

Appendix U

Comparable VOC and NOx Control Measures

A table that may be used as a cross reference for reason #1 in Appendices N, O, and P

<u>Pollutant and Source</u>	<u>Source Category</u>	<u>Control Measure Description</u>	<u>Rule Citation/Comparable Control</u>
NOx Point/Area	Boilers and Process Heaters in Petroleum Refineries	NOx emission limit + Approved Alternative Emission Control Plan + Continuous NOx stack monitoring	§117.206 (a) §117.213 (c)(1)
NOx Point/Area	Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters	NOx emission limit, methods to meet the limit are not specified	§117.206 (a)
NOx Point/Area	Nitric Acid Units	NOx emission limit	§117.405
NOx Point/Area	Fuel Fired Equipment; Furnaces; Natural Gas	Low NOx Burners	§117.205 §117.206
NOx Point/Area	Gas Turbines	Detailed equations 40 CFR 60.332	§117.205 (c)
NOx Point/Area	Stationary Internal Combustion Engines	NOx emission limit	§117.205(d)
NOx Point/Area	Gas Turbines - Natural Gas	Steam Injection	§117.205 (c)
NOx Point/Area	ICI Boilers - Natural Gas	Oxygen Trim + Water Injection	§117.205 and §117.206(a)
NOx Point/Area	ICI Boilers - Natural Gas	Low NOx Burners + Flue Gas Recirculation	§117.205 and §117.206(a)
NOx Point/Area	ICI Boilers - Natural Gas	Low NOx Burners	§117.205 and §117.206(a)
NOx Point/Area	ICI Boilers - Process Gas	Oxygen Trim + Water Injection	§117.205 and §117.206(a)
NOx Point/Area	ICI Boilers - Process Gas	Low NOx Burners + Flue Gas Recirculation	§117.205 and §117.206(a)
NOx Point/Area	ICI Boilers - Process Gas	Low NOx Burners	§117.205 and §117.206(a)
NOx Point/Area	ICI Boilers - Residual Oil	Low NOx Burners + Flue Gas Recirculation	§117.205
NOx Point/Area	Internal Combustion Engines - Gas	Ignition Retard	§117.205(d)
NOx Point/Area	Internal Combustion Engines - Gas	Air-to-Fuel Ratio	§117.205(d)
NOx Point/Area	Internal Combustion Engines - Gas	Air-to-Fuel Ratio + Ignition Retard	§117.205(d)
NOx Point/Area	Internal Combustion Engines - Gas	L-E (Medium Speed)	§117.205(d)
NOx Point/Area	Internal Combustion Engines - Gas	L-E (Low Speed)	§117.205(d)
NOx Point/Area	Process Heaters - Natural Gas	Low NOx Burners	§117.205 and §117.206(a)
NOx Point/Area	Process Heaters - Natural Gas	Low NOx Burners + Flue Gas Recirculation	§117.205 and §117.206(a)
NOx Point/Area	Process Heaters - Process Gas	Low NOx Burners + Flue Gas Recirculation	§117.205 and §117.206(a)

NOx Point/Area	Process Heaters - Process Gas	Low NOx Burners	§117.205 and §117.206(a)
NOx Point/Area	Gas Turbines	Limits for turbines burning natural gas at 25-42 ppm and as low as 9-15 ppm.+ limits for turbines burning distillate oil at 65 ppm or below, and as low as 25-42 ppm.	§117.205 (c)
NOx Point/Area	Industrial and Commercial Boilers	Limits for boilers larger than 100 mmBtu/hr at levels of 0.15 lb/mmBtu or below for coal and 0.05 lb/mmBtu for oil and gas + limits for mid-size boilers between 50-100 mmBtu/hr at 0.10 lb/mmBtu for gas, 0.12 lb/mmBtu for distillate oil and 0.30 lb/mmBtu for residual oil, 0.38 lb/mmBtu for coal + boilers smaller than 50 mmBtu/hr make annual "tune-ups" to minimize excess air	§117.205 and §117.206(a)
NOx Point/Area	Organic Chemical Plants	Controls on industrial boilers and process heaters for these sources	§117.205 and §117.206(a)
NOx Point/Area	NOx RACT Rules	States' NOx RACT rules	§117.205
VOC Point/Area	Fugitive Emissions	Leak detection requirements + Inspection and maintenance requirements	Chapter 115, Subchapter D, Division 3
VOC Point/Area	Petroleum refinery fugitives	Equipment and maintenance	Chapter 115, Subchapter D, Division 3
VOC Point/Area	Volatile organic liquid storage	Volatile organic liquid storage CTG + enhanced test methods, monitoring specifications and equipment specifications based on HON rule + lower vapor pressure limits for exemptions in current rules	Chapter 116, Subchapter B, Division 1
Mobile VOC/NOx Sources	Heavy-Duty Diesel Vehicles: Reduce Truck Idling	Voluntary measures	1. Southeast Texas Clean Cities Program spent 4 million of VMEP money on truck stop electrification.
Mobile VOC/NOx Sources	Heavy-Duty Diesel Vehicles: Require Low Sulfur Diesel Fuel Earlier Than EPA May Require	Voluntary measures	2. Beaumont and Port Arthur are switching transit fleets to alternate fuel vehicles. They educate and promote low sulfur diesel. LPG and CNG filling stations have been established. Adopt-A-School Bus Program is also being used in the BPA area.
Mobile VOC/NOx Sources	Ozone Action Day Programs	Voluntary measures	Email notices on ozone action days, as well as public information/education program to reduce ozone.
Mobile VOC/NOx Sources	Provide Truckstop Electrification For In-Truck Services	Voluntary measures	See #1 above
Mobile VOC/NOx Sources	Highway Vehicles - Gasoline	Transportation Control Package	See #2 above
Mobile VOC/NOx Sources	Highway Vehicles - Gasoline	Federal Reformulated Gasoline	See #2 above
Mobile VOC/NOx Sources	Highway Vehicles - LD Gasoline	Fleet ILEV	See #2 above

Mobile VOC/NOx Sources	Nonroad Gasoline Engines	Federal Reformulated Gasoline	See #2 above
Mobile VOC/NOx Sources	Clean-Fuel Fleets	Adopt a CFFV program, if one is not already required. Where a CFFV program is required, increase its reduction potential by purchasing more CFFVs than called for in any year, purchasing vehicles that meet stricter emission standards than those required, or purchasing vehicles in advance, before requirements take effect. Areas encourage non-covered fleets to participate and/or require the purchase of ILEVs where fleet requirements from the Energy Policy Act are applicable.	See #2 above
Mobile VOC/NOx Sources	Reformulated Gasoline and Diesel Fuel	Opt into the federal program or utilize Section 211 (c)(4) authority to adopt a state program, including the California RFG program or one focused on fuel properties (e.g., reducing sulfur content of fuel). Adopt reformulated diesel fuel requirements, including the California reformulated diesel program, to achieve additional reductions from diesel engines.	See #2 above
Mobile VOC/NOx Sources	Bikeway Expansion	Voluntary measures	Part of the Metropolitan Transportation Plan and the Transportation Improvement Program
Mobile VOC/NOx Sources	Bus Fare Reductions	Voluntary measures	Operating assistance money to transit , part of the Transportation Improvement Program
Mobile VOC/NOx Sources	Computerized Traffic Signals	Voluntary measures	Planning use of Intelligent Transportation Systems
Mobile VOC/NOx Sources	Encourage Clean Fueled City Buses, LNG, LPG, or Fuel Cells	Voluntary measures	See #2 above
Mobile VOC/NOx Sources	Expand Bus Service	Voluntary measures	They have the South East Texas Transit Program
Mobile VOC/NOx Sources	New or Expanded Car Pools and Vanpools	Voluntary measures	The Clean Cities Program promotes/educates
Mobile VOC/NOx Sources	New Sidewalks and Crosswalks	Voluntary measures	Part of the Transportation Improvement Program
Mobile VOC/NOx Sources	Transportation Control Measures Employee Commute Options	Employee Commute Options program.	The Clean Cities Program promotes and educates