

CTG VOC SOURCE CATEGORIES ANALYSIS

Control Techniques Guidelines (CTG) are defined within each CTG document as “an initial information base for proceeding with their own assessment of [Reasonably Available Control Technology] RACT for specific stationary sources.” Due to the age of the documents, Utah’s existing Major and Minor New Source Review programs, and multiple new 40 CFR revisions, most CTGs are outdated in regards to controls and control evaluations. Permitted facilities in the nonattainment area proceed CTG issuance and have completed Best Available Control Technology (BACT) analyses.

Utah did, however, complete a comparison of the CTGs and Alternative Control Techniques (ACT) to current Rules. EPA has issued 38 CTGs and twenty ACTs for 16 categories of VOC emission sources, which do not recommend a particular emission level or control as being RACT. ACTs describe alternative controls a state may consider when developing RACT. The existence of an ACT for a source category does not trigger a requirement for states to develop or submit a RACT analysis. Of these ACTs, four are addressed by CTGs, three are addressed by federal consumer product rules, four are addressed by federal NSPS or NESHAP, and one concerns agricultural pesticides, which is not regulated by Utah’s Division of Air Quality. Below is the summary of ACTs and CTGs not applicable within the attainment area. Applicable CTGs and ACTs are identified and noted with the rules and regulations that are equivalent to or more stringent than the document recommendations.

EPA has also issued ten ACTs for nine categories of NO_x emission sources, which are addressed by federal NSPS or NESHAP, as summarized in Appendix 6-E. Utah did not further analyze these ACTs for purposes of the CTG portion of this RACT analysis because the CTG RACT analysis relates to VOC source categories. See Figure 4 ACT NO_x Source Category.

6.1.1 Negative Declaration

Figure 1 CTGs and ACTs-- No Subject Nonattainment Sources

Control Measures Guidance Documents	Federal Regulations
<u>1978/12 Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products VOC EPA-450/2-78-030</u>	40 CFR Part 63 Subpart GGG
<u>1978/12 Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires VOC EPA-450/2-78-033</u>	40 CFR part 60 Subpart BBB
<u>1982/09 Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners VOC EPA-450/3-83-008</u>	40 CFR Part 60 Subpart JJJ
<u>1983/12 Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants VOC EPA-450/3-83-006</u>	40 CFR Part 60 Subpart KKK, OOOO, OOOOa 40 CFR Part 63 Subpart HH, HHH
<u>1984/03 Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment VOC EPA-450/3-84-015</u>	40 CFR Part 60 Subpart VV, Vva
<u>1984/12 Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry VOC EPA-450/4-91-031</u>	40 CFR Part 60 Subpart III
<u>1993/08 Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry VOC EPA-453/R-96-007</u>	40 CFR part 60 Subpart NNN, RRR
<u>1996/08 Control Techniques Guidelines for Shipbuilding and Ship Repair Operations</u>	40 CFR Part 63 Subpart II
<u>2008/09 Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials VOC EPA 453/R-08-005</u>	40 CFR Part 63 Subpart VVVV
<u>2008/09 Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings</u>	
<u>2008/09 Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat</u>	

<u>2016/10 Control Techniques Guidelines for the Oil and Natural Gas Industry</u>	
<u>1994/04 ACT-Surface Coating Operations at Shipbuilding and Ship Repair Facilities VOC EPA-453/R-94-032</u>	40 CFR Part 63 Subpart II
<u>1983/05 Control Techniques for Organic Emissions from Plywood Veneer Dryers</u>	40 CFR Part 63 Subpart DDDD

Figure 2 CTGs and ACTs Utah Has Adopted

Control Measures Guidance Documents	Adaptations	Federal Regulations	Next Steps
<u>1975/11 Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations</u>	Onboard units more efficient	40 CFR Part 63 Subpart CCCCCC	No further action required.
<u>1977/05 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks VOC EPA-450/2-77-022</u>	R307-352 coil & can, R307-344 paper, R307-345 fabric, no auto/truck manufacturing	40 CFR Part 60, Subparts TT, WW 40 CFR Part 63, Subparts KKKK, SSSSS	No further action required.
<u>1977/11 Control of Volatile Organic Emissions from Solvent Metal Cleaning VOC EPA-450/2-77-025</u>	R307-335, degreasing		No further action required.
<u>1977/10 Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds VOC EPA-450/2-77-026</u>	R307-326 hydrocarbon control in petroleum refineries	40 CFR Part 60 Subpart QQQ	No further action required.
<u>1977/10 Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals VOC EPA-450/2-77-032</u>	R307-328 gasoline transfer & storage	40 CFR Part 60 Subpart XX 40 CFR Part 63 Subpart R, BBBB	No further action required.
<u>1977/12 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume IV: Surface Coating of Insulation of Magnet Wire VOC EPA-450/2-77-034</u>	R307-348 magnet wire		No further action required.
<u>1977/12 Control of Volatile Organic Emissions from Bulk Gasoline Plants VOC EPA-450/2-77-036</u>	R307-327 petroleum liquid storage	40 CFR Part 60 Subpart K, Kb 40 CFR Part 63 Subpart CC, EEEE, BBBB	No further action required.
<u>1977/12 Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks (PDF 43 pp, 1.1MB) VOC EPA-450/2-77-037</u>	R307-327 petroleum liquid storage		No further action required.

<u>1977/12 Control of Volatile Organic Emissions from Use of Cutback Asphalt VOC EPA-450/2-78-022</u>	R307-341 cutback asphalt		No further action required.
<u>1978/06 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products VOC EPA-450/2-78-032</u>	R307-350 miscellaneous metal	40 CFR Part 63 Subpart MMMM	No further action required.
<u>1978/06 Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment VOC EPA-450/2-78-029</u>	MACT more stringent than CTG	40 CFR Part 60 Subpart GGG, GGGa, J, Ja 40 CFR Part 63 Subpart CC	No further action required.
<u>1978/12 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography VOC EPA-450/2-78-047</u>	R307-351 graphic arts	40 CFR Part 60 Subpart QQ 40 CFR Part 63 Subpart KK	No further action required.
<u>1978/12 Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks VOC EPA-450/2-78-050</u>	R307-327 petroleum liquid storage	40 CFR Part 60 Subpart XX 40 CFR Part 63 Subpart R, BBBB	No further action required.
<u>1978/12 Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems VOC EPA-450/3-82-009</u>	R307-328 gasoline transfer & storage		No further action required.
<u>1983/11 Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins VOC EPA-450/3-83-007</u>	Handful of very small facilities that do not use blowing agents. Is this still the case????	40 CFR 63 Subparts U, JJJ	No further action required.
<u>1996/04 Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations</u>	R307-343 wood furniture	40 CFR Part 63 Subpart JJ	No further action required.

<u>1997/12 Aerospace (CTG & MACT)</u>	R307-355 aerospace coating	40 CFR Part 63 Subpart GG	No further action required.
<u>2006/09 Control Techniques Guidelines for Industrial Cleaning Solvents VOC EPA-453/R-06-002</u>	R307-335 degreasing, R307-304 Solvent Cleaning		No further action required.
<u>2006/09 Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing VOC EPA-453/R-06-003</u>	R307-351 graphic arts		No further action required.
<u>2006/09 Control Techniques Guidelines for Flexible Package Printing VOC EPA-453/R-06-004</u>	R307-351 graphic arts	40 CFR Part 63 Subpart JJJ, KK	No further action required.
<u>2006/09 Control Techniques Guidelines for Flat Wood Paneling Coatings VOC EPA 453/R-07-003</u>	R307-349 flat wood	40 CFR Part 63 Subpart QQQQ	No further action required.
<u>2007/09 Control Techniques Guidelines for Paper, Film, and Foil Coatings VOC EPA 453/R-07-004</u>	R307-344 paper	40 CFR Part 60 Subpart RR 40 CFR Part 63 Subpart JJJJ	No further action required.
<u>2007/09 Control Techniques Guidelines for Large Appliance Coatings VOC EPA 453/R-07-005</u>	R307-347 large appliance		No further action required.
<u>2007/09 Control Techniques Guidelines for Metal Furniture Coatings VOC EPA 453/R-08-003</u>	R307-346 metal furniture	40 CFR Part 60 Subpart EE 40 CFR Part 63 Subpart RRRR	No further action required.
<u>2008/09 Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings VOC EPA 453/R-08-004</u>	R307-350 miscellaneous metal, R307-353 plastic parts		No further action required.
<u>2008/09 Control Techniques Guidelines for Miscellaneous Industrial Adhesives VOC EPA 453/R-08-006</u>	R307-342 adhesives and sealants	40 CFR Part 60 Subpart RR 40 CFR Part 63 Subpart KK, JJJJ	No further action required.

Alternate Control Technology Documents

<u>1988/08 Reduction of Volatile Organic Compound Emissions from the Application of Traffic Markings</u>	R307-361 Architectural Coatings		No further action required.
<u>1989/03 ACT-Ethylene Oxide Sterilization/Fumigation Operations VOC EPA-450/3-89-007</u>	Sources are required to obtain an AO and therefore evaluated BACT.	40 CFR part 63 Subpart O, XX, WWWW	No further action required.
<u>1989/08 ACT- Halogenated Solvent Cleaners VOC EPA-450/3-89-030</u>	Toxics not applicable to ozone SIP, need to check if correct: methylene chloride, TCE etc.	40 CFR Part 63 Subpart T	No further action required.
<u>1990/12 ACT- Organic Waste Process Vents VOC EPA-450/3-91-007</u>	Applies to RCRA types of remediation which are required to obtain and AO and have therefore completed a BACT analysis		No further action required.
<u>1992/12 ACT- Bakery Ovens VOC EPA-453/R-92-017</u>	DAQ proposed rulemaking public comment process identified EPA cost estimate error. Actual cost was excessive for the few small business that the rule would apply.		No further action required.
<u>1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018</u>	DAQ coating rules apply, or sources are required to obtain an AO and therefore evaluated BACT.		No further action required.
<u>1992/09 Control of VOC Emissions from Industrial Wastewater (draft issued as ACT) VOC EPA-453/D-93-056</u>	Applies to major point sources that would be subject to NPDES		No further action required.
<u>1993/03 Control of VOC Emissions from the Application of Agricultural Pesticides</u>	Document recognizes the limitations on VOC reductions for this industry. USDA published best management practices for the storage and application of pesticides. Outside of		No further action required.

	DAQ regulatory authority.		
<u>1994/02 Control of VOC Emissions from Batch Processes ACT VOC EPA-453/R-93-020</u>	Applicable facilities are permitted under AO and have therefore completed a BACT analysis		No further action required.
<u>1992/02 ACT - Industrial Cleaning Solvents VOC EPA-453/R-94-015</u>	R307-304 Solvent Cleaning		No further action required.
<u>1994/02 ACT- Surface Coatings of Automotive/Transportation and Business Machine Plastic Parts VOC EPA-453/R-94-017</u>	Applies to surface coating rules R307 343,344-350, 352-355.	40 CFR Part 60 Subpart TTTT 40 CFR Part 63 Subpart PPPP	No further action required.
<u>1994/04 ACT- Automotive Refinishing VOC EPA-453/R-94-031</u>	R307-354 Automotive Refinishing Coatings		No further action required.

VOC AND NOX MAJOR SOURCE CTG AND ACT APPLICABILITY

A RACT evaluation for major sources was completed under Section 4 of the NWF Moderate SIP for the 2015 ozone NAAQS Below is a table summary for the CTGs and ACTs applicable to each source. No changes are required when reviewing source RACT analyses and the CTGs and ATCs.

Figure 3 Major Source CTG and ACT applicability

Major Sources:	Applicable CTGs	Recommendations
Big West Oil	1978/12 Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks VOC EPA-450/2-78-050 1977/10 Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds VOC EPA-450/2-77-026 1983/12 Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants VOC EPA-450/3-83-006 1978/06 Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment VOC EPA-450/2-78-029 1977/12 Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks (PDF 43 pp, 1.1MB) VOC EPA-450/2-77-037 1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018	No further actions required.
US Magnesium	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018	No further actions required.
Chevron	1982/09 Control of Volatile Organic Compound Emissions from Large Petroleum Dry Cleaners VOC EPA-450/3-83-008 1977/10 Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds VOC EPA-450/2-77-026	No further actions required.

	<p>1984/12 Control of Volatile Organic Compound Emissions from Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry VOC EPA-450/4-91-031</p> <p>1978/12 Control of Volatile Organic Emissions from Manufacture of Pneumatic Rubber Tires VOC EPA-450/2-78-033</p> <p>1978/06 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VI: Surface Coating of Miscellaneous Metal Parts and Products VOC EPA-450/2-78-032</p> <p>1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018</p>	
Marathon (Tesoro)	1983/11 Control of Volatile Organic Compound Emissions from Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins VOC EPA-450/3-83-007	No further actions required.
	1977/10 Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds VOC EPA-450/2-77-026	
	1993/08 Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations in Synthetic Organic Chemical Manufacturing Industry VOC EPA-453/R-96-007	
	1978/12 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VIII: Graphic Arts-Rotogravure and Flexography VOC EPA-450/2-78-047	
	1978/06 Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment VOC EPA-450/2-78-029	
	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018	
HF Sinclair	1983/12 Control of Volatile Organic Compound Equipment Leaks from Natural Gas/Gasoline Processing Plants VOC EPA-450/3-83-006	No further actions required.
	1977/10 Control of Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds VOC EPA-450/2-77-026	

	<p>1996/04 Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations</p> <p>1978/12 Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks VOC EPA-450/2-78-050</p> <p>1978/12 Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products VOC EPA-450/2-78-030</p> <p>1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018</p>	
Kennecott Mine and Concentrator	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018	No further actions required.
Hexcel	<p>1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018</p> <p>2006/09 Control Techniques Guidelines for Industrial Cleaning Solvents VOC EPA-453/R-06-002</p>	No further actions required.
Hill Air Force Base	<p>1997/12 Aerospace MACT</p> <p>1976/11 Control of Volatile Organic Emissions from Existing Stationary Sources – Volume I: Control Methods for Surface Coating Operations</p> <p>1977/12 Control of Volatile Organic Emissions from Storage of Petroleum Liquids in Fixed-Roof Tanks</p> <p>1978/05 Control Techniques for Volatile Organic Emissions from Stationary Sources</p> <p>1978/12 Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks</p> <p>1978/12 Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems)</p> <p>1975/11 Design Criteria for Stage I Vapor Control Systems – Gasoline Service Stations</p>	No further actions required.

	1994/01 Alternative Control Techniques Document – Volatile Organic Liquid Storage In Floating and Fixed Roof Tanks	
Kennecott Smelter and Refinery	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-018	No further actions required.
	2006/09 Control Techniques Guidelines for Industrial Cleaning Solvents VOC EPA-453/R-06-002	
U of U	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-019	No further actions required.
	1989/03 ACT-Ethylene Oxide Sterilization/Fumigation Operations VOC EPA-450/3-89-007	
Pacificorp Gadsby	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-020	No further actions required.
UMPA West Valley	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-021	No further actions required.
LHoist	1992/12 Control Techniques for VOC Emissions from Stationary Sources VOC EPA-453/R-92-022	No further actions required.

Figure 4 ACT NOx Source Category

Description	Federal Regulations	Summary conclusion
1991/12 NOx Emissions from Nitric and Adipic Acid Manufacturing Plants EPA-453/3-91-026	40 CFR Part 60 Subparts G, Ga	No further action required.
1993/01 NOx Emissions from Stationary Combustion Turbines EPA-453/R-93-007	40 CFR Part 60 Subparts GG, KKKK, 40 CFR Part 63 Subpart YYYY	No further action required.
1993/07 NOx Emissions from Stationary Internal Combustion Engines EPA-453/R-93-032		No further action required.
1993/07 NOx Emissions from Stationary Internal Combustion Engines EPA-453/R-93-032	40 CFR Part 60 Subparts IIII, JJJJ	No further action required.
2000/09 NOx Emissions from Cement Manufacturing EPA-457/R-00-002	40 CFR Part 60 Subpart F, 40 CFR Part 63 Subpart LLL	No further action required.
1994/03 NOx Emissions from Industrial, Commercial & Institutional Boilers EPA-453/R-94-022	40 CFR Part 63 Subparts DDDDD, JJJJJ	No further action required.
1994/03 ACT- NOx Emissions from Utility Boilers EPA-453/R-94-023	40 CFR Part 60 Subparts D, Da, Db, Dc, 40 CFR Part 63 Subpart UUUUU	No further action required.
1994/06 ACT- NOx Emissions from Glass Manufacturing EPA-453/R-94-037	40 CFR Part 60 Subpart CC, 40 CFR Part 63 Subpart SSSSS	No further action required.
1994/09 ACT- NOx Emissions from Iron and Steel Mills EPA-450/3-88-009	40 CFR Part 60 Subpart AA, AAa, Na, 40 CFR Part 63 Subparts CCC, EEEEE, FFFFF, ZZZZZ	No further action required.

