

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Best Available Control Technology Guidelines

OVERVIEW

Part A: Policy and Procedures for Major Polluting Facilities

Part B: LAER/BACT Determinations for Major Polluting Facilities

Part C: Policy and Procedures for Non-Major Polluting Facilities

Part D: BACT Guidelines for Non-Major Polluting Facilities

Part E: Policy and Procedures for Facilities Subject to Prevention of Significant Deterioration for Greenhouse Gases

Part F: BACT Determinations for Facilities Subject to Prevention of Significant Deterioration for Greenhouse Gases

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LIST OF ABBREVIATIONS

AIP	Achieved in Practice
APCD	Air Pollution Control District
AQMP	Air Quality Management Plan
BACT	Best available control technology
BRC	BACT Review Committee, AQMD
CAA	Clean Air Act
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEP	Certified Equipment Permit
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CO	Carbon monoxide
DEO	Deputy Executive Officer
H&SC	Health and Safety Code, California State
LAER	Lowest achievable emission rate
LPG	Liquefied petroleum gas
MDAB	Mojave Desert Air Basin
MSBACT	Minor Source BACT
NO₂	Nitrogen dioxide
NO_x	Oxides of nitrogen
NSR	New Source Review
ODC	Ozone depleting compounds
PM₁₀	Particulate matter less than 10 microns in diameter
RACT	Reasonably available control technology
RECLAIM	Regional Clean Air Incentives Market
ROG	Reactive organic gas
South Coast SC AQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SOCAB	South Coast Air Basin
SO_x	Oxides of sulfur
SRC	Scientific Review Committee
SSAB	Salton Sea Air Basin
USEPA	United States Environmental Protection Agency
VOC	Volatile organic compound

INDEX OF EQUIPMENT CATEGORIES

A

Abrasive Blasting
 Absorption Chiller
 Air Start Unit
 Air Stripper - Ground Water Treatment
 Aluminum Melting Furnace - Crucible or Pot (All Charge)
 Aluminum Melting Furnace - Crucible or Pot, Ingot and/or Clean Scrap Charge Only
 Aluminum Melting Furnace - Reverberatory, Non-Sweating, Ingot or Contaminated Scrap Charge
 Aluminum Melting Furnace - Reverberatory, Non-Sweating, Ingot or non-Contaminated Scrap Charge
 Aluminum Melting Furnace - Reverberatory, Sweating, Ingot or Contaminated Scrap Charge
 Aluminum Melting Furnace - Rotary, Sweating, Ingot or Contaminated Scrap Charge
 Ammonium Bisulfate and Thiosulfate Production
 Animal Feed Manufacturing - Dry Material Handling (see Bulk Solid Material Handling)
 Asbestos Machining Equipment
 Asphalt Batch Plant
 Asphalt Roofing Line
 Asphalt Storage Tank (see Storage Tank – Liquid)
 Asphalt Day Tanker
 Autobody Shredder

B

Ball Mill
 Beryllium Machining Equipment
 Blender (see Mixer)
 Boiler
 Boiler - Refinery Gas Fired
 Boiler, CO - Refinery
 Boiler - Agricultural Waste (Biomass) Fired
 Boiler - Landfill or Digester Gas fired
 Boiler - Municipal Solid Waste (MSW) Fired
 Boiler - Wood Fired
 Brake Pad Grinder
 Brakeshoe Debonder
 Brass Melting Furnace - Crucible
 Brass Melting Furnace - Cupola
 Brass Melting Furnace - Reverberatory, Non-Sweating

Brass Melting Furnace - Reverberatory, Sweating
 Brass Melting Furnace - Rotary, Non-Sweating
 Brass Melting Furnace - Rotary, Sweating
 Brass Melting Furnace - Tilting Induction
 Bulk Cement - Ship Unloading
 Bulk Solid Material Handling
 Bulk Solid Material - Ship Loading - Non-White Commodities
 Bulk Solid Material - Ship Loading - White Commodities
 Bulk Solid Material Ship Unloading - Except Cement
 Bulk Solid Material Storage - Non-White Commodities
 Bulk Solid Material Storage - White Commodities
 Burnoff or Burnout Furnace (Excluding Wax Burnoff)

C

Calcined Petroleum Coke Handling
 Calcined Petroleum Coke Truck Loading and Unloading
 Calciner
 Calciner - Petroleum Coke
 Calciner - Portland Cement
 Carpet Beating and Shearing
 Carpet Oven (see Dryer or Oven)
 Catalyst Manufacturing - Reactor
 Catalyst Manufacturing - Rotary Dryer
 Catalyst Manufacturing - Spray Dryer
 Catalyst Regeneration - Fluidized Catalyst Cracking Unit
 Catalyst Regeneration - Hydrocarbon Removal
 Catalyst Regeneration and Manufacturing Calcining
 Cement Handling (see Bulk Cement – Ship Unloading)
 Charbroiler, Chain-driven (Conveyorized)
 Chemical Milling Tank - Aluminum and Magnesium
 Chemical Milling Tank - Nickel Alloys, Stainless Steel and Titanium
 Chip Dryer
 Chrome Plating - Decorative Chrome
 Chrome Plating - Hard Chrome
 Circuit Board Etcher - Batch Immersion Type, Subtractive Process
 Circuit Board Etcher - Conveyorized Spray Type, Subtractive Process
 Circuit Board Photoresist Developer
 Clay, Ceramic, and Refractories Handling (Except Mixing) (see Bulk Solid Material Handling)
 Cleaning Compound Blender
 CO₂ Plant
 Coal, Coke and Sulfur Handling and Storage (see Bulk Solid Material Handling and Bulk Solid Material Storage)
 Coffee Roasting
 Coffee Roasting – Handling Equipment
 Commodities Handling and Storage (see Bulk Solid Material Handling and Bulk Solid Material Storage)
 Composting
 Compressors (see Fugitive Emission Sources)
 Connectors - Gas/Vapor and Light Liquid (see Fugitive Emission Sources)
 Concrete Batch Plant - Central Mixed

Concrete Batch Plant - Transit-Mixed
 Concrete Blocks and Forms Manufacturing
 Cotton Gin
 Crematory

D

Degreaser - Batch-Loaded or Conveyorized Cold Cleaners
 Degreaser - Conveyorized Vapor, Volatile Organic Compounds Degreaser - Vapor
 Cleaning, Volatile Organic Compounds
 Degreaser - Other
 Detergent Manufacturing - Solids Handling
 Detergent Manufacturing - Spray Dryer
 Diaphragm (see Fugitive Emission Sources)
 Diesel Engine (see I.C. Engine – Compression Ignition)
 Drum Reclamation Furnace
 Dry Cleaning - Perchloroethylene
 Dry Cleaning - Petroleum Solvent
 Dry Material Handling (see Bulk Solid Material Handling)
 Dryer - Kiln
 Dryer - Rotary, Spray and Flash
 Dryer – Tenter Frame, Fabric
 Dryer - Tray, Agitated Pan, and Rotary Vacuum
 Dryer or Oven - Direct and Indirect Fired

E

Electric Furnace - Pyrolyzing, Carbonizing and Graphitizing
 Electrical Wire Reclamation - Insulation Burnoff Furnace
 Ethylene Oxide Sterilization - Quarantine Storage
 Ethylene Oxide Sterilization/Aeration
 Expanded Polystyrene Manufacturing, Using Blowing Agent (see Polymeric Cellular [Foam]
 Product Manufacturing)
 Extrusion (see Plastic or Resin Extrusion)

F

Fatty Acid - Fat Hydrolyzing and Fractionation
 Fatty Alcohol
 Feed and Grain Handling (see Bulk Solid Material Handling)
 Fermentation - Beer and Wine
 Fertilizer Handling (see Bulk Solid Material Handling)
 Fiber Impregnation
 Fiberglass Fabrication (see Polyester Resin Operations)
 Film Cleaning Machine (see Degreaser)
 Fish Cooker - Edible
 Fish Reduction - Cooker
 Fish Reduction - Digester, Evaporator and Acidulation Tank
 Fish Reduction - Dryer
 Fish Reduction - Meal Handling
 Fish Rendering - Presses, Centrifuges, Separators, Tank, etc.
 Fittings (see Fugitive Emission Sources)
 Flare - Digester Gas or Landfill Gas from Non-Hazardous Waste Landfill

Flare - Landfill Gas from Hazardous Waste Landfill
 Flare - Refinery, Non-Emergency
 Flexographic Printing (see Printing)
 Flow Coater, Dip Tank and Roller Coater
 Fluidized Catalytic Cracking Unit
 Foundry Sand Mold - Cold Cure Process
 Fryer - Deep Fat
 Fugitive Emission Sources at Natural Gas Plants and Oil and Gas Production Fields
 Fugitive Emission Sources at Organic Liquid Bulk Loading Facilities
 Fugitive Emission Sources, Other facilities
 Fuming Sulfuric Acid Storage Tank (see Storage Tank – Fuming Sulfuric Acid)

G

Galvanizing Furnace - Batch Operations
 Galvanizing Furnace - Continuous Sheet Metal Operations
 Galvanizing Furnace - Continuous Wire Operations
 Garnetting Equipment
 Gas Turbine – Combined Cycle/Cogeneration
 Gas Turbine - Emergency
 Gas Turbine - Landfill or Digester Gas Fired
 Gas Turbine – Simple Cycle
 Glass Melting Furnace - Container Manufacturing
 Glass Melting Furnace - Decorator Glass
 Glass Melting Furnace - Flat Glass
 Graphic Arts (see Printing)
 Greenhouse Gas
 Green Petroleum Coke Handling (see Bulk Solid Material Handling)
 Green Petroleum Coke Truck Loading or Unloading (see Bulk Solid Material Handling)

H

Hatches (see Fugitive Emission Sources)
 Hazardous Waste Incineration (see Incinerator – Hazardous Waste)
 Heater (see Process Heater)

I

I.C. Engine - Emergency, Compression Ignition
 I.C. Engine - Emergency, Spark Ignition
 I.C. Engine - Fire Pump
 I.C. Engine - Portable, Compression Ignition
 I.C. Engine - Portable, Spark Ignition
 I.C. Engine - Stationary, Non-Emergency
 I.C. Engine - Landfill or Digester Gas Fired
 Incinerator – Hazardous Waste
 Incinerator - Infectious Waste
 Incinerator - Non-Infectious, Non-Hazardous Waste
 Ink Jet Printing
 Iron Melting Furnace - Cupola
 Iron Melting Furnace - Induction
 Iron Melting Furnace - Reverberatory

J

Jet Engine Test Facility - Experimental Jet Engine, High Altitude Testing
 Jet Engine Test Facility - Experimental Jet Engine, Sea Level (Low Altitude) Testing
 Jet Engine Test Facility - Jet engine Performance Testing

L

Laminator with Corona Transfer
 Landfill Gas Gathering System
 Latex Manufacturing - Reaction
 Lead Melting Furnace - Cupola, Secondary Melting Operations
 Lead Melting Furnace - Pot or Crucible, Non-Refining Operations
 Lead Melting Furnace - Pot or Crucible, Refining Operations
 Lead Melting Furnace - Reverberatory, Secondary Melting Operations
 Lead Oxide Manufacturing - Reaction Pot Barton Process
 Letterpress Printing (see Printing)
 Liquid Transfer and Handling - Container Filling
 Liquid Transfer and Handling - Marine, Loading
 Liquid Transfer and Handling - Marine, Unloading
 Liquid Transfer and Handling - Tank Truck and Rail Car Bulk Loading, Class A (SCAQMD's Rule 462)
 Liquid Transfer and Handling - Tank Truck and Rail Car Bulk Loading, Class B (SCAQMD's Rule 462)
 Liquid Transfer and Handling - Tank Truck and Rail Car Bulk Loading, Class C (SCAQMD's Rule 462)
 Lithographic Printing Heatset (see Printing)
 Lithographic Printing - Non-Heatset (see Printing)

M

Meat Broiler and Barbecue Oven
 Metal Forging Furnace
 Metal Heating Furnace
 Metallizing Spray Gun
 Meters (see Fugitive Emission Sources)
 Mixer or Blender - Wet
 Mixer, Blender, or Mill - Dry

N

Natural Fertilizer Handling (see Bulk Solid Material Handling)
 Natural Gas Plants (see Fugitive Emission Sources)
 Nitric Acid Manufacturing
 Non-Metallic Mineral Processing - Except Rock and Aggregate
 Nut Roasting - Handling Equipment
 Nut Roasting

O

Offset Printing (see Lithographic Printing)
 Oil and Gas Production - Combined Tankage
 Oil and Gas Production - Wellhead

Oil and Gas Production Fields (see Fugitive Emission Sources)
 Oil/Water Separator (see Wastewater System)
 Open Spraying - Spray Gun
 Open-ended Valves or Lines (see Fugitive Emission Sources)
 Organic Liquid Bulk Loading Facilities (see Fugitive Emission Sources)
 Oven (see Dryer or Oven)

P

Paper and Fiber Handling (see Bulk Solid Material Handling)
 Perlite Manufacturing System
 Petroleum Coke Calciner (see Calciner – Petroleum Coke)
 Pharmaceutical Manufacturing
 Pharmaceutical - Operations Involving Solvents
 Phosphoric Acid - Thermal Process
 Phthalic Anhydride
 Pipe – Open Ended (see Fugitive Emission Sources)
 Plasma Arc Metal Cutting Torch, Electrical Input Rating
 Plastic or Resin Extrusion
 Pneumatic Conveying - Except Paper and Fibers (see Bulk Solid Material Handling)
 Polyester Resin Operations - Molding and Casting
 Polyester Resin Operations – Fiberglass Fabrication, Hand and Spray Layup
 Polyester Resin Operations – Fiberglass Fabrication, Panel Manufacturing
 Polyester Resin Operations – Fiberglass Fabrication, Pultrusion
 Polyethylene Manufacturing (see Resin Manufacturing)
 Polymeric Cellular (Foam) Product Manufacturing
 Polypropylene Manufacturing (see Resin Manufacturing)
 Polystyrene Extrusion (see Plastic or Resin Extrusion)
 Polystyrene Foam Product Manufacturing (see Polymeric Cellular [Foam] Product Manufacturing)
 Polystyrene Foam Product Manufacturing, Using Blowing Agent (see Polymeric Cellular [Foam] Product Manufacturing)
 Polystyrene Manufacturing (see Resin Manufacturing)
 Polyurethane Tube Manufacturing
 Powder Coating Booth
 Precious Metal Reclamation - Incineration
 Precious Metals Recovery - Chemical Recovery and Chemical Reactions
 Pressure Relief Valve (see Fugitive Emission Sources)
 Printing (Graphic Arts) – Flexographic
 Printing (Graphic Arts) – Letterpress
 Printing (Graphic Arts) – Lithographic, Heatset
 Printing (Graphic Arts) – Lithographic, Non-Heatset
 Printing (Graphic Arts) – Rotogravure or Gravure – Publication and Packaging
 Printing (Graphic Arts) – Screen Printing and Drying
 Process Drains (see Wastewater System)
 Process Heater – Non-Refinery
 Process Heater - Refinery
 Process Valves (see Fugitive Emission Sources)
 Pultrusion (see Polyester Resin Operations)
 Pumps (see Fugitive Emission Sources)

R

Railcar Dumper (see Bulk Solid Material Handling)
 Railcar Loading/Unloading, Liquid (see Liquid Transfer and Handling)
 Reactor with Atmospheric Vent
 Rendering - Crax Pressing, filtering and Centrifuging Operations
 Rendering - Evaporators, Cookers and Dryers
 Rendering - Grease and Blood Processing
 Rendering - Metal Grinding and Handling System
 Rendering - Tanks and Miscellaneous Equipment
 Resin Manufacturing
 Rock - Aggregate Processing
 Rocket Engine Test Cell
 Rolling Mill
 Rotogravure Printing - Publication and Packaging (see Printing)
 Rubber Compounding - Banbury Type Mixer
 Rubber Compounding – Roll Mill

S

Sampling Connections (see Fugitive Emission Sources)
 Sand Handling System with Shakeout and/or Muller in System
 Screen Printing and Drying (see Printing)
 Sewage Treatment Plants
 Sight Glass (see Fugitive Emission Sources)
 Silo (see Bulk Solid Material Storage)
 Smokehouse
 Solder Leveling - Hot Oil or Hot Air
 Solid Material Handling –(see Bulk Solid Material Handling)
 Solid Material Storage –(see Bulk Solid Material Storage)
 Solid Material Unloading - Railcar Dumper (see Bulk Solid Material Handling)
 Solids Handling Catalyst (see Catalyst Manufacturing and Regeneration)
 Solids Handling Pharmaceutical (see Pharmaceutical Manufacturing)
 Solvent Reclamation
 Spray Booth
 Steam Generator - Oil field
 Steel Melting Furnace - Basic Oxygen Process
 Steel Melting Furnace - Electric Arc
 Steel Melting Furnace - Induction
 Steel Melting Furnace - Open Hearth
 Storage Tank (see also Bulk Solid Material Storage)
 Storage Tank - External Floating Roof, and VP <= 11 psia
 Storage Tank - Fixed Roof
 Storage Tank - Fuming Sulfuric Acid
 Storage Tank - Grease or Tallow Storage Tank - Internal Floating Roof
 Storage Tank – Liquid
 Storage Tank - Spent Sulfuric Acid
 Storage Tank - Underground
 Sulfur Handling and Storage (see Bulk Solid Material Handling and Bulk Solid Material Storage)
 Sulfur Pelletizing and Prilling
 Sulfur Recovery Plant

Sulfuric Acid Storage (see Storage Tank – Liquid)
 Surfactant Manufacturing

T

Tank Degassing
 Tank - Grease or Tallow Processing
 Tank Truck Loading/Unloading (see Liquid Transfer and Handling)
 Tire Buffer
 Tunnel Washer

V

Vegetable Oil Purification
 Vinegar Manufacturing

W

Wastewater System
 Wastewater System – Air Stripper
 Wastewater System – Oil/Water Separator
 Wastewater System - Sour Water Stripping
 Wax Burnoff Furnace
 Wet Material Handling (see Bulk Solid Material Handling)
 Wood Processing Equipment
 Woodworking

Z

Zinc Melting Furnace - Crucible or Pot
 Zinc Melting Furnace - Reverberatory, Non-Sweating Operations
 Zinc Melting Furnace - Reverberatory, Sweating Operations
 Zinc Melting Furnace - Rotary, Sweating Operations