

- 5) The District has about 200 sources subject to Rules 2.21 and 2.22.

Analysis for EPA-453/R-06-001, Control Techniques Guidelines for Industrial Cleaning Solvents

- 1) This CTG describes techniques for the control of VOC from industries that use organic solvents for cleaning purposes during operations. The CTG limits its applicability to those facilities that emit at least 15 pounds per day of VOC.
- 2) The District has determined that setting limits on the VOC content of solvents used for cleaning, in conjunction with certain work practices, represents RACT for this CTG category.
- 3) This CTG recommends VOC limits for solvents that are generally equivalent to those found in the Bay Area Air Quality Management District rule regulating solvent use. This corresponds to a generally applicable solvent limit of 50 grams per liter of cleaning material. However, the CTG recommends a number of exclusions for certain categories of cleaning operations.
- 4) The District regulates emissions from this CTG category through the provisions of Rule 2.31 - Solvent Cleaning and Degreasing, which was adopted May 8, 2013. The EPA proposed direct final approval of this rule on April 28, 2015, which was effective June 29, 2015. Rule 2.31 sets maximum VOC limits for solvents used in various types of cleaning operations. The rule sets a “general use” VOC limit for solvents of 25 grams per liter, and specifies alternate VOC limits for specific categories where a 25 gram per liter limit is not feasible. The VOC limits specified in Rule 2.31 are lower, and therefore more stringent, than those recommended in the CTG for this CTG category. Work practices recommended in the CTG, such as covering open containers of solvent and proper disposal of used solvent, are also reflected in Rule 2.31.
- 5) The District has many sources under permit subject to Rule 2.31.

Analysis for EPA-453/R-06-002, Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing

- 1) This CTG contains recommendations for the control of VOC from operations of the lithographic and the letterpress industries.
- 2) The District has determined that setting limits on the VOC content of inks, coatings and adhesives used during lithographic and letterpress operations represents RACT for this CTG category.
- 3) This CTG recommends the requirement of heatset dryers with control efficiency of 95% for sources with potential emissions of at least 25 tons per year of VOC. For sources where the actual VOC emissions (prior to controls) are 15 pounds per day or greater, the CTG recommends maximum limits on the alcohol content of fountain solutions used in lithographic printing. The CTG also recommends using low VOC cleaning materials, combined with work practices for application, storage, and disposal of cleaning materials.
- 4) The District has adopted Rule 2.29 - Graphic Arts Printing Operations to regulate the emissions of VOC from this CTG category. The District does not have any sources that emit more than 25 tons per year of VOC from offset lithographic printing and letterpress printing operations. Consequently, the recommendations in the CTG for sources with emissions in excess of 25 tons per year do not apply to the District. The CTG recommends limiting VOC emissions from fountain solutions for operations that emit less than 25 tons per year. The CTG states that these recommended levels of control were recommended in the 1993 draft CTG for this source category. Rule 2.29 sets maximum VOC content levels for materials, including the inks described in the CTG, that are used in lithographic and letterpress printing. The rule limits inks used for flexographic and lithographic graphic arts operations to 300 grams of VOC's per liter of product, less water and exempt compounds. The District considers these low VOC limits to be RACT for inks used for this CTG category.

The CTG also recommends VOC limits for fountain solutions. The CTG's recommended level of control for VOC emissions from on-press fountain solution for heatset web offset lithographic printing is 1.6 percent alcohol (by weight). The District's Rule 2.29 sets VOC limits for fountain solutions in terms of grams of VOC per liter of product as applied, less water and exempt compounds. Converting the CTG's limit of 1.6 percent alcohol to a "grams per liter" limit yields a limit of approximately 16 grams of VOC per liter of fountain solution. This limit is lower than Rule 2.29's fountain solution limit of 100 grams per liter. The District will amend Rule 2.29 to lower the fountain solution VOC limit to a level consistent with the CTG's recommended limit for sources subject to this CTG.

Limits for cleaning materials used by sources in this category are also included in this CTG. The District regulates solvent cleaning through the provisions of Rule 2.31 – Solvent Cleaning and Degreasing. The VOC limits in Rule 2.31 that would apply to this source category are more stringent than those recommended in the CTG. Work practice

requirements for application, storage and disposal of cleaning materials, as found in Rule 2.31, are consistent with the recommendations found in the CTG.

- 5) The District has 2 sources under permit subject to Rule 2.29.

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Analysis for EPA-453/R-08-003, Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings

- 1) This CTG contains recommendations for the control of VOC from the surface coating of miscellaneous metal product and plastic parts.
- 2) The District has determined that the lowest achievable control of VOC is represented through the use of low-VOC coatings where the general coating limit is equivalent to 275 grams of VOC per liter of coating less water and exempt compounds. The District has also determined that specific work practice requirements are feasible to reduce fugitive VOC emissions during application, storage, and disposal of coatings used in this CTG category.
- 3) This CTG describes two techniques for the control of VOC from this CTG category: pollution prevention through the use of low-VOC coatings and work practice procedures, and the use of add-on control systems. The CTG acknowledges that most operations in this CTG category opt for the use of low-VOC coatings, which is the most prevalent control technique.

For the low-VOC coating option, the CTG recommends the VOC limits, application methods and exemptions in the following local air district rules and State regulations:

- South Coast AQMD Rule 1106.1 (2/12/1999 version)
 - South Coast AQMD Rule 1107 (3/6/1996 version)
 - South Coast AQMD Rule 1125 (1/13/1995 version)
 - South Coast AQMD Rule 1145 (2/14/1997 version)
 - Michigan State Rule 336.1632 (as amended April 28, 1993)
- 4) The District regulates emissions from this CTG category through the provisions of Rule 2.25 - Metal Parts and Products Coating Operations. The version that is federally enforceable was adopted April 27, 1994, and approved into the SIP by EPA on February 12, 1996. Rule 2.25 sets VOC limits for coatings used in operations in the District that are covered by this CTG category.

The District has sources that are equivalent to sources regulated by South Coast Rule 1107, Coating of Metal Parts and Products. The District does not have sources which would be regulated by South Coast Rules 1106.1, 1125, or 1145. The District also does not have sources that would be regulated by Michigan State Rule 336.1632. Per page 28 of the CTG, EPA concludes that South Coast may have amended the limits since 1996, but ‘...we could not conclude that these limits are technologically and economically feasible and, therefore, reflect RACT for all affected facilities in ozone nonattainment areas nationwide. We are, therefore, **not recommending** the limits in SCAQMD Rules 1107 and 1145 promulgated subsequent to the amendments to these rules noted above.

District Rule 2.25 contains VOC limits for coatings that are as stringent as those found in the 1996 version of Rule 1107, and are consequently consistent with the recommendations in the CTG.

The 2008 CTG Table 2 has one coating category (extreme performance, baked) where the recommended limit (3.0 lbs/gal) is slightly lower than the District Rule 2.25 limit (3.5). However, District Rule 2.25 has two categories (Camouflage and Metallic, baked) where the District limit is similarly lower (3.0 lbs/gal for Rule 2.25 and 3.5 lbs/gal for the CTG recommended limit). In addition, the District Rule 2.25 limit for High Performance Architectural is significantly lower than the CTG (3.5 lbs/gal instead of 6.2 lbs/gal). District staff reviewed all sources subject to this CTG whose permits allow the use of ovens for baking coatings. The District found that only one source using ovens had a potential to emit great enough to be subject to the CTG. This source does not use any coatings that qualify as Extreme Performance coatings.

- 5) The District has about 25 sources under permit subject to Rule 2.25. These sources are engaged in activities that fall under the Metal Parts Coating portion of the CTG. The District is adopting a negative declaration for the Plastic Parts Coating portion of the CTG since there are no applicable sources subject to the CTG that are engaged in the coating of plastic parts.

Analysis for EPA-453/R-08-004, Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials

- 1) This CTG provides control recommendations for reducing VOC emissions from the use of gel coats, resins, and materials used to clean application equipment in fiberglass boat manufacturing operations.
- 2) The District has determined that the use of at least one of the following VOC-control methods represents reasonably available control technology:
 - Low-VOC resins and gel coats, in combination with requirements for the application, storage and disposal of these products ;
 - Resins containing a vapor suppressant;
 - Use of a closed-mold system.
- 3) This CTG describes various methods for the control of VOC from this CTG category. The CTG also reviews various regulations adopted by other agencies for the control of this source category. The CTG acknowledges that the use of low-VOC coatings is the most prevalent control technique for most operations in this CTG category.

The CTG contains recommendations for VOC emission limits on the resins and gel coats used in the production of fiberglass boats. As discussed in the CTG, these VOC limits are based on the limits contained in the 2001 National Emission Standards for Hazardous Air Pollutants (NESHAP) adopted for this source category by EPA. As stated in the CTG, "...the HAP limits in the 2001 NESHAP are equally effective in reducing monomer VOC emissions from fiberglass boat manufacturing." The CTG also contains work practice recommendations for adhesive application and storage methods, as well as recommendations for controlling VOC from the cleaning materials used in this source category.

- 4) The District regulates emissions from this CTG category through the provisions of District Rule 2.30 – Polyester Resin Operations. The version that is federally enforceable was adopted in April of 1999, and approved into the SIP by EPA in July, 1999. Rule 2.30 specifies emission limits for the resins and gel coats used in the manufacturing of fiberglass boats. Rule 2.30 also allows alternative methods of compliance, including:
 - The use of a resin containing a vapor suppressant, such that weight loss from VOC

- emissions does not exceed 60 grams per square meter of exposed surface area during resin polymerization.
- The use of a closed-mold system.

Both alternative methods of compliance are more restrictive than option of complying with the VOC limits for resins and gel coats specified in Rule 2.30.

The VOC limits of Rule 2.30 are consistent with the limits in the rules adopted by other air districts in the District's region for the same source category. Specifically, Rule 2.30 VOC limits for resins and gel coats are identical to those specified in the Sacramento Metropolitan Air District's (SMAQMD) Rule 465 – Polyester Resin Operations. The alternative compliance options allowed by Rule 2.30 are also identical to those found in SMAQMD Rule 465, as are requirements for the storage and disposal of VOC-containing materials.

SMAQMD Rule 465 was adopted in February, 1997. The most recent amendment to Rule 465 was September 2008. The September, 2008 version of Rule 465 was approved into the State Implementation Plan (SIP) by EPA in July, 2011. Since SMAQMD Rule 465 was approved by EPA into the SIP after the adoption of the CTG (September, 2008), and since the VOC limits and work practice requirements in the District's Rule 2.30 are identical to those in Rule 465, the requirements of Rule 2.30 constitute RACT.

While the CTG also recommends limits for cleaning materials used during the fiberglass boat manufacturing process, requirements for solvent cleaning materials are addressed by the District's Rule 2.31 – Solvent Cleaning and Degreasing, which is discussed earlier in this document.

- 5) The District has 3 sources under permit subject to Rule 2.30.

Analysis for EPA-453/R-08-005, Control Techniques Guidelines for Miscellaneous Industrial Adhesives

- 1) This CTG provides control recommendations for reducing VOC emissions from miscellaneous industrial adhesives and adhesive primer application processes.
- 2) The District has determined that low-VOC adhesive products for specific applications, in combination with requirements for the application, storage and disposal of these products, represent reasonably available control technology.
- 3) This CTG describes two techniques for the control of VOC from this CTG category: pollution prevention through the use of low-VOC adhesives and work practice procedures, and the use of add-on control systems. The CTG acknowledges that most operations in this CTG category opt for the use of low-VOC coatings, which is the most prevalent control technique.

The CTG contains recommendations for VOC emission limits. The CTG also contains recommendations for adhesive application methods, as well as recommendations for work practices for adhesive storage.

- 4) The District regulates emissions from this CTG category through the provisions of District Rule 2.33 – Adhesive Operations. The version that is federally enforceable was adopted March 12, 2003, and approved into the SIP by EPA on March 22, 2004. Rule 2.33 specifies emission limits for adhesive products used for specific applications. The VOC limits of Rule 2.33 are either as stringent as or more stringent than the limits contained in Table 1 of the CTG. The one exception to this is the 120 g/l limit for porous materials, which would include wood. The 2008 CTG contains a VOC limit for general adhesives for wood of 30 g/l. District staff evaluated all sources subject to District Rule 2.33 and found that only one had a potential to emit VOC emissions that were large enough to make it subject to the 2008 CTG. This source does not apply adhesives to wood substrates. Consequently, the District does not permit any sources that are subject to the 2008 CTG and also subject to the CTG's VOC limit for adhesives applied to wood substrates. Rule 2.33 also specifies requirements for adhesive application methods and required work practices for storage and disposal of adhesives that are equivalent to the CTG recommendations.

- 5) The District has 7 sources under permit subject to Rule 2.33. As mentioned above, only one of these sources has a potential to emit that is large enough to make it subject to the 2008 CTG.

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Analysis of RACT for Major Sources

There are nine major source facilities within the District. Four of these major sources produce VOC emissions from operations that are covered in one or more of the EPA CTG's. According to Section 182(b)(2)(C) of the Clean Air Act, the District is required to demonstrate that all major sources are regulated to the extent that RACT is met. This demonstration follows below. For each major source, the District will provide the following:

- 1) A description of the major source and the operations undertaken by the source which emit ozone precursors.
- 2) A determination as to whether or not the major source emissions are covered under one or more CTG's.
- 3) An identification of the District rule or rules that regulate the emissions from the major source.
- 4) A determination of whether the applicable District rules for the source meet RACT.

Buckeye Terminals, LLC

- 1) Buckeye Terminals, LLC operates facilities for the bulk storage and terminal loading of petroleum.
- 2) The control of emissions from bulk storage and terminal loading of petroleum is covered by CTG's EPA-450/2-77-02: Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals and EPA-450/2-77-035: Control of Volatile Organic Emissions from Bulk Gasoline Plants.
- 3) Petroleum bulk storage and terminal loading are regulated by District Rule 2.21, Organic Liquid Storage and Transfer. Rule 2.21 was adopted by the District Board in 1994 and last amended in September of 2016.
- 4) As discussed in the preceding analysis of EPA-450/2-77-02: Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals and EPA-450/2-77-035: Control of Volatile Organic Emissions from Bulk Gasoline Plants, the District's Rule 2.21 - Organic Liquid Storage and Transfer implements provisions covering these source categories. The rule contains an emission limit for gasoline transfer at gasoline terminals that is below the control limit recommended by CTG EPA-450/2-77-02. Rule 2.21 requires gasoline terminals and bulk plants to be equipped with vapor recovery systems that would achieve 95% control efficiency. This 95% control efficiency is more stringent than the 90% control recommended by CTG EPA-450/2-77-035.

Since Buckeye Terminals, LLC is regulated by the provisions of Rule 2.21, which contains requirements that are more stringent than the requirements of the applicable CTG's and are equivalent to rules adopted by other California air districts, this major source is regulated to a level meeting RACT. Rule 2.21 requires, among other things, that any terminal or gasoline bulk plant be equipped with a vapor recovery system certified by the California Air Resources Board. Bulk plant vapor recovery systems must achieve at least 95% control efficiency.

California Medical Facility and California State Prison - Solano, Prison Industry Authority

- 1) The State of California operates a prison under three entities: California Medical Facility (CMF), California State Prison – Solano, and Prison Industry Authority. Because these three entities are all under the common operational control of the State of California Department of Corrections, they are considered a single stationary source.
- 2) Emissions from this major source are generated by various kinds of equipment that are used in ongoing facility operations, and also by activities such as coating and printing that occur at the facility. A summary of the potential to emit are provided below:

Category	VOC Emissions	NOx Emissions
Metal Coating	7.81 tons/year	0.83 tons/year
Automotive Coating	7.40 tons/year	n/a
Wood Coating	4.05 tons/year	n/a
Printing	0.24 tons/year	n/a
Combustion: Laundry Dryers	0.06 tons/year	1.11 tons/year
Combustion: Boilers	3.43 tons/year	21.79 tons/year
Combustion: Emergency Engine(s)	1.19tons/year	20.45 tons/year

While there are no source categories for which emissions at this stationary source are major, some activities that emit VOC at the facility are covered by CTG's. CTG's that apply to this facility include:

- EPA-450/2-78-015: Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products
 - EPA 453/R-08-003: Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings
- 3) The District rule that regulates the source category covered by the two CTG's listed above is Rule 2.25 – Metal Parts and Products Coatings Operations.
 - 4) As discussed in the analysis of the two applicable CTG's, Rule 2.25 meets RACT.

Equilon

- 1) Equilon operates facilities for the bulk storage and terminal loading of petroleum.
- 2) The control of emissions from bulk storage and terminal loading of petroleum is covered by CTG's EPA-450/2-77-02: Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals and EPA-450/2-77-035: Control of Volatile Organic Emissions from Bulk Gasoline Plants.
- 3) Petroleum bulk storage and terminal loading are regulated by District Rule 2.21, Organic Liquid Storage and Transfer. Rule 2.21 was adopted by the District Board in 1994 and last amended in March of 2014.
- 4) As discussed in the preceding analysis of EPA-450/2-77-02: Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals and EPA-450/2-77-035: Control of Volatile Organic Emissions from Bulk Gasoline Plants, the District's Rule 2.21 – Organic Liquid Storage and Transfer implements provisions covering these source categories. The rule contains an emission limit for gasoline transfer at gasoline terminals that is below the control limit recommended by CTG EPA-450/2-77-02. Rule 2.21 requires gasoline terminal and bulk plants to be equipped with vapor recovery systems that would achieve 95% control efficiency. This 95% control efficiency is more stringent than the 90% control recommended by CTG EPA-450/2-77-035.

Since Equilon is regulated by the provisions of Rule 2.21, which contains requirements that are more stringent than the requirements of the applicable CTG's and are equivalent to rules adopted by other California air districts, this major source is regulated to a level meeting RACT.

Insulfoam, LLC

- 1) Insulfoam, LLC operates a facility in the District which manufactures expanded polystyrene products from pentane beads.
- 2) The manufacture of expanded polystyrene products is covered by CTG EPA-450/3-83-008: Control of Volatile Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins.
- 3) Emissions generated during the production process at this source are regulated by District Rule 2.41 - Expandable Polystyrene Manufacturing Operations. Rule 2.41 was adopted by the District Board on September 10, 2008. It was approved into the SIP by EPA through a direct final approval in 2011. In EPA's Technical Support Document, page 3, EPA concluded that the rule '...fulfills the relevant criteria summarized above (RACT).'
- 4) The emission standards contained in Rule 2.41 are consistent with the provisions of South Coast AQMD (SCAQMD) Rule 1175 – Control of Emissions from the Manufacture of Polymeric Cellular (Foam) Products. SCAQMD Rule 1175 emission limits for this source category, including both emissions capture and overall emissions destruction are the most stringent among California air districts and are more stringent than the applicable CTG for this source category. Consequently, because Rule 2.41 emission limits are consistent with those contained in Rule 1175, and because EPA has recently approved the rule into the SIP, it can be said with certainty that Rule 2.41 meets RACT.

Recology Hay Road

- 1) Recology Hay Road is a municipal solid waste landfill operation. The landfill contracts to accept waste from municipalities around the region.
- 2) Emissions are generated as waste stockpiled at the landfill breaks down. This process is not regulated by a CTG.
- 3) Emissions from solid waste landfills are regulated through the provisions of District Rule 2.38 - Standards for Municipal Solid Waste Landfills. In addition, the State of California submitted the State Plan for Municipal Solid Waste Landfills pursuant to section 111(d) of the Clean Air Act. The Plan contained rules adopted by several air districts including the District's Rule 2.38. Since EPA has approved this State Plan, the District's Rule is federally enforceable.
- 4) Rule 2.38 implements the provisions of the Emission Guidelines for Municipal Solid Waste Landfills as promulgated by the U.S. EPA in 40 Code of Federal Regulations Part 60 Subpart Cc. The District considers the EPA's emission guidelines for this source category to be RACT. Since the provisions of the guidelines are implemented by Rule 2.38, the rule meets RACT.

Truck Accessories Group

- 1) Truck Accessories Group manufactures camper shells using polyester resin. The source also uses automotive coatings on manufactured camper shells.
- 2) The manufacturing operations of this major source are not covered by a CTG.
- 3) Emissions generated by this source are regulated by District Rules 2.30 - Polyester Resin Operations, and 2.26 - Motor Vehicle and Mobile Equipment Coating Operations. Rule 2.30 was approved into the SIP by EPA in 1999 through a direct final approval, and Rule 2.26 was approved into the SIP through a direct final approval 1996. The District revised Rule 2.26 in 2008 to align the VOC standards with the California Suggested Control Measure (SCM). This revised rule has been submitted to ARB for inclusion in the SIP. ARB forwarded the rule to EPA in June, 2015.
- 4) Rule 2.30 contains VOC limits for polyester resins that are consistent with the limits of other air district rules for the same source category. These rules include SMAQMD Rule 465 – Polyester Resin Operations and SCAQMD Rule 1162 – Polyester Resin Operations. Rule 2.30 also includes requirements for the application, storage, and disposal of polyester resins. These work practice requirements are consistent with SMAQMD Rule 465 and SCAQMD Rule 1162. Because the VOC limits and work practice requirements in these rules represent the most stringent controls present in any air district rules, the District has determined that Rule 2.30 meets RACT.

University of California at Davis (UC Davis)

- 1) UC Davis is part of the University of California system. Emissions are generated from a variety of sources during ongoing campus operations.
- 2) Campus operations at UC Davis generate emissions from a variety of equipment and processes. A summary of the potential to emit are provided below:

Category	VOC Emissions	NOx Emissions
Metal and Wood Coating	3.37 tons/year	n/a
Gasoline Dispensing	1.39 tons/year	n/a
Wastewater Treatment	0.16 tons/year	n/a
Landfill	12.31 tons/year	1.83 tons/year
Combustion: Boilers	8.88 tons/year	83.59 tons/year
Combustion: Emergency Engines	2.86 tons/year	68.81 tons/year

UC Davis is only a major source for IC engines and boilers. However, some activities that emit VOC at the facility are covered by CTG's. CTG's that apply to this facility include:

- EPA-450/2-78-015: Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products
 - EPA-450/R-75-102: Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations
- 3) Major source emissions from UC Davis are regulated through the following District rules:
 - Rule 2.27 - Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters
 - Rule 2.32 - Stationary Internal Combustion Engines

Neither NOx emissions from stationary internal combustion engines or larger boilers, steam generators and process heaters are covered by any EPA CTG's. Instead, as show above, emissions from engines are regulated by District Rules 2.27 and Rule 2.32. The applicability of Rule 2.27 covers boilers, steam generators, and process heaters with rated heat inputs equal to or greater than 5 million BTU per hour. Rule 2.32 applies to any stationary internal combustion engine rated at more than 50 brake horsepower that operates on a gaseous fuel.

For Rule 2.27, emissions limits are separated into units with annual heat inputs equal to or greater than 90,000 therms, averaged over three years, and units with annual heat inputs less than 90,000 therms, averaged over three years. Limits in Rule 2.27 are as follows:

- For units with rated heat inputs equal to or greater than 5 million BTU per hour and annual heat input equal to or greater than 90,000 therms:
 - 30 ppmv, or 0.036 pound per million BTU of heat input when operated on gas;
 - 40 ppmv, or 0.052 pound per million BTU of heat input when operated on nongaseous fuel;
- For units with rated heat inputs equal to or greater than 5 million BTU per hour and annual heat input less than 90,000 therms, the rule requires one of the following conditions for these units:
 - operate in a manner that maintains stack-gas oxygen concentrations at less than or equal to 3 percent by volume on a dry basis during normal, steady state operation.
 - tune the unit once every twelve months, or
 - Meet the emission limits for high use units.

Since there is no CTG for this source category, RACT can be determined by comparing Rule 2.27 to the rules of other air districts in the region. Placer County APCD, El Dorado County APCD, and Feather River AQMD all have boiler rules with identical limits. EPA approved Feather River's rule in April 2015 and in the Technical Support Document ([http://yosemite.epa.gov/r9/r9sips.nsf/AgencyProvision/354B705A82FAFEBC88257E37006B29E3/\\$file/2015+1+23+TSD+Feather+River+3.21.docx?OpenElement](http://yosemite.epa.gov/r9/r9sips.nsf/AgencyProvision/354B705A82FAFEBC88257E37006B29E3/$file/2015+1+23+TSD+Feather+River+3.21.docx?OpenElement)) concluded that Feather River's rule met RACT. Consequently, the determination can be made that Rule 2.27 meets RACT.

For Rule 2.32, UCD has no prime IC engines. Instead, the potential to emit attributed to IC Engines at UCD are from the emergency engines permitted at this source. The only reason that the facility's potential to emit from this source category is so high is that UCD has over 100 permitted emergency engines. For this facility, pre the requirements of Rule 2.32, each emergency engine is limited to a maximum of 200 hours total use per year. Under the provisions of Rule 2.32, engines that qualify as emergency engines are exempt from meeting the emission standards that apply to IC engines that operate more than 200 hours per year. While there is no CTG for IC engines, there is an ACT for this source category. The ACT for IC engines does not specify a threshold for applicability based on overall engine use. Consequently, the ACT does not provide a set of recommended emission standards for engines that could be characterized as "emergency engines". However, several IC engine rules in other California air districts have specific standards for engines that qualify as emergency or low use engines. The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) rule for IC engines is considered to

be the most stringent in California for this source category. The requirements of this rule for emergency engines are described as follows:

- San Joaquin Valley Unified Air Pollution Control District: Rule 4702 – Internal Combustion Engines

Rule 4702 provides an exemption for “Low Use Engines”. Rule 4702 defines Low Use Engines as those engines operating no more than 200 hours in a given year. In this respect, the YSAQMD Rule 2.32 is consistent with SJVUAPCD Rule 4702.

The YSAQMD’s Rule 2.32 is also consistent with the provisions of other surrounding air districts regarding the standards for emergency engines. Both the Placer County Air Pollution Control District’s Rule 242 – Stationary Internal Combustion Engines, and El Dorado County Air Quality Management District’s Rule 233 – Stationary Internal Combustion Engines have exemptions for stationary IC engines that operate no more than 200 hours in a calendar year.

- 4) UCD is a major source for boilers and IC engines. As discussed above, the YSAQMD’s Rule 2.27 for boilers contains standards that are equivalent to the rules of other nearby air districts that have recently been determined to meet RACT by EPA. The IC Engines under permit at UCD are all permitted as emergency engines and are therefore limited to 200 operating hours or less in a calendar year. These engines are considered exempt under YSAQMD Rule 2.32 for this source category. This is consistent not only with the rules of other air districts in the Sacramento region, but also the provisions of SJVUAPCD Rule 4702, which is considered to be the most stringent IC engine rule among air districts in California. Consequently, major source emissions at UCD are considered to be regulated through YSAQMD rules to a level that meets RACT.

Woodland Biomass

- 1) Woodland Biomass generates power by burning biomass in a boiler.
- 2) Emissions from Woodland Biomass are generated as biomass is burned by the boilers. This process is not regulated by a CTG.
- 3) Emissions from Woodland Biomass are regulated through the provisions of District Rule 2.43 - Biomass Boilers.
- 4) Rule 2.43 was adopted by the District in 2010. The rule was approved into the SIP by EPA in July 2012. In EPA's Technical Support Document, page 5, EPA concluded that the rule '...sufficiently demonstrates that Rule 2.43 implements RACT.' There are several other air districts which have rules regulating NOx emissions from biomass boilers. These districts are the El Dorado, Placer, and San Joaquin Valley districts. All these districts rules limit biomass boiler emissions to 115 parts per million (ppm), using either a three-hour or 24-hour average. The District's Rule 2.43 sets a maximum of 90 ppm averaged over 24-hours. Since the emission limits in Rule 2.43 are at least as stringent as the rules of other air districts for this source category, it can be said with certainty that Rule 2.43 meets RACT.

Yolo County Central Landfill

- 1) The Yolo County Central Landfill is a solid waste landfill operation that accepts waste generated within Yolo County. The landfill has also recently acquired MM Yolo Power, and is now the permit holder for the internal combustion (IC) engines that run on gas produced by the landfill.
- 2) Emissions are generated as waste stockpiled at the landfill breaks down and also from the IC engine emissions. These processes are not regulated by CTG's.
- 3) Emissions from solid waste landfills are regulated through the provisions of District Rule 2.38 - Standards for Municipal Solid Waste Landfills. In addition, the State of California submitted the State Plan for Municipal Solid Waste Landfills pursuant to section 111(d) of the Clean Air Act. The Plan contained rules adopted by several air districts including the District's Rule 2.38. Since EPA has approved this State Plan, the District's Rule is federally enforceable.

Emissions produced by lean burn IC engines that are fueled by landfill gas are regulated by District Rule 2.32, Stationary Internal Combustion Engines.

- 4) Rule 2.38 implements the provisions of the Emission Guidelines for Municipal Solid Waste Landfills as promulgated by the U.S. EPA in 40 Code of Federal Regulations Part 60 Subpart Cc. The District considers the EPA's emission guidelines for this source category to be RACT. Since the provisions of the guidelines are implemented by Rule 2.38, the rule meets RACT.
- 5) Rule 2.32 applies to IC engines rated over 50 horsepower. NO_x emissions limits are separated out by engine type (rich burn, lean burn, and diesel fired engines). As noted above, the landfill's IC engines are lean burn engines that are fueled by landfill gas and are subject to a Rule 2.32 limit of 150 ppmv, corrected to 15% O₂. Per the ACT, page 2-13, the expected controlled NO_x emission limit for a Low-Emission engine is 150 ppmv. The only limit identified in this table that is lower than the 150 is for engines with Selective Catalytic Reduction (SCR), for which the limit is 125 ppmv. Because RACT takes into consideration the economic feasibility of controls, the District does not believe that requiring SCR would be cost effective for obtaining the incremental benefit from 150

ppmv to 125 ppmv. Therefore, the District believes that Rule 2.32 meets RACT.

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