

Management Regulations for Facilities to Control Fugitive Dust Air Pollution from Stationary Pollution Sources

Full text determined and promulgated in 14 articles by Environmental Protection Administration, Executive Yuan Order Huan-Shu-Kong-Tzu No. 0980000715A on January 8, 2009.

Revised Articles 6, 8, 12, and Attached Table 1 in Article 3 promulgated by Environmental Protection Administration, Executive Yuan Order Huan-Shu-Kong-Tzu No. 1000010897A on February 11, 2011.

Article 1

These Regulations are determined pursuant to Article 23, Paragraph 2 of the Air Pollution Control Act (herein referred to as this Act).

Article 2

Terms used in these Regulations are defined as follows:

- I. "Fugitive dust" means particulate matter entrained in the ambient air as a result of anthropogenic (man-made) or natural destruction, disturbance, or weathering effects.
- II. "Closed building" means a building enclosed by outer walls and a roof, the openings of which, apart from those that have been installed for ventilation in accordance with law, are kept closed at all times.
- III. "Sealed" means pollution sources that have been sealed to prevent the dispersal of particulate pollutants in the air.
- IV. "Dustproof screen" means a facility in the form of a screen used to suppress the fugitive emission of particulate pollutants.
- V. "Dustproof cloth" means facilities in the form of fabrics, canvas, or plastic cloth used to suppress the fugitive emission of particulate pollutants.
- VI. "Chemical stabilizer" means particular agents, emulsions, or other chemical agents used to increase the adhesion or cohesion of fugitive particulate pollutants.
- VII. "Automatic water spraying equipment" means water spraying equipment that can operate automatically and does not require manual operation.
- VIII. "Enclosed gas collection system" means a gas collection system employing partitions to enclose a stationary pollution source and ensure that it is isolated from other spaces within the plant. A negative pressure must be maintained in space enclosed within such a system when operating, which will ensure that particulate pollutants discharged by the stationary pollution source can be entirely collected by pollution control equipment.
- IX. "Landfill gas collection system" means a system that employs a hood to gather via dynamic suction or collection of fugitive particulate pollutants discharged by process equipment. Such a system must be able to effectively collect fugitive particulate pollutants from production process equipment.
- X. "Coarse grade aggregate" means aggregate that can be spread on the ground to prevent the fugitive escape of dust.

- XI. "Particulate matter" means gravel, crushed stone, slag, or other material that exists in a finely divided form that can prevent the fugitive escape of dust.
- XII. "Exposed area" means an area wherein the surface soil is directly exposed to the atmosphere.
- XIII. "Road color difference" means a difference in the color of a road surface compared with a clean road caused by the adhesion of particulate pollutants such as sand and soil.
- XIV. "Existing pollution source" means those stationary pollution sources that are naturally existing or that were completed, for which project bid request procedures had been completed, for which contracting contract signing had been completed when there were no bid request procedures, or that were under construction prior to the implementation of these Regulations.

Article 3

The appraisal targets of these Regulations shall be those stationary pollution sources at public or private premises that may produce fugitive particulate pollutants listed in Attached Table 1. However, these Regulations shall not apply to construction sites.

Article 4

Public or private premises that pile fugitive dust shall establish or adopt one of the following facilities in order to effectively suppress the fugitive emission of particulate pollutants:

- I. Piled within a closed building.
- II. Apart from entrances and exits, the periphery of a piling area must be enclosed with dustproof screens or partition walls with an overall height of at least 1.25 times the design or actual pile height.
- III. Covering least 80% of the piling area with dustproof cloth or dustproof screen.
- IV. Spraying at least 80% of the piling area with chemical stabilizers.
- V. Installing automatic water spraying equipment that can spray over the entire piling area and that can spray while materials are piled to ensure that the piled materials are kept moist.

When the facilities in subparagraphs 2 through 5 of the foregoing paragraph have been adopted, isolation equipment and spill-prevention bases shall be installed so as to prevent the falling or spilling of the piled materials outside of the piling area.

Article 5

Public or private premises that transport fugitive dust shall establish or adopt one of the following facilities in order to effectively collect or suppress the fugitive emission of particulate pollutants. However, premises adopting wet transport shall not be subject to this restriction.

- I. Operation within a closed building.
- II. Use of a sealed conveyor system.
- III. Landfill gas collection systems or automatic water spraying facilities must be employed at the inlets, outlets, feeder points, and other locations when fugitive emissions of particulate pollutants may occur in conveyor systems.

Article 6

A public or private premise using vehicles to transport fugitive dust shall establish or adopt the following facilities to effectively suppress the fugitive emission of particulate pollutants:

- I. A vehicle used to transport fugitive dust must employ a sealed cargo container, or use a tightly covered cargo container covered with dustproof cloth or a dustproof screen, which must be securely bound and have a lower edge extending to and covering at least 15 cm below the upper edge of the cargo container. The cargo container of a transport vehicle must possess a function or facility preventing the dripping of wastewater or sludge from the transported material.
- II. Routes and spaces within public or private premises where transport vehicles may pass must be paved with concrete, asphaltic concrete, or steel plates, and may not have a color difference from the road. However, such spaces may be covered with coarse grade aggregate or particulate matter when they are located in piling areas or mine or quarry areas, and sprayed with water during operating period to keep the surface moist.
- III. The vehicle body and tires of such a transport vehicle must be washed using pressurized washing equipment before the vehicle leaves the public or private premise, and no fugitive particulate pollutants may adhere to the surface of the vehicle. The entrance and road surface extending 10 m beyond the entrance of a public or private premise may not have fugitive particulate pollutants carried by transport vehicles. In the case of the applicable targets listed under serial number 1-5 in Attached Table 1, automatic vehicle washing equipment must be installed at transport vehicle entrances and exits; the specifications of such automatic vehicle washing equipment are given in Attached Table 2.

Article 7

A public or private premise engaging in processes or operations, or loading and unloading operations, tending to cause the fugitive emission of particulate pollutants shall establish or adopt the one of the following facilities to effectively collect or suppress the fugitive emission of particulate pollutants. However, wet process operations shall not be subject to this restriction.

- I. Establishment of an enclosed gas collection system.
- II. Establishment of a landfill gas collection system.
- III. Use of sealed operations.
- IV. Operation within a closed building.
- V. Spraying water during operating times to keep materials moist.

Article 8

In order to manage exposed areas, public or private premise shall establish or adopt one of the following facilities in order to effectively suppress the fugitive emission of particulate pollutants in exposed areas. However, when the ground or topsoil is hard and will not tend to give rise to airborne dust, and the competent authority with local jurisdiction has been notified and granted its approval, the case shall not be subject to this restriction.

- I. Planting with vegetation.
- II. Covering with straw mats or wood chips.
- III. Paving with concrete or asphaltic concrete.
- IV. Covering with dustproof cloth or a dustproof screen.
- V. Paving with coarse grade aggregate or particulate matter, which must be kept moist.
- VI. Spraying with chemical stabilizers.

VII. Spraying with water and maintaining moist conditions.

The control facilities in the foregoing paragraph must cover at least 80% of the area of exposed spaces.

Article 9

A public or private premise must maintain roads under its management, may not allow damage or soiling to cause a color difference in the road, or allow the fugitive emission of particulate pollutants in the air.

If a road in the foregoing paragraph has traffic islands or sidewalks, one of the facilities in Subparagraphs 1-5 of the foregoing article shall be established or adopted for the exposed areas of the traffic islands or sidewalks.

Article 10

A public or private premise that has established air pollution control facilities such as water spraying equipment, vehicle washing equipment, chemical stabilizers spraying, or an enclosed or landfill gas collection system shall establish monitoring meters or instruments as specified in Attached Table 3, and shall record data in accordance with the items and frequencies in that table.

Operating records of the air pollution control facilities in the foregoing paragraph shall be preserved two years for future reference.

Article 11

A public or private premise that has failed to establish or adopt air pollution control facilities or monitoring meters or instruments in accordance with these Regulations may implement alternative methods after submitting the methods and obtaining the approval of the special municipality or county and city competent authority.

Article 12

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Article 13

Existing pollution sources shall comply with these Regulations from July 1, 2009.

If an existing pollution source fails to establish a closed building, dustproof screen or partition walls enclosing a piling area, automatic vehicle washing equipment, or a sealed conveyor system complying with these Regulations before the deadline in the foregoing paragraph, an air pollution control plan including air pollutant control facility type, construction, effectiveness, processes, state of usage, design drawings, establishment funds must be submitted to the special municipality or county and city competent authority prior to April 1, 2009 in application for approval of an improvement deadline, and the pollution source shall complete facility establishment prior to the deadline.

The improvement deadline in the foregoing paragraph may not be after June 30, 2010.

Article 14

Unless an enforcement date is separately designated, these Regulations shall take effect on the date of promulgation.

Attached Table 1

No.	Applicable Targets	Explanation of criteria for applicable targets
1	Sand and rock quarrying and processing, and other firms possessing the manufacturing processes listed on the right.	Sand and rock quarrying and processing.
2	Mining and other firms with manufacturing processes listed on the right.	Soil and rock extraction and transport operating processes
3	Cement manufacturing industry and other firms possessing the manufacturing processes listed on the right.	Cement Production Process
4	Steel smelting industry and other firms possessing the manufacturing processes listed on the right.	Electric Arc Furnace Steelmaking Process
		Primary Iron Smelting or Sintering Process
		Coking Process
		Steelmaking Process
		Iron alloy smelting processes
5	<p>Firms or management agencies within a port area possessing or engaging in the following operations:</p> <ol style="list-style-type: none"> 1. Commercial port warehouse facility operators 2. Industrial port operators 3. Ship cargo loading and unloading contractors 4. Port area management agencies 	<ol style="list-style-type: none"> 1. Fugitive particulate pollutant loading and unloading, transport, or conveying firms. 2. Other sources of fugitive particulate pollutants under the management of a port management agency apart from the foregoing operations.
6	All Industries	<p>Piling yards: Single public or private premises with an design or actual piling area containing fugitive particulate pollutants in excess of 100 square meters in area.</p>
7	All Industries	<p>Exposed areas: Each individual exposed area greater than 500 square meters on land owned or managed by a public or private premise. Agricultural land, beaches, and landslide areas in mountain forests shall not be subject to this restriction.</p>
8	Road management agencies	<p>"Roads" means roads used for vehicular traffic and the various facilities within their site scope, and include national freeways, provincial roads, county roads, township roads, special-purpose roads.</p>

9	Freight transport industry	Transport operations of fugitive particulate pollutants
10	Stone product manufacturing industry and other firms possessing the manufacturing processes listed on the right	Raw Plaster Manufacturing Process
11	Cement product manufacturing industry and other firms possessing the manufacturing processes listed on the right	Cement Product Manufacturing Process
12	Ready-mix concrete manufacturing industry and other firms possessing the manufacturing processes listed on the right.	Ready-mix Concrete Processes
13	Asphalt mixing industry and other firms possessing the manufacturing processes listed on the right.	Asphalt mixing processes
14	Architectural kaolin or clay manufacturing industry and other firms possessing the manufacturing processes listed on the right.	Red Brick Manufacturing Process
		Kaolin and clay processing processes
		Manufacturing Process for Ceramics (Ceramic Tiles)
15	Steel casting industry and other firms possessing the manufacturing processes listed on the right.	Gray iron casting processes, steel casting processes
16	Non-ferrous metal basic industry, non-ferrous metal product manufacturing industry, and other firms possessing the manufacturing processes listed on the right.	Non-ferrous metal primary smelting processes
		Non-ferrous metal secondary smelting processes
		Non-ferrous metal product casting processes
17	Lime manufacturing industry and other firms possessing the manufacturing processes listed on the right.	Lime Manufacturing Process
18	Glass and glass product manufacturing industry and other firms possessing the manufacturing processes listed on the right.	Glass and glass product manufacturing processes (including glass fiber, glass ceramics, and water glass manufacturing processes)
19	Fire-resistant materials manufacturing industry and other firms possessing the manufacturing processes listed on the right.	Fire-resistant article manufacturing processes

Attached Table 2 Automatic Vehicle Washing Equipment Specifications

Equipment items	Equipment specifications
Automatic sensing gate	An automatic sensing gate shall be established at the entrance to automatic vehicle washing equipment; when a transport vehicle enters the vehicle washing platform, the vehicle shall trigger the electrically-actuated gate and turn on water spraying equipment.
Vehicle washing platform	<p>Vehicle washing platform specifications shall comply with one of the following standards:</p> <ol style="list-style-type: none"> 1. A vehicle washing platform with a vibrating surface shall be established, and shall comply with the following regulations: <ol style="list-style-type: none"> 1. The platform width shall be greater than 1.25 times the transport vehicle width. 2. The platform length shall be greater than the transport vehicle length. 3. The platform shall vibrate up and down when a transport vehicle is on it, enabling the removal of grit and grime from the tires and vehicle body. 2. A vehicle washing tank paved with concrete shall be established, and shall comply with the following regulations: <ol style="list-style-type: none"> 1. The tank width shall be greater than 1.2 times the transport vehicle width. 2. The tank length shall be greater than transport vehicle length. 3. The tank depth shall be over 30 cm, and the water depth shall be over 20 cm. 4. Vehicle washing tank wastewater shall be exchanged on a daily basis, and the volume of the exchanged wastewater shall be at least five times the capacity of the tank.
Water spraying facilities	<p>Water spraying equipment shall be established on both sides of vehicle washing platforms, and shall comply with the following regulations:</p> <ol style="list-style-type: none"> 1. The total installed length of water spraying equipment shall be at least greater than the length of the vehicle washing platform, and the distance between each spray nozzle shall be less than 50 cm. 2. Spray nozzles shall have high and low spray angles in an alternating arrangement, and the cleaning height range should be sufficient to accommodate the vehicle bodies. 3. The pressurizing motors of water spraying equipment shall be at least 15 horsepower. 4. Spraying shall be continuous while a transport vehicle is crossing a vehicle washing platform.
Wastewater treatment equipment	Sedimentation ponds with an effective sedimentation function or wastewater treatment equipment shall be established. Wastewater generated in the vehicle washing process shall be collected and sent to the wastewater treatment equipment for treatment, and then reused or released.
Signs	<p>Signs shall be established near the entrance to automatic vehicle washing equipment; the content of such message signs shall explicitly state the following items:</p> <ol style="list-style-type: none"> 1. Warnings reminding drivers to stop and wash their vehicles, etc.

2. Vehicle washing equipment operating instructions and washing times.

Attached Table 3 Air Pollution Control Facility Monitoring Meters or Instruments, Items to be Recorded, Record Frequency, and Other Regulations

Air Pollution Control Facilities	Monitoring meters or instruments	Installation criteria or locations	Record item	Record frequency	Other regulations
Water Spraying Equipment	Water Meter	Water meters shall be installed along water pipes within one meter before and after each pressurizing motor.	Cumulative water usage	Once daily	The water pipes between water meters and pressurizing motors may not have any other diversions.
Vehicle washing equipment (choose one of the monitoring meters or instruments listed below)	Water Meter	Water meters shall be installed along water pipes within one meter before and after each pressurizing motor.	Cumulative water usage	Once a month	The water pipes between water meters and pressurizing motors may not have any other diversions.
	Electricity Meter	Pressurizing motors shall have independent electric meters.	Cumulative power usage in kWh	Once daily	
Spraying with chemical stabilizers			Agent name, amount used, dilution multiple, and spray area	Application period	Proof of agent purchase shall be retained for inspection.
Enclosed and landfill gas collection systems (Choose one	Electricity Meter	Gas collection systems shall have independent electric meters.	Cumulative power usage in kWh	Once daily	Gas flow meters shall be calibrated once annually.

of the monitoring meters or instruments listed below.)	Gas flow meters	Shall be established at the particulate pollutant inlets or discharge vents of dust collection equipment.	Exhaust Flow Rate	Once daily	
	Manometers, voltage meters, or other monitoring meters or instruments sufficient to indicate the normal operation of the dust collection equipment.	Back end of gas collection system	Instrument and meter monitoring items	Must be handled in accordance with air pollution control equipment operating record regulations stated on the stationary pollution source operating permit.	