

Instructions: Abatement Device Form

Introduction	Use the following instructions to help guide you through the Abatement Device Form .
Who should use this form?	This form should be submitted with new permit applications and applications to modify or alter existing devices.
Facility Information	• Air District Facility ID – The facility ID number is available on any permit or invoice issued by the Air District. This can be found in the upper right of the permit or the invoice. ➤ If this application is for a new facility (not currently permitted by the Air District), you must also submit a Facility Creation Form and Facility Contacts Form.
General Device Information	• Air District Device ID – For existing facilities, the device ID number can be found on the Permit to Operate to the left of the device name (for example: A1 Particulate Control / Scrubber / Packed Bed). • Device/Operation Name – This is the name you associate with this device. • Initial/Proposed Date of Operation: ○ For new construction, enter the date that you propose will be the initial date of operation. ○ For a modification of an existing device, enter the date that you propose the changes will occur. ○ For an existing device that is not currently permitted by the Air District, enter the date for which the device initially operated. • Device/Operation Description – This is your description of the device or operation. This field can be used to distinguish it from other similar devices (e.g. ID numbers, location, make, model, etc.)
Manufacturer Information	Please submit the manufacturer's specification sheet with this form.
Abatement Device Category	You will need to provide the Abatement Device Category, Type, and, if applicable, Sub-type. This information can be found under Table A. Depending on the type of Abatement Device, some additional information may be requested.
Abatement Factors	Section 5 asks for the abatement efficiencies for this device. These should be entered as a percentage. See Table B for a list of Basis Codes.
Combustion Information	If this Abatement Device has a combustion component, you will need to fill out section 6. See Table C for a list of combustion fuel material codes and Table B for a list of Basis Codes.
Submission Information	All applications can be submitted through our Online Permitting System, by e-mail, or by mail: • Online Permitting System: https://www.baaqmd.gov/onlinepermitting • E-mail: permits@baaqmd.gov • Mail: Bay Area Air District, Engineering Division, 375 Beale Street, Suite 600, San Francisco, CA 94105
Still need help?	Contact the Engineering Division: (415) 749-4990 permits@baaqmd.gov

ABATEMENT DEVICE FORM

Use one form for each Abatement Device.

All fields are required unless otherwise noted. Please type or print.

1. Facility Information

Facility Name	Air District Facility ID (Existing facilities only)
Facility Address (Street address and city)	

2. General Device Information

Air District Device ID (If applicable)	
Device/Operation Name	Initial/Proposed Date of Operation
Device/Operation Description	

3. Manufacturer Information

➤ Please submit the manufacturer's specification sheet with this form.

Equipment Manufacturer (Make)	Equipment Model

4. Abatement Component Category

➤ See Table A for a list of Abatement Device Categories, Types, and Sub-types (if applicable).

Abatement Component Category	Abatement Component Type	Abatement Component Sub-type

Optional Device Information for ALL Abatement Component Types

All Abatement Component Types	Outlet Flowrate (cfm):	
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Optional Device Information for Specific Abatement Component Types

Adsorption	Number of Canisters/Bed:	
	Weight per Canister/Bed (lbs):	
Baghouse	Operating Pressure Drop (inches of H ₂ O or psi):	
	Grain Loading Exit Rate (grains per dscf):	
CO Control Oxidation Catalyst	Minimum Operating Temperature (°C or °F):	
	Residence Time (milliseconds):	
Condenser	Inlet Temperature (°C or °F):	
	Outlet Temperature (°C or °F):	
Cyclone	Grain Loading Exit Rate (grains per dscf):	
Diesel Particulate Control Oxidation Catalyst	Is the filter CARB verified?	☐ Yes ☐ No
	If yes, verification letter (DE-XX-XXX-XX):	

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Diesel Particulate Filter	Is the filter CARB verified?	☐ Yes ☐ No
	If yes, verification letter (DE-XX-XXX-XX):	
Electrostatic Precipitator	Grain Loading Exit Rate (grains per dscf)	
Flare	Minimum Operating Temperature (°C or °F)	
Non-Selective Catalytic Reduction	Minimum Operating Temperature (°C or °F)	
Other Vapor Recovery	Is the device regenerative?	☐ Yes ☐ No
Particulate Filter	Grain Loading Exit Rate (grains per dscf)	
Scrubber	Grain Loading Exit Rate (grains per dscf)	
Selective Catalytic Reduction	Minimum Operating Temperature (°C or °F)	
	Ammonia Slip (ppm @ 15% or 3% Oxygen)	
Selective Non-Catalytic Reduction	Minimum Operating Temperature (°C or °F)	
	Ammonia Slip (ppm @ 15% or 3% Oxygen)	
Thermal Oxidizer / Catalytic Oxidizer / Afterburner	Minimum Operating Temperature (°C or °F)	
	Residence Time (milliseconds)	
	Is the device regenerative?	☐ Yes ☐ No

5. Abatement Factors

Fill out information on the abatement efficiencies (as a percentage) for this device:

➤ See Table B for a list of Basis Codes.

Pollutant	Abatement Factors (%)	Basis Code
Particulates		
Organics		
Nitrogen Oxides (NO _x)		
Sulfur Dioxide		
Carbon Monoxide		
Other:		
Other:		

6. Combustion Information – Complete if the abatement device has a combustion component

Overfire Air? ☐ Yes: _____ % (Overfire air percent) ☐ No
 Flue gas recirculation? ☐ Yes: _____ % (Flue gas recirculation percent) ☐ No
 Air preheat? ☐ Yes: _____ °F (Temperature) ☐ No
 Low NOx burners? ☐ Yes ☐ No

Optional Combustion Information

Maximum Flame Temperature	Wet Gas Flow Rate	Combustion Products Temperature
°F	acfm	°F
Dry Volume Percent	Wet Volume Percent	Excess Air Percent
%	%	%

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Fill out information on combustion fuel used in this operation:

➤ See Table C for a list of combustion fuel material codes and Table B for a list of Basis Codes.

Material Name	Material Code	Maximum Annual Usage	Material Usage Units
Fuel Consumption Rate	Fuel Rate Units	Higher Heating Value	Higher Heating Value Units
Sulfur Content	Sulfur Content Units	Nitrogen Content	Nitrogen Content Units

Typical % of Annual Total

Dec-Feb	Mar-May	Jun-Aug	Sep-Nov

Combustion Material Emission Factors

Pollutant	Emission Factors (lb/unit)	Basis Code
Particulates		
Organics		
Nitrogen Oxides (NO _x)		
Sulfur Dioxide		
Carbon Monoxide		
Other:		
Other:		

7. Emission Train Information

With regard to emission flow, what sources and/or abatement devices are immediately **upstream** of this device?

Sources: S- _____ S- _____ S- _____ Abatement Devices: A- _____ A- _____ A- _____

With regard to emission flow, what abatement devices and/or emission points are immediately **downstream** of this device?

Abatement Devices: A- _____ A- _____ A- _____ Emission Points: P- _____ P- _____ P- _____

8. Certification/Signature of person responsible for the information on this form

I hereby certify that I am authorized to complete this form and that all information contained herein is true and correct.

Name	Title	
Signature	Date	Phone (xxx-xxx-xxxx)

Table A. Abatement Component Categories, Types, and Sub-types

CATEGORY	TYPE	SUB-TYPE	CATEGORY	TYPE	SUB-TYPE
Carbon Monoxide Control	Carbon Monoxide Boiler (1)		Particulate Control	Baghouse	Other Baghouse (13)
	Oxidation Catalyst (72)			Cyclone	Dynamic (17)
Diesel Particulate Control	Diesel Particulate Filter (69)				Multiple (over 12 inches diameter) (18)
	Oxidation Catalyst (71)				Multiple (under 12 inches diameter) (19)
NOx Control	Non-Selective Catalytic Reduction (NSCR) (67)				Simple (20)
	Selective Catalytic Reduction (SCR) (66)			Electrostatic Precipitator	Single Stage (24)
	Selective Non-Catalytic Reduction (73)				Single Stage Wet (25)
Organic Control	Adsorption	Activated Carbon / Charcoal (56)			Two Stage (26)
		Silica (57)			Two Stage Wet (27)
		Other Adsorption (58)			Other Electrostatic Precipitator (28)
	Condenser	Compress / Condense / Absorb Vapor Recovery (60)		Mist Eliminator	Dry Horizontal Pad (30)
		Compression / Refrigeration Vapor Recovery (61)			Dry Panel (31)
		Water-Cooled (62)			Dry Vertical Tube (33)
		Other Condenser (63)			Spray/Irrigated (32)
	Flare (4)				Other Mist Eliminator (34)
	SVE Abatement Device (74)			Particulate Filter	Absolute Dry Filter (7)
	Thermal Oxidizer/ Catalytic Oxidizer/ Afterburner	Catalytic (2)			Envelope Dry Filter (14)
		Direct Flame (3)			Moving Belt Dry Filter (15)
		Furnace-Firebox (5)			Other Dry Filter (16)
		Other Afterburner (6)		Scrubber	Baffle and Secondary Flow (36)
	Vapor Recovery	Balance System (59)			Centrifugal (37)
		Other Vapor Recovery (64)			Fibrous Packed (39)
Particulate Control	Baghouse	Pulse Jet (8)			Impingement and Entrainment (41)
		Reverse Air (9)			Impingement Plate (40)
		Reverse Jet (10)			Irrigated Cyclone (38)
		Shaking (11)			Mechanically-Aided (42)
		Simple (12)			Moving Bed (43)

CATEGORY	TYPE	SUB-TYPE	CATEGORY	TYPE	SUB-TYPE
Particulate Control	Scrubber	Packed Bed (44)	Sulfur Dioxide Control	Absorption	Absorption and Regeneration (48)
		Preformed Spray (45)			Dual Absorption (50)
		Venturi (46)		Reduction and Solution Regeneration (52)	
		Other Scrubber (47)		Stretford Process (53)	
	Water Spray (68)			Other Sulfur Dioxide Control	Claus Solution Reaction (49)
	Other Particulate Control	Baffled / Louvered Settling Chamber (21)			Flue Gas Desulfurization (51)
		Condensate Pot (29)			Sodium Sulfite-Bisulfite Scrubber (54)
		Dry Inertial Collector (23)			Other Sulfur Dioxide Control (55)
		Liquid Separator (35)	Other Abatement Device	EthyleneOxide Catalytic Bed, Electric (76)	
		Simple Settling Chamber (22)		Other Abatement Control Process (65)	

Table B. Basis Codes – for Emission Factor Table

CODE	BASIS	CODE	BASIS	CODE	BASIS
1	Air District Regulation 9-7	5	EPA/CARB Certification	9	Other
2	CARB Certification	6	EPA Certification	10	Other Literature
3	CATEF	7	Manufacturer/Vendor Specification	11	Regulation
4	EPA AP-42	8	Material Balance	12	Source Test

Table C. Combustion Fuel Material Codes

CODE	MATERIAL NAME	UNITS	CODE	MATERIAL NAME	UNITS
815	Biodiesel (B100)	thou gallons	758	Hydrogen plant pressure swing absorption gas	Mcf
816	Biodiesel (B20-blend)	thou gallons	158	Jet A Fuel	thou gallons
43	Bituminous coal	tons	511	Landfill gas	Mcf
242	Bunker C fuel oil	thou gallons	167	Liquid waste	thou gallons
416	Butane	thou gallons	160	LPG	thou gallons
235	Carbon monoxide	Mcf	841	Medium BTU natural gas	Mcf
708	Chevron refinery fuel gas	Mcf	188	Naphtha	thou gallons
80	Coke	tons	189	Natural gas	Mcf
754	Cremation Case (container and corpse)	tons	200	Other Liquid Fuel	thou gallons
89	Crude oil	thou gallons	237	Process gas - other/not specified	Mcf
98	Diesel fuel	thou gallons	417	Propane	thou gallons

CODE	MATERIAL NAME	UNITS	CODE	MATERIAL NAME	UNITS
493	Digester gas	Mcf	238	Refinery make gas (RMG)	Mcf
315	Distillate oil	thou gallons	203	Solid fuel - other/not specified	tons
392	Fuel oil #2	thou gallons	256	Solid propellant	tons
198	Gaseous fuels - H2, etc., other/not specified	Mcf	338	Waste gases	Mcf
551	Gasoline - Unleaded	thou gallons	305	Wood - other/not specified	tons
759	Hydrogen (gas)	Mcf			