

## SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

### **RULE 4204 - COTTON GINS**

*(Adopted February 17, 2005)*

#### 1.0 Purpose

The purpose of this rule is to limit PM10 emissions from cotton ginning facilities and to provide the administrative requirements for monitoring, recordkeeping, and source testing for these facilities.

#### 2.0 Applicability

The provisions of this rule shall apply to all cotton ginning facilities within the District.

#### 3.0 Definitions

3.1 1D3D Cyclone: a type of cyclone which has the dimensions shown in Figure 1.

3.2 Air Pollution Control Officer (APCO): as defined in Rule 1020 (Definitions).

3.3 Bale: a unit of measurement to denote an amount of lint cotton with a nominal weight of 500 pounds.

3.4 Battery Condenser: a separator serving the lint cleaner battery.

3.5 Best Available Control Technology: as defined in Rule 2201 (New and Modified Stationary Source Review Rule).

3.6 Cotton: a general term used to refer to the cotton plant (genus *Gossypium*) and also refers to white lint fibers separated from the seed.

3.7 Cotton Ginning Facility: a facility whose primary function is to separate lint cotton from the cottonseed.

3.8 Flexible Shroud: a flexible material that reduces dispersion of dust.

3.9 Ginstand/Feeder Trash: the trash coming from the extractor feeder and ginstand.

3.10 Lint Cleaning: the process after the separation of seed and lint that further removes leaf particles, motes, grass, and bark, which remain in cotton after seed cotton cleaning, extracting, and ginning.

3.11 Lint Cotton: the term used to denote cotton fibers from which the ginning process has removed the trash and seeds.

- 3.12 Lint Trash: the trash material coming from lint.
- 3.13 Motes: a small group of short fibers often attached to a portion of the seed or to an immature seed.
- 3.14 Motes Cleaner Trash: the trash coming from the motes cleaner and conveyed by an air stream.
- 3.15 Overflow: a device that receives excess cotton, which exceeds the limit of the extractor/feeders fed by the distributor, and which pneumatically returns the excess cotton back to the distributor.
- 3.16 Owner/Operator: any person who is responsible for the operation of the cotton ginning facility, including, but not limited to, any person who owns, leases, supervises, or operates the equipment.
- 3.17 PM10: as defined in Rule 1020 (Definitions).
- 3.18 Precleaning: the process or processes, after unloading the cotton and before passing through the gin stand, designed primarily to remove dirt and small pieces of leaves, bracts, and other vegetative matter from seed cotton. It can include cylinder cleaners, dryers, and extractor machinery, such as bur machines, stick machines, and extractor-feeders.
- 3.19 Robber Systems: a secondary cyclone trash system, which comes after the master trash system.
- 3.20 Trash Stockpiler: the process stream that carries the trash from the ginning operation for delivery to the facility's trash pile.
- 3.21 Unloading: the system that removes unprocessed cotton from trailers or modules.

#### 4.0 Exemptions

- 4.1 Cotton ginning facilities used for research purposes and limited to throughputs of not more than 4,000 pounds of seed cotton processed per day shall be exempt from the requirements of Section 5.0. Records shall be kept as indicated in Section 6.1.

#### 5.0 Requirements

The owner/operator shall not operate a cotton ginning facility unless it meets the following requirements:

- 5.1 All emission points shall be controlled by 1D3D cyclones or rotary drum filters, according to the compliance schedule in Section 7.0.

- 5.2 The inlet air velocity to the 1D3D cyclone shall be designed and maintained at an operational range of 2,800 to 3,600 feet per minute.
- 5.3 New cyclones or replacement parts of existing 1D3D cyclones shall have the dimensional characteristics of the Enhanced 1D3D cyclone shown in Figure 1 or the 1D3D with a 2D2D inlet and an expansion chamber trash outlet, as shown in Figure 2.
- 5.4 Notwithstanding Sections 5.1 and 5.3, an operator may operate an alternative control device in lieu of an Enhanced 1D3D cyclone or rotary drum filter, provided the control device is found by the District to be equivalent to Best Available Control Technology standards at the time of the analysis of the control and is approved by the APCO and the United States Environmental Protection Agency (EPA).
- 5.5 Operators may install a device, such as a pre-collector or plenum, before cyclones, provided the device undergoes engineering evaluation of its operating parameters conducted and approved by the APCO prior to its operation.
- 5.6 Effective on and after July 1, 2005, an owner/operator using a drive-under or pull-through trash collection system for load-out purposes shall not load trash into a hopper or trailer unless one or more of the following are utilized:
  - 5.6.1 The trash loading area has an enclosure with four sides that are higher than the trash auger; at least two sides shall be solid and the remaining sides shall:
    - 5.6.1.1 Have a flexible wind barrier, which extends below the top of the trash trailer sides, or
    - 5.6.1.2 Have solid doors that remain shut while trash trailers are being loaded, except as necessary to accommodate trailer movement, or
    - 5.6.1.3 Have a combination of flexible wind barriers as specified in Section 5.6.1.1 and solid doors as specified in Section 5.6.1.2.
  - 5.6.2 A solid-sided trailer is used when there is no enclosure, and the trash auger and opening of the loading device have a flexible shroud that extends just below the top of the trailer's solid sides, or
  - 5.6.3 Fugitive PM10 emissions from load-out areas are reduced by an alternative method, which is approved by the APCO and the EPA.

- 5.7 Effective on and after July 1, 2005, an owner/operator shall not operate a trash conveyance system dumping directly into a pile unless it meets the following requirements:
- 5.7.1 Both sides of the trash auger shall be equipped with wind barriers that extend, as measured vertically prior to trash pile build-up, one foot above and three feet below the auger or with an alternative control approved by the APCO and the EPA.
  - 5.7.2 After the pile has built up to the height of the trash auger, removing material from the pile shall be performed in such a way as to prevent free-falling trash from the stockpiling system.
  - 5.7.3 Notwithstanding Section 5.7.2, if the trash stockpile is removed for the purpose of preventing the build-up of heat in the pile, the operator shall record the date of the removal and such records shall be made available to the APCO upon request.

## 6.0 Administrative Requirements

### 6.1 Monitoring and Recordkeeping

#### 6.1.1 The owner/operator shall perform the following:

- 6.1.1.1 Conduct daily visual inspections of the material handling systems for leaks, breaks, or other visible signs of equipment malfunctions.
- 6.1.1.2 Maintain a record of the daily inspections, including any equipment malfunctions discovered and corrective action taken to repair the malfunction, and any source test results as required by the rule.
- 6.1.1.3 When claiming an exemption under Section 4.0, record the total hours during which a ginning operation was conducted and the total throughput weight of unprocessed seed cotton or total weight of lint cotton produced.

#### 6.1.2 Records shall be retained by the owner/operator for five years and shall be made available to the APCO upon request.

### 6.2 Source Testing

- 6.2.1 Operators shall conduct source testing to demonstrate compliance with Section 5.2 when adding new or modifying existing control equipment, performed for the purpose of complying with this rule.

6.2.2 The following test methods or alternative test methods approved by the APCO and EPA shall be used:

6.2.2.1 Selection of sampling ports and traverses- EPA Method 1.

6.2.2.2 Stack gas velocity and volumetric flow rate- EPA Method 2.

6.2.2.3 PM10 emissions- EPA Method 201A or CARB Method 501.

## 7.0 Compliance Schedule

Owners/operators shall demonstrate and maintain compliance with the control requirements on and after the first day of operation after the indicated compliance dates.

Table 2 Compliance Schedule	
Control Requirement	Compliance Dates
Install 1D3D cyclones on all unloading, #1 precleaning, #2 precleaning, and #3 precleaning emission points.	July 1, 2006
Install 1D3D cyclones on all overflow, gin stand/feeder trash, motes, motes cleaner trash, and trash stockpiles emission points.	July 1, 2007
Install 1D3D cyclones on all #1 and #2 lint cleaning, lint trash, robber systems, and battery condenser emission points.	July 1, 2008

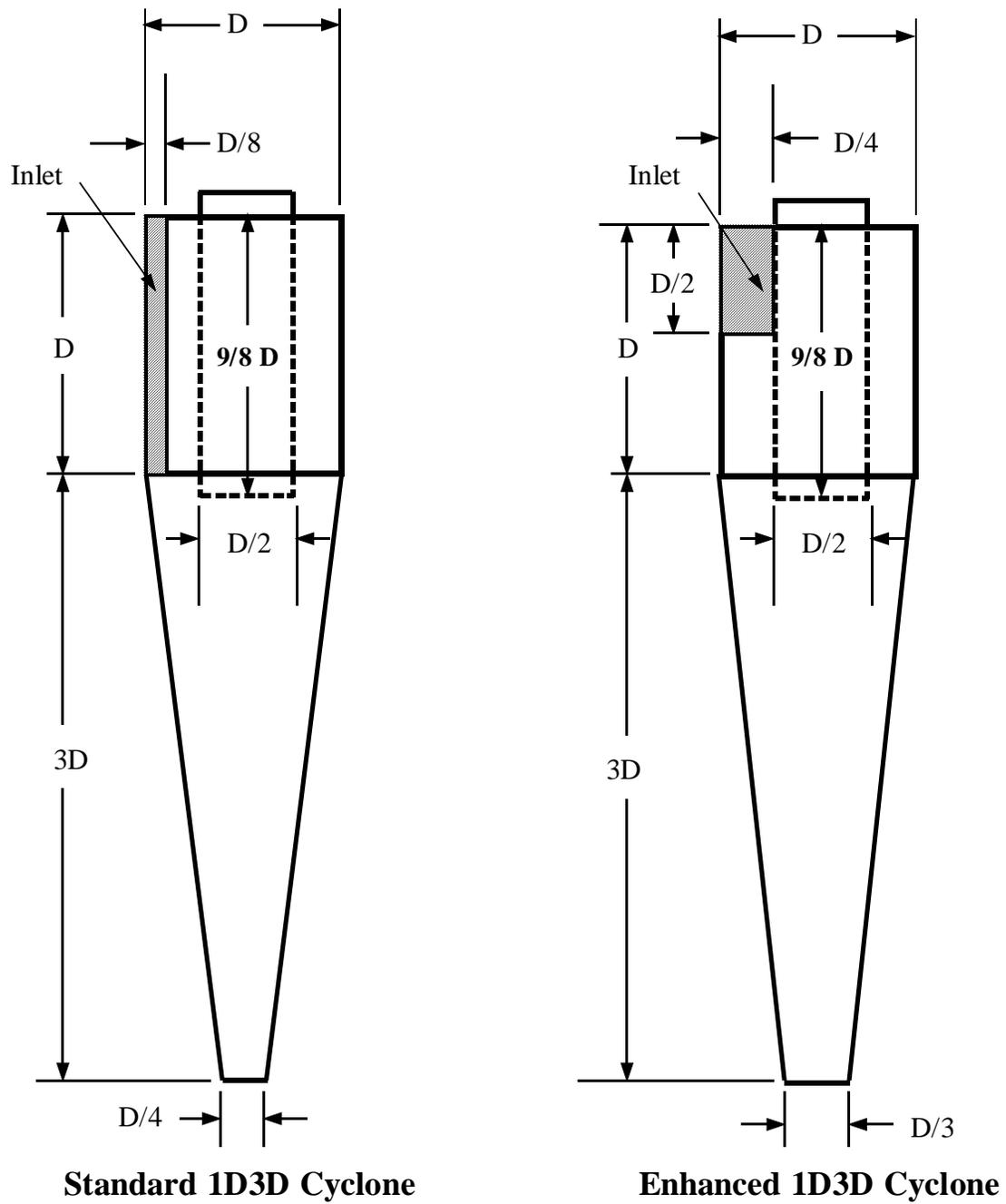


Figure 1, 1D3D Cyclone Dimensions

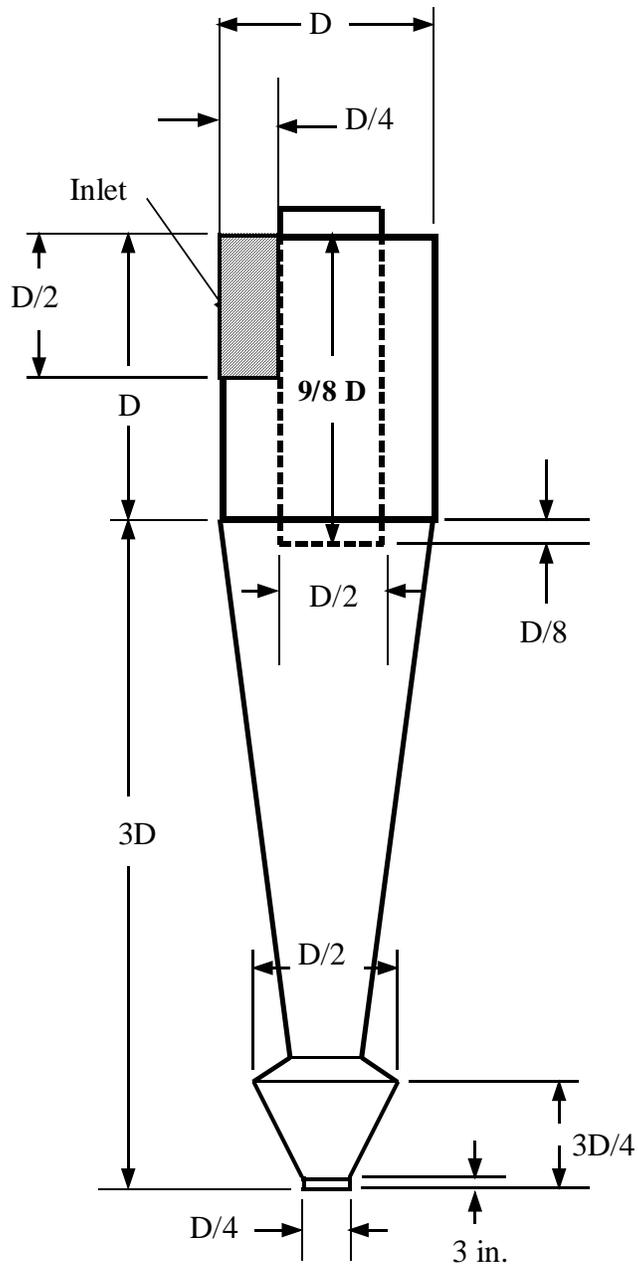


Figure 2, 1D3D Cyclone with Expansion Chamber

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