

PRELIMINARY DRAFT

September 29, 1998

Model List of Insignificant Activities For Title V Permit Programs

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A. General Criteria for Insignificant Activities

An insignificant activity is any activity, process, or emissions unit which is not subject to a source-specific requirement of a State Implementation Plan, preconstruction permit, or federal standard¹ and which: 1) meets the "Criteria for Specific Source Categories" below; or 2) emits no more than 0.5 tons per year of a federal hazardous air pollutant (HAP)² and no more than two tons per year of a regulated pollutant that is not a HAP.

B. Criteria for Specific Source Categories

1. Fugitive Emissions Sources Associated With Insignificant Activities

Any valves, flanges, and unvented (except for emergency pressure relief valves) pressure vessels associated with an insignificant activity on this list.

Justification: Insignificant air pollutant emissions from this source

2. Combustion and Heat Transfer Equipment

- a. Any combustion equipment, other than a gas turbine, that has a maximum heat input rating of no more than five million British thermal units (mmBtu) per hour (gross) and is equipped to be fired exclusively with natural gas, liquefied petroleum gas, or any combination thereof, provided the fuel contains no more than five per cent by weight of hydrocarbons heavier than butane (as determined by American Society for Testing and Materials (ASTM) test method E-260-73) and no more than 0.75 grains of total sulfur per 100 cubic feet of gas (as determined by ASTM test method D-1072-80).

¹ Federal standards include: 40 CFR Parts 60 (New Source Performance Standards), 61 (National Emission Standards for Hazardous Air Pollutants), 63 (National Emission Standards for Hazardous Air Pollutants for Source Categories).

² HAPs are toxic substances listed pursuant to Section 112(b) of the Federal Clean Air Act.

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Justification:

$100 \text{ lb NO}_x/10^6\text{ft}^3 * 5 \text{ mmBtu/hr}/1,050 \text{ mmBtu}/10^6\text{ft}^3 = 0.5 \text{ lb NO}_x/\text{hr}$
(Reference AP-42)

- b. Any gas turbine with a maximum heat input rating of no more than three mmBtu per hour at International Organization for Standardization (ISO) standard day conditions.

Justification:

$0.698 \text{ lb NO}_x/\text{mmBtu} * 3 \text{ mmBtu/hr} = 2.1 \text{ lb NO}_x/\text{hr}$ or 9.2 TPY
(Reference AP-42)

The Workgroup has not been able to reach consensus regarding whether or not this should be considered an insignificant activity in a severe non-attainment area.

- c. Any piston-type internal combustion engine (ICE) with a manufacturer's maximum continuous rating of no more than 50 braking horsepower (bhp).

Justification:

$14 \text{ g NO}_x/\text{hp-hr} * 50 \text{ hp}/454 \text{ g/lb} = 1.5 \text{ lb NO}_x/\text{hr}$
(Reference AP-42)

- d. Any ICE which emits no more than 2 tons per year of NO_x and is operated solely for the purpose of: 1) providing power when normal power service fails (service failure does not include voluntary power reductions); or 2) the emergency pumping of water.

Justification:

$14 \text{ g NO}_x/\text{hp-hr} * 300 \text{ bhp} * 100 \text{ hr/yr}/454 \text{ g/lb}/2,000 \text{ lb/ton} = 0.46 \text{ tons}$
NO_x/yr

(Reference AP-42)

- e. Any non-electric space heater that is not a boiler.

Justification:

$94 \text{ lb NO}_x/10^6\text{ft}^3 * 60,000,000 \text{ Btu/hr} * 720 \text{ hr/yr}/1,000 \text{ Btu/scf} = 2 \text{ tons}$
NO_x/yr

Note: An electric space heater should be considered a trivial activity.

- f. Any kiln used exclusively for firing ceramic ware, provided fuel oil is not used to

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fire the kiln.

Justification: Insignificant air pollutant emissions from this source

The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

3. Cooling Towers

Any water cooling tower which: 1) has a circulation rate of less than 10,000 gallons per minute; and 2) is not used to cool process water, water from barometric jets, or water from barometric condensers.

Justification:

$0.019 \text{ lb PM}_{10}/1,000 \text{ gal/min} * 10,000 \text{ gal/min} * 60 \text{ min/hr} * 0.10 = 1.14 \text{ lb PM}_{10}/\text{hr}$

4. Printing and Reproduction Equipment

- a. Any printing, coating, or laminating activity which uses no more than two gallons per day of graphic arts materials, including: inks, coatings, adhesives, fountain solutions, thinners, retarders, or cleaning solutions.

Justification: $7.5 \text{ lb VOC/gal} * 2 \text{ gal/day} = 15 \text{ lb VOC/day}$

- b. Any photographic process equipment, and control equipment venting such equipment, which reproduces images upon material sensitized to radiant energy.

Justification: Insignificant air pollutant emissions from this source

- c. Any laser printing equipment.

Justification: Insignificant air pollutant emissions from this source

5. Food Processing Equipment

- a. Any mixer or blender in a food processing operation.

Justification: Insignificant air pollutant emissions from this source

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The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

- b. Any oven in a food processing operation where less than 1,000 pounds of product are produced per day of operation.

Justification:

13.7 lb VOC/2,000 lb product * 1,000 lb product = 6.9 lb VOC/day
(Reference AP-42)

- c. Any equipment, including any associated control equipment venting, used exclusively to grind, blend, or package tea, cocoa, spices, or roasted coffee.

Justification: Insignificant air pollutant emissions from this source

The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

- d. Any smokehouse in which the maximum horizontal inside cross section area does not exceed 20 square feet.

Justification:

0.3 lb PM10/ton of meat * 1 ton /day = 0.3 lb PM10/day
0.6 lb CO/ ton of meat * 1 ton/day = 0.6 lb CO/day
(Reference AP-42)

- e. Any confection cooker, and associated venting or control equipment, cooking edible products intended for human consumption.

Justification: Insignificant air pollutant emissions from this source

6. Plastic and/or Rubber Processing

- a. Any equipment or activity used for foam manufacturing or application, fiberglass reinforced plastic fabrication, or plastics manufacturing, provided no more than five pounds of volatile organic compounds (VOCs) are emitted per day.

Justification: 5 lb VOC/day is an insignificant level of air pollutant emissions from this source

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The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

- b. Any hot-wire cutting of expanded polystyrene foam, provided such cutting is limited to packaging operations.

Justification: $20 \text{ cuts/day} * 0.27 \text{ lb VOC/cut} = 5.4 \text{ lb VOC/day}$
[San Diego APCD emission factor based on BASF Wyandotte Corporation industrial hygiene tests]

- c. Any equipment used exclusively for the extrusion or compression molding of rubber or plastics, provided no plasticizer or blowing agent is used.

Justification: Insignificant air pollutant emissions from this source

- d. Any equipment used exclusively to pelletize foam scraps, provided such scraps do not contain acrylics, polyvinyl chloride, polystyrene, or their copolymers.

Justification: Insignificant air pollutant emissions from this source

The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

- e. Any oven used exclusively for curing, softening, or annealing plastics except for ovens used to cure fiberglass reinforced plastics.

Justification: Insignificant air pollutant emissions from this source

7. Storage Containers, Reservoirs, and Tanks - Fuel, Fuel Oil, Asphalt

- a. Any temporary storage of gasoline in flexible containers to support equipment responding to an emergency or for the purposes of training to support such equipment.

Justification:
 $11.5 \text{ lb VOC/1,000 gal transferred} * 5,000 \text{ gal} * 2 \text{ transfers/yr} = 115 \text{ lb VOC/yr}$

- b. Any equipment with a capacity of no more than 1,500 gallons used exclusively for

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the storage of gasoline.

Justification:

Breathing losses =

30.5 lb VOC/1,000 gal capacity * 1,500 gal capacity = 45.8 lb VOC/yr

Working losses =

10 lb VOC/1,000 gal throughput * 12,000 gal throughput/yr = 120 lb VOC/yr

Total losses = 0.08 ton VOC/yr

- c. Any equipment with a capacity of no more than 19,800 gallons (471 barrels) used exclusively for the storage of petroleum distillates used as motor fuel with specific gravity 0.8251 or higher [40° American Petroleum Institute (API) or lower] as determined by API test method 2547 or ASTM test method D-1298-80.

Justification: 0.03 lb/1,000 gal throughput
(Reference U.S. EPA 450/4-90-003)

- d. Any equipment used exclusively for the storage of fuel oils or non-air-blown asphalt with specific gravity 0.9042 or higher (25° API or lower) as determined by API test method 2547 or ASTM test method D-1298-80.

Justification: 0.03 lb/1,000 gal throughput
(Reference U.S. EPA 450/4-90-003)

8. Storage Containers, Reservoirs, and Tanks - General Organic and VOC-containing Material

- a. Any equipment used exclusively for the storage of unheated organic material with:
1) an initial boiling point of 150° Centigrade (C) [302° Fahrenheit (F)] or greater as determined by ASTM test method 1078-86); or 2) a vapor pressure of no more than five millimeters mercury (mmHg) [0.1 pound per square inch (psi) absolute] as determined by ASTM test method D-2879-86.

Justification:

0.39 lb VOC/1,000 gal storage capacity-yr * 10,000 gal stored = 3.9 lb VOC/yr

0.007 lb VOC/1,000 gal storage capacity-yr

(Reference U.S. EPA 450/4-90-003 for propylene glycol)

- b. Any equipment with a capacity of no more than 250 gallons used exclusively for the storage of unheated organic liquid.

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Justification:

30.5 lb VOC/1,000 gal storage capacity-yr * 250 gal capacity = 7.62 lb VOC/yr
17.9 lb VOC/1,000 gal storage capacity-yr * 250 gal capacity = 4.5 lb VOC/yr
(Reference U.S. EPA 450/4-90-003 for carbon tetrachloride)

- c. Any equipment with a capacity of no more than 6,077 gallons used exclusively for the underground storage of unheated organic liquid with a vapor pressure no more than 75 mm Hg (1.5 psi absolute) as determined by ASTM test method D-2879-86.

Justification:

3.6 lb VOC/1,000 gal storage capacity-yr * 6,077 gal capacity = 21.9 lb VOC/yr

- d. Any transport, delivery, or cargo tank or equipment on vehicles used to deliver VOC-containing material.

Justification:

0.005 lb VOC/1,000 gal
(Reference U.S. EPA 450/4-90-003)

9. Storage Containers, Reservoirs, and Tanks - Inorganic Materials

Any equipment used exclusively for the storage of fresh, commercial or purer grade of:
1) sulfuric or phosphoric acid with acid content of no more than 99 per cent by weight; or
2) nitric acid with acid content of no more than 70 per cent by weight.

Justification: Insignificant air pollutant emissions from this source

10. Storage Containers, Reservoirs, and Tanks - Oil, Oil-related Materials

- a. Any equipment with a capacity of no more than 4,200 gallons (100 barrels) used exclusively to store oil with specific gravity 0.8762 or higher (30° API or lower) as measured by API test method 2547 or ASTM test method D-1298-80.

Justification:

5.8 lb VOC/1,000 gal storage-yr * 4,200 gal = 24 lb/yr

Reference: U.S. EPA 450/4-90-003

- b. Any equipment storing or processing clean produced water below the oil-water interface.

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Justification: Insignificant air pollution emissions from this source.

- c. Any portable tank which stores produced fluids for less than six months at any single location.

Justification:

5.8 lb VOC/1,000gal stored * 10,000 gal = 58 lb VOC/yr

Reference: U.S. EPA 450/4-90-003

The Workgroup has not yet reached consensus. Investigation of emission factors for containers, reservoirs, and tanks of crude oil/produced fluids is in progress.

11. Storage Containers, Reservoirs, and Tanks - Liquefied Gases

Any equipment used exclusively for the storage of liquified gases in unvented (except for emergency pressure-relief valves) pressure vessels.

Justification: Insignificant air pollutant emissions from this source

12. Compression and Storage of Dry Natural Gas

Any equipment used exclusively to compress or hold dry natural gas. Any ICE or other equipment associated with the dry natural gas should not be considered an insignificant activity unless such ICE or other equipment independently qualifies as an insignificant activity.

Justification: Insignificant air pollutant emissions from this source.

13. Transfer Equipment

- a. Any transfer equipment when used with the equipment described in 7-11, above.

Justification: Please see justification for 7-11, above

- b. Any equipment used exclusively to transfer crude oil, asphalt, or residual oil from a delivery vehicle.

Justification: 0.03 lb/1,000 gal transferred
(Reference U.S. EPA 450/4-90-003)

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- c. Any equipment used exclusively for the transfer of crude oil with 0.8762 specific gravity or higher (30 degrees API or lower) as measured by API test method 2547 or ASTM test method D-1298-80.

Justification: Transfer emissions for heavy crude oil are much less than 1 lb/1,000 gal

- d. Any equipment used exclusively for the transfer of less than 4,000 gallons per day of: 1) unheated organic material with an initial boiling point of 150° C (302°F) or greater as determined by ASTM test method D-86; or 2) fuel oil with 0.8251 specific gravity or higher (40° API or lower) as determined by API test method 2547 or ASTM test method D-1298-80.

Justification: Less than 0.03 lb/1,000 gal transferred (Reference U.S. EPA 450/4-90-003)

14. Adhesive Application

Any adhesive operation in which no more than 173 gallons of adhesives are applied in a consecutive 12-month period.

Justification: $11.1 \text{ lb VOC-HAP/gal} * 0.52 * 173 \text{ gal/year} = 0.5 \text{ TPY VOC-HAP}$

“Note: Districts with SIP-approved adhesive rules should determine if insignificant adhesive application at a Title V facility should be less than 173 gallons/year.

15. Surface Coating

- a. Any equipment or activity using no more than one gallon per day of surface coating, or any combination of surface coating and solvent, which contains either VOC or hazardous air pollutants (HAP), or both.

Justification: $7.5 \text{ lb VOC/gal} * 1 \text{ gal/day} = 7.5 \text{ lbVOC/day}$

- b. Any coating operation using less than 10,950 gallons per year of coating(s) that contain less than 20 grams of VOC per liter.

Justification: $0.16 \text{ lb VOC/gal} * 10,950 \text{ gal/year} = 1,752 \text{ lb VOC/yr}$

16. Solvent Cleaning

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- a. Any equipment or activity using no more than one gallon per day of solvent, or combination of solvent and surface coating, which contains either VOC or HAP, or both.

Justification: $7.5 \text{ lb VOC/gal} * 1 \text{ gal/day} = 7.5 \text{ lb VOC/day}$

- b. Any unheated, non-conveyORIZED cleaning equipment (not including control enclosures): 1) which has an open surface area of no more than 10.8 square feet (2 square meters) and internal volume of no more than 92.5 gallons; 2) which uses organic solvents with an initial boiling point of 302° F or greater as determined by ASTM test method 1078-78; and 3) from which the owner or operator can demonstrate, through solvent purchase and use records, that less than 25 gallons per year of solvent was lost exclusive of solvent loss from recycling or disposal.

Justification:

$7.5 \text{ lb VOC/gal solvent} * 25 \text{ gal solvent/yr} / 2,000 \text{ lb/ton} = 0.094 \text{ ton VOC/yr}$

- c. Any solvent wipe cleaning provided such cleaning: 1) utilizes a container applicator to limit emissions (e.g., squeeze containers with narrow tips, spray bottles, dispensers with press-down caps, etc.); and 2) occurs at a facility which emits no more than five tons VOC (uncontrolled emissions) per calendar year from all solvent wipe-cleaning operations or which purchases no more than 1,500 gallons of solvent per calendar year.

Justification: Less than 5 tons VOC per calendar year

17. Abrasive Blasting

- a. Any blast cleaning equipment using a suspension of abrasive material in water and the control equipment venting such blast cleaning equipment.

Justification: Insignificant air pollutant emissions from this source

- b. Any abrasive blast room when vented to a control device that discharges back to the room.

Justification: Insignificant air pollutant emissions from this source.

18. Vacuum-cleaning Systems

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Any vacuum-cleaning system used in the manufacturing process.

Justification: Insignificant air pollutant emissions from this source

Note: A vacuum-cleaning system that is not used in the manufacturing process would be considered a trivial activity (plant maintenance and upkeep - cleaning).

The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

19. Brazing, Soldering, Welding, and Cutting Torches

Any brazing, soldering, welding, or cutting torch equipment used in manufacturing and construction activities and with the potential to emit hazardous air pollutant (HAP) metals, provided the total emissions of HAPs do not exceed 0.5 tons per year.

Justification: Less than 0.5 tons per year of total HAPs

Note: U.S. EPA's List of Trivial Activities says brazing, soldering, and welding associated with maintenance is a trivial activity. Such activity performed as part of the manufacturing process is also a trivial activity, provided no metal HAPs are emitted.

20. Solder Leveler, Hydrosqueegee, Wave Solder Machine, or Drag Solder Machine

Any solder leveler, hydrosqueegee, wave solder machine, or drag solder machine which uses less than an average of 10 pounds/day of any VOC-containing material.

Justification: Less than 10 pounds/day of VOC

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21. Metal Products

- a. Any equipment, and associated control equipment, used exclusively for the inspection of metal products.

Justification: Insignificant air pollutant emissions from this source.

- b. Any metal or ceramic deposition spray gun which sprays material that does not contain chromium, lead, or nickel.

Justification: Insignificant air pollutant emissions from this source.

The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

22. Aerosol Can Puncturing or Crushing

Any aerosol can puncturing or crushing operation that processes less than 500 cans per day, provided such operation uses a closed loop recovery system.

Justification: $0.02 \text{ lb VOC/aerosol can} * 500 \text{ aerosol cans/day} = 10 \text{ lb VOC/day}$
[San Diego County APCD emission factor based on saturated vapor in aerosol can]

23. Cosmetic Production and/or Blending

Any cosmetic manufacturing operation that produces and/or blends materials which emit less than an average of 15 pounds of VOCs per day.

Justification: $15 \text{ lb VOC/day} * 365 \text{ days/year} = 5,475 \text{ lb VOC/year}$

The Workgroup has not been able to reach consensus regarding whether or not this insignificant activity should, as a result of process-weight requirements, include a discharge, throughput, or production limitation.

24. Biotechnology Manufacture

Provided the total uncontrolled VOC emissions from any biotechnology manufacturing facility does not exceed five tons per year, any equipment used in the manufacture of:

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- a. Biotechnology pharmaceutical products used exclusively in federal Food and Drug Administration (FDA)-approved clinical trials;
- b. Biomedical devices and diagnostic kits used exclusively in FDA-approved clinical trials and laboratory failure analysis testing; or
- c. Bioagricultural products for exclusive use in field testing required to obtain FDA, U.S. EPA, United States Department of Agriculture (USDA), or California Environmental Protection Agency (Cal-EPA) approval.

Justification: No more than 2 tons VOC/year

25. Textile Dyeing, Stripping, or Bleaching

Any equipment used for dyeing, stripping, or bleaching textiles, provided no organic solvents, diluents, or thinners are used.

Justification: Insignificant air pollutant emissions from this source

26. Laboratory Fume Hoods and Vents

Any laboratory fume hood or vent, provided such equipment is used exclusively for the purpose of teaching, research, or quality control.

Justification: Insignificant air pollutant emissions from this source

Note: According to the U.S. EPA's List of Trivial Activities, "many lab fume hoods or vents might qualify for treatment as insignificant"

27. Refrigeration Units

Any refrigeration unit provided the unit: 1) contains less than 50 pounds of refrigerant; and 2) is not used in conjunction with air pollution control equipment.

Justification: Insignificant air pollutant emissions from this source.