CHAPTER 7011

MINNESOTA POLLUTION CONTROL AGENCY

AIR QUALITY DIVISION

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GENERALLY

7011.0010 APPLICABILITY OF STANDARDS OF PERFORMANCE.

Subpart 1. **Existing facility.** An owner or operator of an existing emission facility shall comply with all applicable state air pollution control rules for existing emission facilities.

Subp. 2. **New facility.** An owner or operator who constructs, modifies, or reconstructs an emission facility shall comply with the New Source Performance Standards, if applicable, or the standards of performance for a new emission facility set forth in the state air pollution control rules.

Subp. 3. **Exception.** For the purpose of the state air pollution control rules, the use of an alternative type of fuel or raw material is not a modification if the existing facility was designed to accommodate the alternative type of fuel or raw material. An emission facility is considered to be designed to accommodate an alternative type of fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change.

Statutory Authority: *MS s 116.07 subd 4*

History: *8 SR 2275; 18 SR 614*

7011.0020 CIRCUMVENTION.

No owner or operator may install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.

Statutory Authority: *MS s 116.07 subd 4*

History: *8 SR 2275; 18 SR 614*

7011.0050 GENERAL PROVISIONS OF FEDERAL NEW SOURCE PERFORMANCE STANDARDS INCORPORATED BY REFERENCE.

For purposes of interpreting, applying, and enforcing New Source Performance Standards that are incorporated by reference into this chapter, Code of Federal Regulations, title 40, sections 60.1, 60.2, 60.3, 60.5, 60.6, 60.12, 60.14, 60.15, 60.17, and 60.18, as amended, are adopted and incorporated by reference.

All requests, reports, applications, submittals, and other communications to the administrator pursuant to New Source Performance Standards that are incorporated by reference into this chapter must be submitted to the commissioner.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.0060 DEFINITIONS.

Subpart 1. **Scope.** The definitions in parts 7005.0100 and 7007.0100 apply to the terms used in parts 7011.0060 to 7011.0080 unless the terms are defined in this part. The definitions in this part apply to the terms used in parts 7011.0060 to 7011.0080.

Subp. 2. **Hood.** "Hood" means a shaped inlet to a pollution control system that does not totally surround emissions from an emissions unit, that is designed to capture and discharge the air emissions through ductwork to control equipment, and that conforms to the design and operating practices recommended in "Industrial Ventilation – A Manual of Recommended

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Practice, American Conference of Governmental Industrial Hygienists." This document is subject to frequent change.

Subp. 3. **Control equipment manufacturer.** "Control equipment manufacturer" means a person that manufactures and sells control equipment, if at least 50 percent of the dollar value of the annual control equipment sales are made to persons who are not a subsidiary, division, or subdivision of the control equipment manufacturer.

Subp. 4. **Listed control equipment.** "Listed control equipment" means the control equipment at a stationary source listed in part 7011.0070, subpart 1, Table A.

Subp. 5. **Total enclosure.** "Total enclosure" means an enclosure that completely surrounds emissions from an emissions unit such that all emissions are captured and discharged through ductwork to control equipment.

Statutory Authority: *MS s 116.07*

History: *19 SR 1345*

7011.0061 INCORPORATION BY REFERENCE.

For the purpose of parts 7011.0060 to 7011.0080, the document, Industrial Ventilation – A Manual of Recommended Practice, American Conference of Governmental Industrial Hygienists, 6500 Glenway Avenue, Building D–7, Cincinnati, OH, 45211–4438 (1984), is incorporated by reference. American Conference of Governmental Industrial Hygienists is the author and publisher. This document is available through the Minitex interlibrary loan system (University of Minnesota Library). This document is subject to frequent change.

Statutory Authority: *MS s 116.07*

History: *19 SR 1345*

7011.0065 APPLICABILITY.

Subpart 1. **Applicability.** The owner or operator of a stationary source shall comply with parts 7011.0060 to 7011.0080 if the owner or operator used the control equipment efficiencies for listed control equipment established pursuant to part 7011.0070 to calculate potential to emit, from emissions units that discharge through the listed control equipment, to:

A. determine what type of permit is required, pursuant to part 7007.0150, subpart 4, item B;

B. determine what type of amendment to a part 70 or state permit is required, pursuant to part 7007.1200;

C. qualify for an insignificant modification under part 7007.1250; or

D. qualify for registration permit option D under part 7007.1130.

Subp. 2. **Exceptions to applicability.** Notwithstanding subpart 1, the owner or operator of a stationary source need not comply with parts 7011.0060 to 7011.0080, if:

A. nonuse of the listed control equipment is specifically allowed in a part 70, state, or general permit issued under chapter 7007; or

B. the listed control equipment is at a stationary source that would not require a permit under chapter 7007, even if the emission reductions from the listed control equipment at the stationary source are not considered in the stationary source's potential emissions.

Statutory Authority: *MS s 116.07*

History: *19 SR 1345*

7011.0070 LISTED CONTROL EQUIPMENT AND CONTROL EQUIPMENT EFFICIENCIES.

Subpart 1. **Listed control equipment efficiencies.** Unless a part 70, state, or general permit specifies a different control efficiency, the owner or operator of a stationary source must at all times attain at least the control efficiency listed in Table A for each piece of listed control equipment at the stationary source. The applicable control efficiency for a type of listed control equipment and a given pollutant is determined by whether air emissions are discharged to the control equipment through a hood or through a total enclosure. The control equipment efficiencies in Table A do not apply to any hazardous air pollutant. The owner or operator of a stationary source that is subject to the control efficiencies given for hoods in

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Table A must evaluate, on a form provided by the commissioner, whether the hood conforms to the design and operating practices recommended in "Industrial Ventilation – A Manual of Recommended Practice, American Conference of Governmental Industrial Hygienists," and must include with the permit application the certification required in subpart 3.

CONTROL EQUIPMENT EFFICIENCY–TABLE A

ID#	CONTROL EQUIPMENT DESCRIPTION	POLLUTANT	CONTROL EFFICIENCY	
			TOTAL ENCLO-SURE	HOOD
	PM CONTROL CATEGORY–CYCLONES means a device where airflow is forced to spin in a vortex through a tube			
007	Centrifugal Collector (cyclone)–high efficiency means: a cyclonic device with parameters stated in drawing 1 and table 1	PM,PM–10	80%	64%
008	Centrifugal Collector (cyclone)–medium efficiency means: a cyclonic device with parameters stated in drawing 1 and table 1	PM,PM–10	50%	40%
009	Centrifugal Collector (cyclone)–low efficiency means: a cyclonic device with parameters stated in drawing 1 and table 1	PM,PM–10	10%	8%
076	Multiple Cyclone without Fly Ash Reinjection means: a cyclonic device with more than one tube where fly ash is not reinjected	PM,PM–10	80%	NA
077	Multiple Cyclone with Fly Ash Reinjection means: a cyclonic device with more than one tube where fly ash is reinjected	PM,PM–10	50%	NA
085	Wet Cyclone Separator or Cyclonic Scrubbers means: a cyclonic device that sprays water into a cyclone	PM,PM–10	50%	40%

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012	PM CONTROL CATEGORY–ELECTROSTATIC PRECIPITATORS means: a control device in which the incoming particulate matter receives an electrical charge and is then collected on a surface with the opposite electrical charge			
	–assumed efficiency for boiler fly ash control	PM–10	40%	NA
	–assumed efficiency for other applications	PM–10	70%	56%
	PM CONTROL CATEGORY–OTHER CONTROLS			
016	Fabric Filter means: a control device in which the incoming gas stream passes through a porous fabric filter forming a dust cake	PM,PM–10	99%	79%
052	Spray Tower means: a control device in which the incoming gas stream passes through a chamber in which it contacts a liquid spray	PM,PM–10	20%	16%
053	Venturi Scrubber means: a control device in which the incoming gas stream passes through a venturi into which a low pressure liquid is introduced	PM,PM–10	90%	72%
055	Impingement Plate Scrubber means: a control device in which the incoming gas stream passes a liquid spray and is then directed at high velocity into a plate	PM,PM–10	25%	20%
058	HEPA and Other Wall Filter means: a control device in which the incoming gas stream passes through a panel of coarse fibers. Other Wall Filters means removable panels for cleaning and replacement, or liquid curtains for particulate removal that provide little resistance to air flow	PM,PM–10	92%	NA

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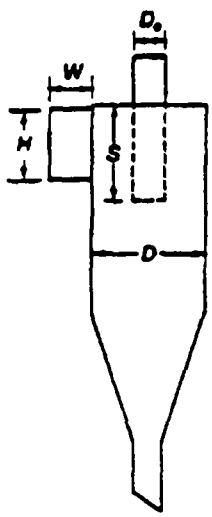
	VOC CONTROL CATEGORY			
019	Afterburners (thermal or catalytic oxidation) means: a device used to reduce VOCs to the products of combustion through thermal (high temperature) oxidation or catalytic (use of a catalyst) oxidation in a combustion chamber	VOC	95%	57%
023	Flaring or Direct Combustor means: a device in which air, combustible organic waste gases, and supplementary fuel (if needed) react in the flame zone (e.g., at the flare tip) to destroy the VOCs	VOC	98%	59%

Drawing 1



SOURCE: Lapple, 1951.

Table 1
Cyclone Type

Ratio Dimensions	High Efficiency	Medium Efficiency	Low Efficiency
Height of inlet, H/D	≤0.44	>0.44 and <0.8	≥0.8
Width of inlet, W/D	≤0.2	>0.2 and <0.375	≥0.375

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Diameter of gas exit, D_e/D	≤0.4	>0.4 and <0.75	≥0.75
Length of vortex finder, S/D	≤0.5	>0.5 and <0.875	≥0.875

If one or more of the "ratio dimensions," as listed in table 1, are in a different efficiency category (high, medium, low), then the lowest efficiency category shall be applied.

Subp. 2. **Alternative control equipment efficiencies; control efficiencies for hazardous air pollutants.** The owner or operator of a stationary source may use an alternative control equipment efficiency for the control equipment listed in subpart 1, if the actual control efficiency has been verified by a performance test approved by the commissioner under parts 7017.2001 to 7017.2060. The owner or operator of a stationary source may use a control equipment efficiency for listed control equipment for a hazardous air pollutant, if the control efficiency has been verified by a performance test approved by the commissioner under parts 7017.2001 to 7017.2060. The request for the alternative control efficiency may be made through a permit application for a part 70, state, registration, or general permit, or in a required notice or application submitted under parts 7007.1150 to 7007.1500. The owner or operator of a stationary source must attain at all times the alternative control efficiency for a piece of listed control equipment at the stationary source established under this subpart.

Subp. 3. **Certification for hoods.** The certification required by subpart 1 for hoods shall be signed by the responsible official, and shall state as follows:

> "I certify under penalty of law that the aforementioned hood(s) has (have) been evaluated under my direction or supervision by qualified personnel and that, to the best of my knowledge and belief, the (each) hood conforms to the design and operating practices recommended in "Industrial Ventilation – A Manual of Recommended Practice, American Conference of Governmental Industrial Hygienists.""

Statutory Authority: *MS s 116.07*

History: *19 SR 1345; 20 SR 2316*

7011.0075 CONTROL EQUIPMENT GENERAL REQUIREMENTS.

Subpart 1. **Operation of control equipment.** The owner or operator of a stationary source shall operate all listed control equipment located at the stationary source whenever operating the emission units controlled by the listed control equipment in compliance with parts 7011.0060 to 7011.0080. Unless specifically allowed by a part 70, state, or general permit, each piece of listed control equipment shall at all times be operated in the range established by the control equipment manufacturer's specifications for each monitoring parameter listed in part 7011.0080, or within the operating parameters set by the commissioner as the result of the most recent performance test conducted to determine control efficiency under parts 7017.2001 to 7017.2060 if those are more restrictive.

Subp. 2. **Maintenance of control equipment.** The owner or operator of a stationary source shall maintain each piece of listed control equipment according to the control equipment manufacturer's specifications, shall comply with source–specific maintenance requirements specified in a part 70, state, or general permit, and shall perform the following on each piece of listed control equipment:

A. maintain an inventory of spare parts that are subject to frequent replacement, as required by the manufacturing specification or documented in records under items H and I;

B. train staff on the operation and monitoring of control equipment and troubleshooting, and train and require staff to respond to indications of malfunctioning equipment, including alarms and other indicators of abnormal operation;

C. thoroughly inspect all control equipment at least annually, or as required by the manufacturing specification (this often requires shutting down temporarily);

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D. inspect monthly, or as required by the manufacturing specification, components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts;

E. inspect quarterly, or as required by the manufacturing specification, components that are not subject to wear including structural components, housings, ducts, and hoods;

F. check daily, or as required by the manufacturing specification, monitoring equipment, for example: pressure gauges, chart recorders, temperature indicators, and recorders;

G. calibrate annually, or as required by the manufacturing specification, all monitoring equipment;

H. maintain a record of activities conducted in items A to G consisting of the activity completed, the date the activity was completed, and any corrective action taken; and

I. maintain a record of parts replaced, repaired, or modified for the previous five years.

Subp. 3. **Installation of monitoring equipment.** The owner or operator of a stationary source shall install monitoring equipment to measure the operating parameters of all listed control equipment as specified by part 7011.0080 or by source specific monitoring requirements specified in a part 70, state, or general permit. The monitoring equipment must be installed prior to operation of any new process equipment controlled by the control equipment or, for stationary sources in operation on December 27, 1994, by the application deadline listed in part 7007.0350, subpart 1, item A. The owner or operator of a stationary source shall operate the monitoring equipment for each piece of listed control equipment at all times the listed control equipment is required to operate in compliance with part 7011.0075.

Subp. 4. **Shutdown and breakdown procedures.** In the event of a shutdown of listed control equipment, or a breakdown of listed control equipment, the owner or operator of a stationary source shall comply with part 7019.1000.

Subp. 5. **Deviation of listed control equipment from operating specifications.** The owner or operator of a stationary source shall report to the commissioner deviations from any monitored operating parameter as required by part 7011.0080. "Deviation" means any recorded reading outside of the specification or range of specifications allowed by subpart 1 or established by a part 70, state, or general permit. This report shall be on a form approved by the commissioner. For any given calendar quarter, and within 30 days after the end of the quarter, the owner or operator shall:

A. for pollution control equipment parameters measured on a continuous basis, submit a monitoring report if there are deviations for more than five percent of the emissions unit's operating time in that quarter; and

B. for pollution control equipment parameters measured periodically, submit a monitoring report if there are deviations for more than five percent of the measurements of a subject parameter of the control equipment operating in that quarter.

Subp. 6. **Demonstration of control equipment efficiency.** The owner or operator shall, upon request of the commissioner or the administrator, conduct a performance test under parts 7017.2001 to 7017.2060 to determine the efficiency of the control equipment. In addition to the reasons specified in part 7017.2020, subpart 1, the commissioner or the administrator may make such a request to verify that the control equipment at a stationary source is attaining the efficiency determined in part 7011.0070.

Subp. 7. **Recalculation of potential to emit.**

A. The owner or operator shall recalculate the potential to emit of the stationary source under part 7007.0150, subpart 4, or under part 7007.1200 for amendments to part 70 or state permits, if the owner or operator becomes aware of any information indicating that the calculation originally performed under part 7007.0150, subpart 4, or 7007.1200, would change because the listed control equipment is not as efficient as originally assumed under part 7011.0070 or changes have been made to decrease the listed control equipment's efficiency. The owner or operator shall submit this recalculation to the commissioner within 30 days of becoming aware of the information.

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B. The owner or operator shall, upon request of the commissioner or the administrator, recalculate the potential to emit of the stationary source under part 7007.0150, subpart 4, or part 7007.1200 for amendments to part 70 and state permits, and submit the recalculation to the commissioner or the administrator by the date specified in the request.

Statutory Authority: *MS s 116.07*

History: *19 SR 1345*

7011.0080 MONITORING AND RECORDKEEPING FOR LISTED CONTROL EQUIPMENT.

The owner and operator of a stationary source shall comply with the monitoring and recordkeeping required for listed control equipment by the table in this part. The owner or operator shall maintain the records required by this part for a minimum of five years from the date the record was made. For hoods, the owner shall maintain at the stationary source the evaluation of each hood required in part 7011.0070, as well as a monthly record of the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.

EPA Identification Number(s)	Pollution Control Equipment Type	Monitoring Parameter(s)	Recordkeeping Requirement
007, 008, 009, 076, 077	Centrifugal collector (cyclone)	Pressure drop	Record pressure drop every 24 hours if in operation
011A, 011B, 012A, 012B	Electrostatic precipitator	Primary and secondary voltage; primary and secondary current; sparking rate; and number of fields on–line	Record each parameter every 24 hours if in operation
016	Fabric filter (bag house)	Pressure drop	Record pressure drop every 24 hours if in operation
052	Spray tower	Liquid flow rate and pressure drop	Record each parameter every 24 hours if in operation
053, 055	Venturi scrubber, impingement plate scrubber	Pressure drop and liquid flow rate	Record each parameter every 24 hours if in operation
058A, 058B	HEPA and other wall filters	Condition of the filters, including, but not limited	Record of filter(s) condition every 24 hours if

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		to, alignment, saturation, and tears and holes	in operation
085	Wet cyclone separator	Pressure drop; and water pressure	Record each parameter every 24 hours if in operation
019	Thermal incinerator	Combustion temperature or inlet and outlet temperatures	Continuous hard copy readout of temperatures or manual readings every 15 minutes
019	Catalytic incinerator	Inlet and outlet temperatures; and catalyst bed reactivity as per manufacturer's specifications	Continuous hard copy readout of temperatures or manual readings every 15 minutes; and results of catalyst bed reactivity
023	Flaring	Temperature indicating presence of a flame	Continuous hard copy readout of temperatures or manual readings every 15 minutes

Statutory Authority: *MS s 116.07*

History: *19 SR 1345; 20 SR 2316*

EMISSION STANDARDS FOR VISIBLE AIR CONTAMINANTS

7011.0100 SCOPE.

The standards of performance in parts 7011.0100 to 7011.0115 apply to any emission facility for which a specific standard of performance has not been promulgated in another rule.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0105 VISIBLE EMISSION RESTRICTIONS FOR EXISTING FACILITIES.

No owner or operator of an existing emission facility to which parts 7011.0100 to 7011.0115 are applicable shall cause to be discharged into the atmosphere from the facility any gases which exhibit greater than 20 percent opacity; except that a maximum of 40 percent opacity shall be permissible for four minutes in any 60–minute period.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.0110 VISIBLE EMISSION RESTRICTIONS FOR NEW FACILITIES.

No owner or operator of a new emission facility to which parts 7011.0100 to 7011.0115 are applicable shall cause to be discharged into the atmosphere from the facility any gases which exhibit greater than 20 percent opacity.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0115 PERFORMANCE TESTS.

Unless another method is approved by the agency, any person required to submit performance tests for emission facilities for which parts 7011.0100 to 7011.0115 are applicable shall utilize Method 9 for visual determination of opacity.

Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.0120 OPACITY STANDARD ADJUSTMENT.

Subpart 1. **Application for permit modification.** An owner or operator of an emission facility may file an application for a permit modification under parts 7005.0200 to 7005.0280 for adjustment of the opacity standard applicable to an emissions unit. In addition to the items required under parts 7005.0200 to 7005.0280, the application must contain data that demonstrates that:

A. based on tests conducted under parts 7017.1000 to 7017.2060, the emissions unit is in compliance with the applicable standard of performance for particulate matter and all other standards of performance, except the opacity standard;

B. the stationary source is in compliance with all applicable standards of performance except the opacity standard at the emissions unit for which adjustments are being sought or have already been permitted by the agency; and

C. the stationary source was operated in a manner to minimize the opacity of emissions at the emissions unit during the performance tests conducted under item A.

Subp. 2. **Atmospheric dispersion modeling.** If the data submitted under subpart 1 indicates that an adjustment of the opacity standard may cause or contribute to a violation of an ambient air quality standard, the agency shall require the owner or operator to conduct atmospheric dispersion modeling and include the results of the modeling in the application for a permit modification. However, a stationary source that has potential emissions of particulate matter of less than 25 tons per year is not required to conduct modeling. Modeling must be performed according to "Guidelines on Air Quality Models," EPA–450/2–78–027R, as amended by supplemental updates, or methods that the commissioner finds to be comparably reliable. The Guidelines are incorporated by reference. The Guidelines are written and published by the USEPA, Office of Air and Radiation, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711. The guidelines are subject to frequent change and are available from the Minnesota State Law Library, 25 Constitution Avenue, Saint Paul, Minnesota 55155.

Subp. 3. **Opacity adjustment determination and permit modification.** The agency shall set an adjusted opacity standard at the most restrictive level which the performance tests conducted under subpart 1, items A and C demonstrate the emissions unit is capable of meeting and shall modify the permit to establish the adjusted opacity standard, if the requirements of subparts 1 and 2 are met and the stationary source, with the adjusted opacity standard, would meet any one of the following:

A. not cause or contribute to a violation of an ambient air quality standard;

B. have potential emissions of particulate matter of less than 25 tons per year and less than one ton per day; or

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C. contribute less than one $\mu g/m^3$ to an annual ambient particulate matter standard violation and less than five $\mu g/m^3$ to a 24–hour ambient particulate matter standard violation.

Statutory Authority: *MS s 116.07*

History: *8 SR 2275; L 1987 c 186 s 15; 13 SR 2154; 18 SR 614; 18 SR 1412*

CONTROL OF FUGITIVE PARTICULATE MATTER

7011.0150 PREVENTING PARTICULATE MATTER FROM BECOMING AIRBORNE.

No person shall cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne.

No person shall cause or permit a building or its appurtenances or a road, or a driveway, or an open area to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. All persons shall take reasonable precautions to prevent the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. The commissioner may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including, but not limited to, paving or frequent clearing of roads, driveways, and parking lots; application of dust–free surfaces; application of water; and the planting and maintenance of vegetative ground cover.

Statutory Authority: *MS s 116.07*

History: *L 1987 c 186 s 15; 18 SR 614; 20 SR 2316*

7011.0300 [Repealed, 21 SR 693]

7011.0305 [Repealed, 21 SR 693]

7011.0310 [Repealed, 21 SR 693]

7011.0315 [Repealed, 21 SR 693]

7011.0320 [Repealed, 21 SR 693]

7011.0325 [Repealed, 21 SR 693]

7011.0330 [Repealed, 21 SR 693]

ACID AND ALKALINE FALLOUT

7011.0400 SCOPE.

Parts 7011.0400 to 7011.0410 shall apply to all emissions from any sources or premises.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0405 METHOD OF MEASUREMENT.

Subpart 1. **Sampling devices.** In determining compliance with part 7011.0410, fallout sampling devices shall consist of circular glass dishes 15 centimeters in diameter which shall be supported on a nearly horizontal surface not larger than the dish. The dish bottom shall be at least three feet above the earth or other surface on which its support is resting and the dish shall be coated with a solution of thymol blue, ammonia water solution, and gelatin dried to a yellow color in a vacuum oven at room temperature. Prepared dishes shall be stored in a desiccator at 40 percent relative humidity or in plastic bags.

Subp. 2. **Method.** Fallout sampling devices shall be placed at one or more locations beyond the premises on which an emissions unit or units are located, upwind and downwind of the premises. The sampling devices shall be exposed to substances settling out of the ambient air for a period of one hour. The presence of red–colored spots on the gelatin indicates that acidic substances have settled out of the air while the presence of blue–colored spots on the gelatin indicates that alkaline substances have settled out of the air. The number of spots vis-

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ible on samplers exposed upwind of premises to be subtracted from the number of spots visible on samplers exposed downwind of the same premises. The difference in the number of spots, if any, shall be construed to be attributable to emissions occurring on the premises under investigation.

Subp. 3. **Alternate method.** In lieu of the test methods specified in subparts 1 and 2, any other method approved by the commissioner may be used.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 13 SR 2154; 18 SR 614*

7011.0410 EMISSION RESTRICTION.

No person shall cause or permit the emission from any source or premises of substances having acidic or alkaline properties in such amounts that the downwind fallout rate of acidic or alkaline substances at any place where an adverse effect could occur, exceeds the upwind fallout rate by five or more spots per hour, measured in the manner prescribed in part 7011.0405.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

INDIRECT HEATING FOSSIL-FUEL-BURNING EQUIPMENT

7011.0500 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.0500 to 7011.0550, the following words shall have the meanings defined herein.

Subp. 2. **Actual heat input.** "Actual heat input" means the number of Btu per hour (cal/hr) determined by multiplying the gross heating value of the fuel by the rate of fuel burned.

Subp. 3. **Coal refuse.** "Coal refuse" means waste products of coal mining, cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

Subp. 4. **Derating.** "Derating" means limitation of heat input and corresponding steam output capacity.

Subp. 5. **Direct heating equipment.** "Direct heating equipment" means a furnace, kiln, dryer, or other combustion equipment used in the burning of a fossil fuel for the purpose of processing a material where the products of combustion have direct contact with the heated material.

Subp. 6. **Distillate oil.** "Distillate oil" means grades of oils known as No. 1 and No. 2, as defined in the A.S.T.M. D 396 (1973).

Subp. 7. **Fossil fuel.** "Fossil fuel" means natural gas, petroleum, coal, wood, peat, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

Subp. 8. **Gross heating value.** "Gross heating value" means the gross calorific value (cal/g or Btu/lb) of the fuel combusted as determined by A.S.T.M. test methods D 2015–66(72) for solid fuels; D 1826–64(70) for gaseous fuels, and D 240–64(73) for liquid fuels.

Subp. 9. **Indirect heating equipment.** "Indirect heating equipment" means a furnace, a boiler, or other unit of combustion equipment used in the process of burning fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the products of combustion do not have direct contact with the heated medium.

Subp. 10. **Rated heat input.** "Rated heat input" means the number of Btu per hour (cal/hr) which the manufacturer has determined to be the continuous rated capability of the indirect heating equipment, or, where the rated heat input is not specified by the manufacturer, the number of Btu per hour (cal/hr) determined by dividing the rated heat output by the overall thermal efficiency.

Subp. 11. **Residual oil.** "Residual oil" means grades of oils known as No. 4, No. 5 (light), No. 5 (heavy), and No. 6, as listed in A.S.T.M. D 396 (1973).

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Subp. 12. **Steam generating unit.** "Steam generating unit" means indirect heating equipment used to produce steam.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0505 DETERMINATION OF APPLICABLE STANDARDS OF PERFORMANCE.

Subpart 1. **Scope.** Parts 7011.0500 to 7011.0550 shall apply to indirect heating equipment for which a standard of performance has not been promulgated in a specific rule.

Subp. 2. **Rated heat input.** The applicable standards of performance in part 7011.0545 or 7011.0550 shall be determined by using the rated heat input of the specific indirect heating equipment and the total rated heat inputs of all indirect heating equipment and all direct heating equipment of one owner or operator at that particular location.

Subp. 3. **Simultaneous burning of different fuels.** Simultaneous burning of different fuels:

A. When different fossil fuels are burned simultaneously in any combination, the applicable sulfur dioxide standard shall be determined by proration using the following formula:

$$w = \frac{y(a) + z(b)}{x + y + z}$$

where:

w is the maximum allowable emissions of sulfur dioxide gases in lbs per million Btu (nanograms/joule);

x is the percentage of total heat input derived from gaseous fossil fuel;

y is the percentage of total heat input derived from liquid fossil fuel;

z is the percentage of total heat input derived from solid fossil fuel;

a is the allowable SO_2 standard for liquid fossil fuels expressed in lbs per million Btu (nanograms/joule); and

b is the allowable SO_2 standard for solid fossil fuels expressed in lbs per million Btu (nanograms/joule).

B. When different fossil fuels are burned simultaneously in any combination, the applicable nitrogen oxides standard shall be determined by proration using the following formula:

$$w = \frac{x(c) + y(a) + z(b)}{x + y + z}$$

where:

w, x, y, and z mean the same as in the formula in item A, for determining the applicable sulfur dioxide standard;

a is the allowable NO_x standard for liquid fossil fuels expressed in lbs per million Btu (nanograms/joule);

b is the allowable NO_x standard for solid fossil fuels expressed in lbs per million Btu (nanograms/joule); and

c is the allowable NO_x standard for gaseous fossil fuels expressed in lbs per million Btu (nanograms/joule).

Subp. 4. **Exception.** When lignite or a solid fossil fuel containing 25 percent by weight, or more, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel, the standard of performance for nitrogen oxides shall not apply.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.0510 STANDARDS OF PERFORMANCE FOR EXISTING INDIRECT HEATING EQUIPMENT.

Subpart 1. **Particulate matter and sulfur dioxide.** No owner or operator of indirect heating equipment shall cause to be discharged into the atmosphere from said equipment any gases which contain particulate matter or sulfur dioxide in excess of the standards of performance shown in part 7011.0545.

Subp. 2. **Opacity.** No owner or operator of indirect heating equipment shall cause to be discharged into the atmosphere from said equipment any gases which exhibit greater than 20 percent opacity; except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60–minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60–minute period.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0515 STANDARDS OF PERFORMANCE FOR NEW INDIRECT HEATING EQUIPMENT.

Subpart 1. **Particulate matter, sulfur dioxide, and nitrogen oxides.** No owner or operator of new indirect heating equipment shall cause to be discharged into the atmosphere from said equipment any gases which contain particulate matter, sulfur dioxide, or nitrogen oxides in excess of the standards of performance shown in part 7011.0550.

Subp. 2. **Opacity.** No owner or operator of new indirect heating equipment of greater than 250 million Btu per hour rated heat input shall cause to be discharged into the atmosphere from said equipment any gases which exhibit greater than 20 percent opacity; except that a maximum of 40 percent opacity shall be permissible for not more than two minutes in any 60–minute period.

No owner or operator of new indirect heating equipment of 250 million Btu per hour or less rated heat input shall cause to be discharged into the atmosphere from said equipment any gases which exhibit greater than 20 percent opacity; except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60–minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60–minute period.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0520 ALLOWANCE FOR STACK HEIGHT FOR INDIRECT HEATING EQUIPMENT.

Subpart 1. **Requirement.** The owner or operator of any indirect heating equipment shall determine and install a stack of such height that will not cause pollutant concentrations at ground levels to exceed any applicable ambient air quality standard or rule.

Subp. 2. **Methodology.** The determination of the ground level concentrations shall be based upon applicable dispersion calculations approved by the agency.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0525 HIGH HEATING VALUE.

The high heating value of a fossil fuel shall mean the same as the gross heating value.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0530 PERFORMANCE TEST METHODS.

Unless another method is approved by the commissioner, any person required to submit performance tests for indirect heating equipment shall utilize the following test methods:

A. Method 1 for selection of sampling site and sample traverses;

B. Method 3 for gas analysis;

C. Method 5 for concentration of particulate matter and the associated moisture content;

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D. Method 6 for concentration of SO_2;

E. Method 7 for concentration of NO_x; and

F. Method 9 for visual determination of opacity.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.0535 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Method 1.** The sampling site, as selected by Method 1, shall be the same for each pollutant during a performance test.

Subp. 3. **Method 5.** For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller sampling times or volumes, when necessitated by process variables or other factors, may be approved by the agency. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature between 120 degrees Celsius and 160 degrees Celsius (250 degrees Fahrenheit and 320 degrees Fahrenheit).

Subp. 4. **Methods 6 and 7.** For Methods 6 and 7, the sampling point in the duct shall be at the center of the cross section or at a point no closer to the walls than 1 m (3.28 feet). For Method 6 the sample shall be extracted at a rate proportional to the gas velocity at the sampling point.

Subp. 5. **Method 6.** For Method 6, the minimum sampling time shall be 20 minutes and the minimum sampling volume 0.02 dscm (0.71 dscf) for each sample. The arithmetic mean of two samples shall constitute one run. Samples shall be taken at approximately 30–minute intervals.

Subp. 6. **Method 7.** For Method 7, each run shall consist of at least four grab samples taken at approximately 15–minute intervals. The arithmetic mean of the samples shall constitute the run value.

Subp. 7. **Nanograms.** For each performance test, the emissions expressed in nanograms/joule (lb/million Btu) shall be determined by the following procedure:

$$E = CF \left(\frac{20.90}{20.9 - \%O_2}\right)$$

where:

A. E = pollutant emission, g/million cal nanograms/joule (lb/million Btu);

B. C = pollutant concentration g/dscm (lb/dscf), determined by Method 5, 6, or 7;

C. $\%O_2$ = oxygen content by volume (expressed as percent), dry basis. Percent oxygen shall be determined by using the integrated sampling procedures of Method 3 and by analyzing the sample with a continuous monitoring system, or with the Orsat analyzer. The sample shall be obtained as follows:

(1) For determination of sulfur dioxide and nitrogen oxides emissions, the oxygen sample shall be obtained at approximately the same point in the duct as used to obtain the samples for Methods 6 and 7 determinations, respectively.

(2) For determination of particulate emissions, the oxygen sample shall be obtained simultaneously by traversing the duct at the same sampling location used for each run of Method 5 in accordance with Method 1, except that 12 sample points shall be used in all cases;

D. F = factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted. Values of F are given as follows:

(1) for anthracitic coal according to A.S.T.M. D388–66, $F = 2.723 \times 10^{-7}$ dscm/J (10140 dscf/10^6 Btu);

(2) for subbituminous and bituminous coal according to A.S.T.M. D388–66, $F = 2.637 \times 10^{-7}$ dscm/J (9820 dscf/10^6 Btu); and

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(3) For liquid fossil fuels including crude, residual, and distillate oils, F = 2.476×10^{-7} dscm/J (9220 dscf/10^6 Btu); and

(4) For gaseous fossil fuels including natural gas, propane, and butane, F = 2.347×10^{-7} dscm/J (8740 dscf/10^6 Btu).

E. An owner or operator may use the following equation to determine an F factor (dscf/10^6 Btu) in lieu of the F factors specified by item D:

$$F = \frac{10^6[3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O)]}{GVH}$$

where:

(1) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined by ultimate analysis of the fuel fired, dry basis, using A.S.T.M. methods D3168–74 or D3176 (solid fuels) or D240–64(73) (liquid fuels) or computed from results using A.S.T.M. method D1137–53(70), D1945–64(73) or D1946–67(72) (gaseous fuels) as applicable; and

(2) GHV is the gross heating value (Btu/lb dry basis);

F. When combinations of fuels are fired, the F factors determined by item C or D shall be prorated in accordance with the following formula:

$$F = \frac{xF_1 + yF_2 + zF_3}{100}$$

where:

x = the percentage of total heat input derived from gaseous fossil fuel;

y = the percentage of total heat input derived from liquid fossil fuel;

z = the percentage of total heat input derived from solid fossil fuel;

F_1 = the value of F for gaseous fossil fuels according to item D or E;

F_2 = the value of F for liquid fossil fuels according to item D or E; and

F_3 = the value of F for solid fossil fuels according to item D or E;

G. When combinations of fossil fuels are fired, the actual heat input, expressed in cal/hr (Btu/hr), shall be determined during each testing period. The rate of fuels burned during each testing period shall be determined by suitable methods and shall be confirmed by a material balance over the indirect heating system.

Subp. 8. **Alternate method.** When the emission factor cannot be calculated by means of the method outlined in subpart 7, the emission factors for all pollutants for all new and existing indirect heating equipment expressed in nanograms/joule (lb/million Btu) shall be determined by the following procedure:

$$E = \frac{E_t}{Z}$$

where:

E = pollutant emissions, in nanograms/joule (lb/million Btu);

E_t = pollutant emission rate, in nanograms/hr (lb/hr), determined by Method 5; and

z = actual heat input, in joules/hr, (million Btu/hr).

Subp. 9. **Operation of indirect heating equipment.** The indirect heating equipment shall be operated during the performance test at 90 percent or more of the rated heat input, or at 100 percent of peak operating load if an owner or operator intends to achieve compliance by derating.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

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7011.0540 DERATE.

The owner or operator of indirect heating equipment who elects to achieve compliance with an applicable standard of performance by derating shall:

A. advise the commissioner of the agency in writing of the intent to achieve compliance by derating and the capacity level at which the owner or operator intends to operate this equipment;

B. agree to a permit condition in the required operating permit that prohibits operation of the equipment in excess of the derate level;

C. install a boiler steam flow meter to continuously record, indicate, and integrate boiler steam flow, and shall:

(1) submit a written report to the commissioner of the agency within ten days of any excess steam flow occurrence above the specified derate load;

(2) use a one–hour averaging period in determining an excess above derate with corrections for deviations in steam pressure or temperature if required;

(3) submit written yearly reports to the commissioner of the agency confirming that no excesses have occurred during normal operations;

(4) retain and make available for inspection by the agency or its authorized employees or agents steam flow charts for a minimum period of two years following the date of measurement; and

D. an effective method of physical limitation of boiler load shall be submitted for approval by the commissioner of the agency prior to authorization of a boiler derate. Such limitation may include but is not limited to, a tieback signal from the steam flow meter to the combustion control system cutting back fuel input at the derate load, a maximum limit stop on the fuel input control drive or valve, or such other equivalent physical means.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

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7011.0545 TABLE I: EXISTING INDIRECT HEATING EQUIPMENT.

RATED HEAT INPUT OF THE INDIRECT HEATING EQUIPMENT Million BTU/Hr.	RATED HEAT INPUT OF ALL DIRECT AND INDIRECT HEATING EQUIPMENT AT THE PARTICULAR LOCATION Million BTU/Hr.	EMISSION LIMITATIONS LBS. PER MILLION BTU		
		Particulate Matter All Fuels	SO_2 Solid Fuels	SO_2 Liquid Fuels
A. Within Minneapolis-St. Paul Air Quality Control Region				
Greater than 250	Greater than 250	0.4	3.0	1.6
Less than or equal to 250	Greater than 250	0.4	3.0	1.6
Less than or equal to 250	Less than or equal to 250	0.4	4.0	2.0
B. Within the City of Duluth				
Greater than 250	Greater than 250	0.4	4.0	2.0
Less than or equal to 250	Greater than 250	0.4	4.0	2.0
Less than or equal to 250	Less than or equal to 250	0.4	N.A.*	N.A.
C. Outside Minneapolis-St. Paul Air Quality Control Region and Outside the City of Duluth				
Greater than 250	Greater than 250	0.6	4.0	2.0
Less than or equal to 250	Greater than 250	0.6	4.0	2.0
Less than or equal to 250	Less than or equal to 250	0.6	N.A.	N.A.

*N.A.–Not applicable

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.0550 TABLE II: NEW INDIRECT HEATING EQUIPMENT.

RATED HEAT INPUT OF THE INDIRECT HEATING EQUIPMENT Million BTU/Hr.	RATED HEAT INPUT OF ALL DIRECT AND INDIRECT HEATING EQUIPMENT AT THE PARTICULAR LOCATION Million BTU/Hr.	EMISSION LIMITATIONS LBS. PER MILLION BTU						
		Particulate Matter All Fuels	SO_2 Solid Fuels	SO_2 Liquid Fuels	NO_x* Solid Fuels	NO_x* Gaseous Fuels	NO_x* Liquid Fuels
A. Within Minneapolis-St. Paul Air Quality Control Region							
Greater than 250	Greater than 250	0.1	1.2	0.8	0.7	0.2	0.3
Greater than 100 but less than or equal to 250	Greater than 250	0.1	3.0	1.6	N.A.**	N.A.	N.A.
Less than or equal to 100	Greater than 250	0.4	3.0	1.6	N.A.	N.A.	N.A.
Less than or equal to 250	Less than or equal to 250	0.4	4.0	2.0	N.A.	N.A.	N.A.
B. Within the City of Duluth							
Greater than 250	Greater than 250	0.1	1.2	0.8	0.7	0.2	0.3
Greater than 100 but less than or equal to 250	Greater than 250	0.1	4.0	2.0	N.A.	N.A.	N.A.
Less than or equal to 100	Greater than 250	0.4	4.0	2.0	N.A.	N.A.	N.A.
Less than or equal to 250	Less than or equal to 250	0.4	N.A.	N.A.	N.A.	N.A.	N.A.
C. Outside Minneapolis-St. Paul Air Quality Control Region and Outside the City of Duluth							
Greater than 250	Greater than 250	0.1	1.2	0.8	0.7	0.2	0.3
Less than or equal to 250	Greater than 250	0.4	4.0	2.0	N.A.	N.A.	N.A.
Less than or equal to 250	Less than or equal to 250	0.4	N.A.	N.A.	N.A.	N.A.	N.A.

*NO_x expressed as NO_2
**N.A.–Not applicable

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.0551 RECORDKEEPING AND REPORTING FOR UNITS INDIRECTLY COMBUSTING SOLID WASTE.

Subpart 1. **Application.** The owner or operator of indirect heating equipment combusting mixed municipal solid waste or refuse–derived fuel which makes up 30 percent or less by weight of total fuel input, as determined by subpart 2, shall comply with the conditions of Minnesota Statutes, section 116.90, and the conditions of this part. If the unit combusts more than 30 percent of mixed municipal solid waste or refuse–derived fuel, parts 7011.1201 to 7011.1285 apply.

Subp. 2. **Calculation.** The fuel feed stream composition calculation shall be the ratio of the weights of mixed municipal solid waste and refuse–derived fuel to mixed municipal solid waste, refuse–derived fuel, and all other fuels delivered to the combustion chamber. The calculation shall be made for each 24–hour period that the equipment is operated.

Subp. 3. **Log.** The owner or operator shall maintain an operating log where the date, weights of mixed municipal solid waste and refuse–derived fuel combusted, weight of each other fuel combusted, and the result of the calculation made in subpart 2 is recorded daily.

Subp. 4. **Report.** The owner or operator shall submit to the commissioner a quarterly report containing the date, weights of mixed municipal solid waste and refuse–derived fuel, and the weight of each other fuel combusted during the quarter. The reports shall be submitted within 30 days following December 30, March 30, June 30, and September 30 of each year.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.0553 NITROGEN OXIDES EMISSION REDUCTION REQUIREMENTS FOR AFFECTED SOURCES.

Affected sources, as defined in part 7007.0100, subpart 4, shall comply with Code of Federal Regulations, title 40, part 76, as amended, entitled "Acid Rain Nitrogen Oxides Emission Reduction Program," which is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *19 SR 1666*

FOSSIL–FUEL–FIRED STEAM GENERATORS

7011.0555 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart D, as amended, entitled "Standards of Performance for Fossil–Fuel– Fired Steam Generators for Which Construction is Commenced After August 17, 1971," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

ELECTRIC UTILITY STEAM GENERATING UNITS

7011.0560 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart Da, as amended, entitled "Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.45a, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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INDUSTRIAL–COMMERCIAL–INSTITUTIONAL STEAM GENERATING UNITS

7011.0565 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart Db, as amended, entitled "Standards of Performance for Industrial–Commercial–Institutional Steam Generating Units," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.44b(f), 60.44b(g), and 60.49b(a)(4), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

SMALL INDUSTRIAL–COMMERCIAL–INSTITUTIONAL STEAM GENERATING UNITS

7011.0570 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart Dc, as amended, entitled "Standards of Performance for Small Industrial–Commercial–Institutional Steam Generating Units," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.48c(a)(4), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

DIRECT HEATING FOSSIL–FUEL–BURNING EQUIPMENT

7011.0600 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.0600 to 7011.0620, the following words shall have the meanings defined herein.

Subp. 2. **Actual heat input.** "Actual heat input" means the number of Btu per hour (cal/hr) determined by multiplying the gross heating value of the fuel by the rate of fuel burned.

Subp. 3. **Direct heating equipment.** "Direct heating equipment" means a furnace, kiln, dryer, or other combustion equipment used in the burning of a fossil fuel for the purpose of processing a material where the products of combustion have direct contact with the heated material.

Subp. 4. **Fossil fuel.** "Fossil fuel" means natural gas, petroleum, coal, wood, peat, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

Subp. 5. **Gross heating value.** "Gross heating value" means the gross calorific value (cal/g or Btu/lb) of the fuel combusted as determined by A.S.T.M. test methods D 2015–66(72) for solid fuels; D 1826–64(70) for gaseous fuels, and D 240–64(73) for liquid fuels.

Subp. 6. **Indirect heating equipment.** "Indirect heating equipment" means a furnace, a boiler or other unit of combustion equipment used in the process of burning fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the products of combustion do not have direct contact with the heated medium.

Subp. 7. **Rated heat input.** "Rated heat input" means the number of Btu per hour (cal/hr) which the manufacturer has determined to be the continuous rated capability of the direct heating equipment.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.0605 DETERMINATION OF APPLICABLE STANDARDS OF PERFORMANCE.

Parts 7011.0600 to 7011.0620 shall apply to direct heating equipment for which a standard of performance has not been promulgated in a specific rule.

The applicable standard of performance for sulfur dioxide shall be determined by using the total rated heat input of all indirect heating equipment and all direct heating equipment of one owner or operator at that particular location.

When different fossil fuels are burned simultaneously in any combination, the applicable sulfur dioxide (SO_2) standard shall be determined by proration using the following formula:

$$w = \frac{y(a) + z(b)}{x + y + z}$$

where:

w is the maximum allowable emissions of sulfur dioxide gases in lbs/per million Btu (g/million cal);

x is the percentage of total heat input derived from gaseous fossil fuel;

y is the percentage of total heat input derived from liquid fossil fuel;

z is the percentage of total heat input derived from solid fossil fuel;

a is the allowable SO_2 standard for liquid fossil fuels expressed in lbs per million Btu (g/million cal); and

b is the allowable SO_2 standard for solid fossil fuels expressed in lbs per million Btu (g/million cal).

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0610 STANDARDS OF PERFORMANCE FOR FOSSIL-FUEL-BURNING DIRECT HEATING EQUIPMENT.

Subpart 1. **Particulate limitations.** Particulate limitations:

A. No owner or operator of any direct heating equipment shall cause to be discharged into the atmosphere from the direct heating equipment any gases which:

(1) contain particulate matter in excess of the limits allowed by parts 7011.0700 to 7011.0735; or

(2) exhibit greater than 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60-minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60-minute period.

B. No owner or operator of an existing gray iron cupola with a melting capacity of less than 1-1/2 tons per hour shall allow emissions which exceed 0.3 grain per standard cubic foot, dry basis, and the owner or operator shall incinerate all gases, vapors, and gas entrained effluents from such cupolas at a temperature of not less than 1,200 degrees Fahrenheit for a period of not less than 0.3 seconds. The owner or operator of any other gray iron cupola shall meet the requirements of item A.

Subp. 2. **Sulfur oxide limitations.** Sulfur oxide limitations:

A. Within Minneapolis-Saint Paul Air Quality Control Region. No owner or operator of direct heating equipment located within the Minneapolis-Saint Paul Air Quality Control Region shall cause to be discharged into the atmosphere from such equipment any gases which contain sulfur dioxide:

(1) in excess of three pounds per million Btu heat input if a solid fossil fuel is burned or 1.6 pounds per million Btu heat input if a liquid fossil fuel is burned, if the total rated heat input of all indirect and direct heating equipment of the owner or operator at that particular location exceeds 250 million Btu per hour;

(2) in excess of four pounds per million Btu heat input if a solid fossil fuel is burned or two pounds per million Btu heat input if a liquid fossil fuel is burned, if the total

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rated heat input of all indirect and direct heating equipment of the owner or operator at that particular location is equal to or less than 250 million Btu per hour.

B. Outside Minneapolis–Saint Paul Air Quality Control Region. No owner or operator of direct heating equipment located outside the Minneapolis–Saint Paul Air Quality Control Region shall cause to be discharged into the atmosphere from such equipment any gases which contain sulfur dioxide in excess of four pounds per million Btu heat input if a solid fossil fuel is burned or two pounds per million Btu heat input if a liquid fossil fuel is burned, if the total rated heat input of all indirect and direct heating equipment of the owner or operator at that particular location is greater than 250 million Btu per hour.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0615 PERFORMANCE TEST METHODS.

Unless another method is approved by the agency, any person required to submit performance tests for direct heating equipment shall utilize the following test methods:

A. Method 1 for selection of sampling site and sample traverses;

B. Method 3 for gas analysis;

C. Method 5 for concentration of particulate matter and the associated moisture content;

D. Method 6 for concentration of SO_2; and

E. Method 9 for visual determination of opacity.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0620 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Sampling site.** The sampling site, as selected by Method 1, shall be the same for each pollutant during a performance test.

Subp. 3. **Sampling time for Method 5.** For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller sampling times or volumes, when necessitated by process variables or other factors may be approved by the agency. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature between 120 degrees Celsius and 160 degrees Celsius (250 degrees Fahrenheit and 320 degrees Fahrenheit).

Subp. 4. **Sampling point for Method 6.** For Method 6, the sampling point in the duct shall be at the center of the cross section or at a point no closer to the walls than one meter (3.28 ft.). The sample shall be extracted at a rate proportional to the gas velocity at the sampling point.

Subp. 5. **Sampling time for Method 6.** For Method 6, the minimum sampling time shall be 20 minutes and the minimum sampling volume 0.02 dscm (0.71 dscf) for each sample. The arithmetic mean of two samples shall constitute one run. Samples shall be taken at approximately 30–minute intervals.

Subp. 6. **Sulfur dioxide emissions.** For each performance test for sulfur dioxide emissions, the emissions expressed in g/million cal (lb/million Btu) shall be determined by the following procedure if the actual heat input is used:

$$E = CF \left(\frac{20.90}{20.9 - \%O_2} \right)$$

where:

A. E = pollutant emission, g/million cal (lb/million Btu);

B. C = pollutant concentration, g/dscm (lb/dscf);

C. $\%O_2$ = oxygen content by volume (expressed as percent), dry basis. Percent oxygen shall be determined by using the integrated sampling procedures of Method 3 or with

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the Orsat analyzer. The sample shall be obtained at approximately the same point in the duct as used to obtain the samples for Method 6;

D. F = factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted. Values of F are given as follows:

(1) For anthracitic coal according to A.S.T.M. D388–66, F = 0.01139 dscm/10^4 cal (101.4 dscf/10^4 Btu);

(2) For subbituminous and bituminous coal according to A.S.T.M. D388–66, F = 0.01103 dscm/10^4 cal (98.2 dscf/10^4 Btu);

(3) For liquid fossil fuels including crude, residual, and distillate oils, F = 0.01036 dscm/10^4 cal (92.2 dscf/10^4 Btu);

(4) For gaseous fossil fuels including natural gas, propane, and butane, F = 0.00982 dscm/10^4 cal (87.4 dscf/10^4 BTU).

E. An owner or operator may use the following equation to determine an F factor (dscf/10^4 Btu) in lieu of the F factors specified by item D or E:

$$F = \frac{10^6\ 3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%)}{GVH}$$

where:

(1) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined by ultimate analysis of the fuel fired, dry basis, using A.S.T.M. methods D3178–74 or D3176 (solid fuels) or D240–64(73) (liquid fuels) or computed from results using A.S.T.M. method D1137–53(70), D1945–64(73) or D1946–67(72) (gaseous fuels) as applicable; and

(2) GHV is the gross heating value.

F. When combinations of fuels are fired, the F factors determined by item D or E shall be prorated in accordance with the following formula:

$$F = \frac{xF_1 + yF_2 + zF_3}{100}$$

where:

x = the percentage of total heat input derived from gaseous fossil fuel;

y = the percentage of total heat input derived from liquid fossil fuel;

z = the percentage of total heat input derived from solid fossil fuel;

F_1 = the value of F for gaseous fossil fuels according to item D or E;

F_2 = the value of F for liquid fossil fuels according to item D or E;

F_3 = the value of F for solid fossil fuels according to item D or E.

G. When combinations of fossil fuels are fired, the actual heat input, expressed in cal/hr (Btu/hr), shall be determined during each testing period. The rate of fuels burned during each testing period shall be determined by suitable methods and shall be confirmed by a material balance over the direct heating system.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.0625 RECORDKEEPING AND REPORTING FOR UNITS DIRECTLY COMBUSTING SOLID WASTE.

Subpart 1. **Application.** The owner or operator of direct heating equipment combusting mixed municipal solid waste or refuse–derived fuel which makes up 30 percent or less by weight of total fuel weight input, as determined by subpart 2, shall comply with the conditions of Minnesota Statutes, section 116.90, and subparts 3 and 4. If the unit combusts more than 30 percent of mixed municipal solid waste or refuse–derived fuel, parts 7011.1201 to 7011.1285 apply.

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Subp. 2. **Calculation.** The fuel feed stream composition calculation shall be the ratio of the weights of mixed municipal solid waste and refuse–derived fuel to mixed municipal solid waste, refuse–derived fuel, and all other fuels delivered to the combustion chamber. The calculation shall be made for each 24–hour period that the equipment is operated.

Subp. 3. **Log.** The owner or operator shall maintain an operating log where the date, weight of mixed municipal solid waste and refuse–derived fuel, weight of each other fuel combusted, and the result of the calculation made in subpart 2 is recorded daily.

Subp. 4. **Reports.** The owner or operator shall submit to the commissioner a quarterly report containing the date, weight of mixed municipal solid waste and refuse–derived fuel solid waste, and weight of each other fuel combusted during the quarter. The reports shall be submitted within 30 days following December 30, March 30, June 30, and September 30 of each year.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

INDUSTRIAL PROCESS EQUIPMENT

7011.0700 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.0700 to 7011.0735, the following words shall have the meanings defined herein.

Subp. 2. **Collection efficiency.** "Collection efficiency" means the percent of the total amount of particulate matter entering the control equipment which is removed from the exhaust stream by the control equipment and is calculated by the following equation:

$$\text{collection efficiency} = \frac{100(A - B)}{A}$$

where:

A = the amount (grams or pounds) or the concentration (gr/SCF) of particulate matter entering the collection equipment; and

B = the amount (grams or pounds) or the concentration (gr/SCF) of particulate matter leaving the control equipment.

Subp. 3. **Industrial process equipment.** "Industrial process equipment" means any equipment, apparatus, or device embracing chemical, industrial, or manufacturing facilities such as ovens, mixing kettles, heating and reheating furnaces, kilns, stills, dryers, roasters, and equipment used in connection therewith, and all other methods or forms of manufacturing or processing that may emit any air contaminant such as smoke, odor, particulate matter, or gaseous matter. Industrial process equipment is an affected facility. An emission facility may consist of more than one unit of industrial process equipment.

Subp. 4. **Process weight.** "Process weight" means the total weight in a given time period of all materials introduced into any industrial process equipment that may cause any emission of particulate matter. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion air are not. For a cyclical or batch operation, the process weight per hour is derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle. For a continuous operation, the process weight per hour is derived by dividing the process weight for a typical period of time.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0705 SCOPE.

Parts 7011.0700 to 7011.0735 shall apply to industrial process equipment for which a standard of performance has not been promulgated in a specific rule.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.0710 STANDARDS OF PERFORMANCE FOR PRE–1969 INDUSTRIAL PROCESS EQUIPMENT.

Subpart 1. **Prohibited discharge of gases.** No owner or operator of any industrial process equipment which was in operation before July 9, 1969, shall cause to be discharged into the atmosphere from the industrial process equipment any gases which:

A. in any one hour contain particulate matter in excess of the amount permitted in part 7011.0730 for the allocated process weight; provided that the owner or operator shall not be required to reduce the particulate matter emission below the concentration permitted in part 7011.0735 for the appropriate source gas volume; provided further that regardless of the mass emission permitted by part 7011.0730, the owner or operator shall not be permitted to emit particulate matter in a concentration in excess of 0.30 grains per standard cubic foot of exhaust gas; or

B. exhibit greater than 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60–minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60–minute period.

Subp. 2. **Compliance.** The owner or operator of any industrial process equipment which was in operation before July 9, 1969, which has control equipment with a collection efficiency of not less than 99 percent by weight shall be considered in compliance with the requirements of subpart 1, item A.

Subp. 3. **Equipment located outside of Saint Paul, Minneapolis, and Duluth.** The owner or operator of any industrial process equipment which was in operation before July 9, 1969, which is located outside the Minneapolis–Saint Paul Air Quality Control Region and the city of Duluth, which is located not less than one–fourth mile from any residence or public roadway, and which has control equipment with a collection efficiency of not less than 85 percent by weight, and the operation of the entire emission facility does not cause a violation of the ambient air quality standards, shall be considered in compliance with the requirements of subpart 1, item A.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0715 STANDARDS OF PERFORMANCE FOR POST–1969 INDUSTRIAL PROCESS EQUIPMENT.

Subpart 1. **Prohibited discharge of gases.** No owner or operator of any industrial process equipment which was not in operation before July 9, 1969, shall cause to be discharged into the atmosphere from the industrial process equipment any gases which:

A. in any one hour contain particulate matter in excess of the amount permitted in part 7011.0730 for the allocated process weight; provided that the owner or operator shall not be required to reduce the particulate matter emission below the concentration permitted in part 7011.0735 for the appropriate source gas volume; provided that regardless of the mass emission permitted by part 7011.0730, the owner or operator shall not be permitted to emit particulate matter in a concentration in excess of 0.30 grains per standard cubic foot of exhaust gas; or

B. exhibit greater than 20 percent opacity.

Subp. 2. **Compliance.** The owner or operator of any industrial process equipment which was not in operation before July 9, 1969, which has control equipment with a collection efficiency of not less than 99.7 percent by weight shall be considered in compliance with the requirements of subpart 1, item A.

Subp. 3. **Equipment located outside of Saint Paul, Minneapolis, and Duluth.** The owner or operator of any industrial equipment which was in operation after July 9, 1969, which is located outside the Minneapolis–Saint Paul Air Quality Control Region and the city of Duluth, which is located not less than one–fourth mile from any residence or public roadway, and which has control equipment with a collection efficiency of not less than 85 percent by weight, and the operation of the entire emission facility does not cause a violation of the

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ambient air quality standards, shall be considered in compliance with the requirements of subpart 1, item A.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0720 PERFORMANCE TEST METHODS.

Unless another method is approved by the agency, any owner or operator required to submit performance tests for any industrial process equipment shall utilize the following test methods:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 3 for gas analysis;

D. Method 5 for the concentration of particulate matter and associated moisture content; and

E. Method 9 for visual determination of the opacity of emissions from stationary sources.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0725 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Special procedures.** In the event that emissions from any industrial process equipment contain organic vapors which condense at standard conditions of temperature and pressure, the following changes in Method 5 for determining particulate emissions shall be made:

A. Paragraph 4.2, Sample Recovery in method 5 is amended to read as follows:

4.2 Sample Recovery. Exercise care in moving the collection train from the test site to the sample recovery area so as to minimize the loss of collected sample or the gain of extraneous particulate matter. Set aside a portion of the acetone and water used in the sample recovery as a blank for analysis. Place the samples in containers as follows:

Container #1. Remove the filter from its holder, place in this container, and seal.

Container #2. Place loose particulate matter and water and acetone washings from all sample–exposed surfaces preceding the filter paper in this container and seal. The probe and nozzle should be scrubbed with a stiff brush and distilled water, followed by an acetone rinse. If these solvents do not do a good cleaning job, an adequate solvent must be found and used. Use a razor blade or rubber policeman to loosen adhering particles if necessary.

Container #3. Measure the volume of water from the first three impingers and place the water in this container. Place water rinsings of all sample–exposed surfaces between the filter and fourth impinger in this container prior to sealing.

Container #4. Transfer the silica gel from the fourth impinger to the original container and seal. Use a rubber policeman as an aid in removing silica gel from the impinger.

Container #5. Thoroughly rinse all sample–exposed surfaces between the filter paper and fourth impinger with acetone, place the washings in this container, and seal.

B. Paragraph 4.3, Analysis in Method 5 is amended to read as follows:

4.3 Analysis. Record the data required on the example sheet shown in figure 5–3. Handle each sample container as follows:

Container #1. Transfer the filter and any loose particulate matter from the sample container to a tared glass weighing dish, desiccate, and dry to a constant weight. Report results to the nearest 0.5 milligram.

Container #2. Transfer the washings to a tared beaker and evaporate to dryness at ambient temperature and pressure. Desiccate and dry to a constant weight. Weigh to the nearest 0.5 milligram.

Container #3. Extract organic particulate matter from the impinger solution with three 25 ml portions of chloroform. Complete the extraction with three 25 ml portions of ethyl

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ether. Combine the ether and chloroform extracts, transfer to a tared beaker and evaporate at 70 degrees Fahrenheit until no solvent remains. Desiccate, dry to a constant weight, and report the results to the nearest 0.5 milligram.

Container #4. Weigh the spent silica gel and report to the nearest gram.

Container #5. Transfer the acetone washings to a tared beaker and evaporate to dryness at ambient temperature and pressure. Desiccate, dry to a constant weight, and report the results to the nearest 0.5 milligram.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.0730 TABLE 1.

Process Weight Rate (pounds/hour)	Emission Rate (pounds/hour)
50	0.08
100	0.55
500	1.53
1,000	2.25
5,000	6.34
10,000	9.73
20,000	14.99
60,000	29.60
80,000	31.19
120,000	33.28
160,000	34.85
200,000	36.11
400,000	40.35
1,000,000	46.72

Interpolation of the data in this part for the process weight rates up to 60,000 pounds/hour shall be accomplished by the use of the equation:

$$E = 3.59P^{0.62}$$
$$<$$
$$P = 30 \text{ tons/hour}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 pounds/hour shall be accomplished by use of the equation:

$$E = 17.31P^{0.16}$$
$$P > 30 \text{ tons/hour}$$

where:

E = emissions in pounds per hour;

P = process weight rate in tons per hour.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0735 TABLE 2.

Source Gas Volume, DSCFM[a]	Concentration GR/DSCF[b]
7,000 or less	0.100
8,000	0.096
9,000	0.092

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10,000	0.089
20,000	0.071
30,000	0.062
40,000	0.057
50,000	0.053
60,000	0.050
80,000	0.045
100,000	0.042
120,000	0.040
140,000	0.038
160,000	0.036
180,000	0.035
200,000	0.034
300,000	0.030
400,000	0.027
500,000	0.025
600,000	0.024
800,000	0.021
1,000,000 or more	0.020

[a]Dry standard cubic feet per minute

[b]Grains per dry standard cubic foot.

Statutory Authority: *MS s 116.07 subd 4*

History: *13 SR 2154; 18 SR 614*

PORTLAND CEMENT PLANTS

7011.0800 DEFINITION.

As used in parts 7011.0800 to 7011.0825, "portland cement plant" means any facility manufacturing portland cement by either the wet or dry process.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0805 STANDARDS OF PERFORMANCE FOR EXISTING PORTLAND CEMENT PLANTS.

No owner or operator of an existing portland cement plant shall cause or allow the discharge into the atmosphere of any gases which:

A. contain particulate matter in excess of the limits established by parts 7011.0700 to 7011.0735; or

B. exhibit greater than 20 percent opacity, except that a maximum of 40 percent opacity shall be permissible for not more than four minutes in any 30–minute period and a maximum of 60 percent opacity shall be permissible for not more than four minutes in any 60–minute period.

The requirements of this part are applicable to the kiln, the clinker cooler, the raw mill system, the raw mill dryer, raw material storage, the finish mill system, clinker storage, fin-

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ished product storage, conveyor transfer points, and bagging and bulk loading and unloading systems.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0810 [Repealed, 18 SR 580]

7011.0815 MONITORING OF OPERATIONS.

The owner or operator of any portland cement plant shall record the daily production rates and kiln feed rates.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0820 PERFORMANCE TEST METHODS.

Unless another method is approved by the agency, any owner or operator required to submit performance tests for a portland cement plant shall utilize the following test methods:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 3 for gas analysis;

D. Method 5 for the concentration of particulate matter and the associated moisture content; and

E. Method 9 for visual determination of opacity.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.0825 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Special procedures.** In testing for the concentration of particulate matter and the associated moisture content, the minimum sampling time and minimum sample volume for each run, except when other times and volumes are approved by the agency, shall be as follows: 60 minutes and 30 dscf (0.85 dscm) for the kiln, and 60 minutes and 40.6 dscf (1.15 dscm) for the clinker cooler.

Total kiln feed rate (except fuels) expressed in tons per hour on a dry basis, shall be determined during each testing period by a method approved by the agency, and shall be confirmed by a material balance over the production system.

For each run, particulate matter emissions, expressed in pounds per ton of kiln feed, shall be determined by dividing the emission rate in pounds per hour by the kiln feed rate. The emission rate shall be determined by the equation, lb/hr = Q_s x c, where Q_s = volumetric flow rate of the total effluent in dscf/hr as determined in accordance with part 7011.0820, item B, and c = particulate concentration in lb/dscf as determined in accordance with part 7011.0820, item D.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.0830 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart F, as amended, entitled "Standards of Performance for Portland Cement Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

HOT MIX ASPHALT PLANTS

7011.0900 DEFINITIONS.

Subpart 1. **Scope.** The definitions in this part apply to the terms used in parts 7011.0900 to 7011.0920. The definitions in parts 7005.0100, 7007.0100, and 7011.0060 apply to the terms used in parts 7011.0900 to 7011.0920, unless the terms are defined in this part.

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Subp. 2. **Asphalt plant control equipment.** "Asphalt plant control equipment" means the control equipment at a hot mix asphalt plant listed in part 7011.0917, subpart 7.

Subp. 3. **Existing hot mix asphalt plant.** "Existing hot mix asphalt plant" means a hot mix asphalt plant that is not a new hot mix asphalt plant.

Subp. 4. **Hot mix asphalt plant.** "Hot mix asphalt plant" means a facility used to manufacture hot mix asphalt paving materials by heating and drying aggregate and mixing with asphalt cements. "Hot mix asphalt plant" includes dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

Subp. 5. **New hot mix asphalt plant.** "New hot mix asphalt plant" means a hot mix asphalt plant that commences construction, modification, or reconstruction after June 11, 1973, and includes all hot mix asphalt plants subject to the new source performance standards incorporated by reference in part 7011.0909.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 20 SR 2253(NO. 42)*

7011.0903 COMPLIANCE WITH AMBIENT AIR QUALITY STANDARDS.

Subpart 1. **Fuel sulfur content limitation.** Notwithstanding part 7011.0913, no owner or operator of a hot mix asphalt plant shall use in the dryer burner any fuel with a sulfur content greater than 0.70 percent, unless:

A. authorized by a part 70, state, or general permit; or

B. compliance with part 7009.0080 has been demonstrated under subpart 2 for each dryer fuel with a sulfur content greater than 0.70 percent.

Subp. 2. **Modeling of emissions from high sulfur content fuels.** Prior to the use of each dryer fuel with a sulfur content greater than 0.70 percent, the owner or operator of a hot mix asphalt plant shall perform air dispersion modeling to determine whether burning that fuel would comply with the ambient air quality standard for sulfur dioxides (maximum one hour concentration not to be exceeded more than once per year) in part 7009.0080. The owner or operator shall model sulfur dioxide emissions using the most recent version of EPA's screen model described in SCREEN3 Model User's Guide, EPA–454/B–95–004, United States Environmental Protection Agency, Office of Air Quality Planning and Standards, September 1995, which is incorporated by reference and is subject to frequent change. This publication and copies of the SCREEN3 model are available from the Pollution Control Agency library through the Minitex interlibrary loan system, through the National Technical Information Service (NTIS), Springfield, VA, (703) 487–4650, or may be downloaded from the Support Center for Regulatory Air Models (SCRAM) Bulletin Board System (BBS). The SCRAM BBS may be accessed at (919) 541–5742.

Subp. 3. **Records required.**

A. For any fuel used in the dryer burner, except natural gas, methane, butane, propane, gasoline, kerosene, diesel fuel, and No. 1 and No. 2 fuel oil, the owner or operator of a hot mix asphalt plant shall keep for each fuel delivery a record of a vendor certification or fuel analysis which shows the sulfur content of the fuel.

B. The owner or operator of a hot mix asphalt plant that has done modeling under subpart 2 shall keep a record of the modeling results. The record shall include:

(1) the sulfur content of the fuel modeled;

(2) the site modeled;

(3) model output files; and

(4) supporting calculations.

The owner or operator shall maintain the records required by this subpart for a minimum of five years from the date the record was made.

Subp. 4. **Hot mix asphalt plants with registration permits.** If the commissioner finds that a hot mix asphalt plant that has applied for or been issued a registration permit needs source–specific permit conditions to prevent violation of any ambient air quality standard, the commissioner shall require the owner or operator of the hot mix asphalt plant to apply for

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and obtain a part 70, state, or general permit. The owner or operator of a hot mix asphalt plant shall submit the required permit application within 120 days of the commissioner's written request under this subpart.

Subp. 5. **Compliance with ambient air quality standards.** Nothing in this part shall be construed to allow violation of any national or state ambient air quality standards. If the commissioner requests it, the owner or operator of a hot mix asphalt plant must demonstrate compliance with the national or state ambient air quality standards.

Statutory Authority: *MS s 116.07*

History: *20 SR 2253(NO. 42)*

7011.0905 STANDARDS OF PERFORMANCE FOR EXISTING HOT MIX ASPHALT PLANTS.

No owner or operator of an existing hot mix asphalt plant shall cause to be discharged into the atmosphere from the hot mix asphalt plant any gases which:

A. contain particulate matter in excess of the limits allowed by parts 7011.0700 to 7011.0735; or

B. exhibit greater than 20 percent opacity.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 20 SR 2253(NO. 42)*

7011.0909 STANDARDS OF PERFORMANCE FOR NEW HOT MIX ASPHALT PLANTS.

Code of Federal Regulations, title 40, part 60, subpart I, as amended, entitled "Standards of Performance for Hot Mix Asphalt Facilities," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2253(NO. 42)*

7011.0910 [Repealed, 18 SR 580]

7011.0911 MAINTENANCE OF DRYER BURNER.

Subpart 1. **Annual tuning of dryer burner.** The owner or operator of a hot mix asphalt plant must tune the dryer burner for maximum combustion efficiency once each calendar year.

Subp. 2. **Daily check of dryer burner.** The owner or operator of a hot mix asphalt plant must do the following while producing hot mix asphalt each day except when burning natural gas or propane:

A. read the fuel pressure gauge on the dryer burner; and

B. check for a negative draft at the dryer burner inlet.

Subp. 3. **Records kept on dryer burner.** The owner or operator of a hot mix asphalt plant must maintain a record of:

A. the dates of the annual tuning of the dryer burner;

B. the daily reading from the fuel pressure gauge on the dryer burner except when burning natural gas or propane;

C. whether there was a negative draft at the dryer burner inlet each day except when burning natural gas or propane; and

D. any corrective actions taken as a result of the daily checks required by subpart 2.

Statutory Authority: *MS s 116.07*

History: *20 SR 2253(NO. 42)*

7011.0913 HOT MIX ASPHALT PLANT MATERIALS, FUELS, AND ADDITIVES OPERATING REQUIREMENTS.

Subpart 1. **Materials, fuels, and additives allowed.** Except as provided in subpart 3, the owner or operator of a hot mix asphalt plant is allowed to use only the materials, fuels, and additives designated in subpart 2 unless specifically disallowed in a part 70, state, or general permit.

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Subp. 2. **List of authorized materials, fuels, and additives.**

A. The designated materials are clay, silt, sand, gravel, and crushed stone produced from naturally occurring geologic formations, without additives; recycled asphalt pavement; portland cement concrete; recycled sediments from asphalt plant scrubber operations; fines from asphalt plant fabric filter operations; asphalt cement; and hydrated lime.

B. The designated fuels for combustion are natural gas, methane, butane, and propane; gasoline, kerosene, diesel fuel, jet fuel, and fuel oils (No. 1, No. 2, No. 3, No. 4, No. 5, No. 6); petroleum derived waste oil as defined in part 7045.0020, subpart 102b; and on–specification used oil as defined in part 7045.0020, subpart 60a, except that total halogens shall not exceed 1,000 parts per million.

C. The designated additives are silicone, organic soaps, and other substances of a similar nature added to the asphalt cement.

Subp. 3. **Procedure for approval of additional materials, fuels, and additives.** The owner or operator may use materials, fuels, or additives not listed in subpart 2, if:

A. the use is specifically allowed by a part 70, state, or general permit; or

B. for hot mix asphalt plants with a registration permit, the commissioner has provided written approval of the use prior to its incorporation into asphalt or use as a fuel.

Requests under item B must be received by the commissioner at least 60 days before the materials, fuels, or additives are used. The requests must be on a form provided by the commissioner. The owner or operator shall conduct performance testing under parts 7017.2001 to 7017.2060 to determine actual emission rates from the use of the material, fuel, or additive. The actual emission rates shall be used to determine actual emissions under part 7007.1130, subpart 3, for hot mix asphalt plants that hold option D registration permits. The commissioner shall deny these requests if the commissioner determines that use of the material would endanger human health or the environment or would subject the hot mix asphalt plant to different applicable requirements or different requirements under chapter 7007. The performance testing required by this subpart may be waived by the commissioner when the nonlisted material is substantially similar in composition to a listed material, or when the material has already been the subject of performance tests at a similar hot mix asphalt plant.

Subp. 4. **Compliance.** The owner or operator must comply with the conditions on the use of the materials, fuels, and additives established in the part 70, state, or general permit if the use is authorized under subpart 3, item A. The owner or operator must comply with the conditions on the use of the materials, fuels, and additives set forth in the commissioner's written approval if the use is authorized under subpart 3, item B.

Subp. 5. **Records required.** The owner or operator shall keep records of the materials, fuels, and additives used and the amount used on a calendar year basis. The owner or operator shall maintain the records required under this subpart for a minimum of five years from the date the record was made.

Statutory Authority: *MS s 116.07*

History: *20 SR 2253(NO. 42)*

7011.0915 [Repealed, 20 SR 2253(NO. 42)]

7011.0917 ASPHALT PLANT CONTROL EQUIPMENT REQUIREMENTS.

Subpart 1. **Operation of asphalt plant control equipment.** The owner or operator of a hot mix asphalt plant shall operate in compliance with this part all asphalt plant control equipment located at the stationary source whenever operating the emission units controlled by the asphalt plant control equipment. Unless specifically allowed by a part 70, state, or general permit, each piece of asphalt plant control equipment shall at all times be operated such that the monitoring parameters listed in subpart 7 are in the range established by the control equipment manufacturer's specifications, or within the operating parameters established by the commissioner as the result of the most recent performance test conducted under parts 7017.2001 to 7017.2060, if those are more restrictive.

The owner or operator applying for a registration permit may request an alternative range to the control equipment manufacturer's specifications, if the proposed range is based on two previous years of compliant monitoring data supplied with the request. For hot mix

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asphalt plants in operation on April 22, 1996, this request shall be made by the application deadline listed in part 7007.0350, subpart 1, item A. The proposed operating range shall be deemed acceptable unless notified otherwise in writing within 30 days of receipt by the commissioner. The commissioner shall deny a request for an alternative monitoring parameter range if the commissioner finds that:

A. an owner or operator has failed to disclose fully all facts relevant to the proposed monitoring parameter range of the asphalt plant control device or the owner or operator has knowingly submitted false or misleading information to the agency;

B. operation of the control device in the monitoring parameter range proposed by the owner or operator would endanger human health or the environment, or subject the hot mix asphalt plant to different applicable requirements or requirements under chapter 7007; or

C. the proposed range is not supported by the data supplied with the request.

Subp. 2. **Maintenance of asphalt plant control equipment.** The owner or operator of a hot mix asphalt plant shall maintain each piece of asphalt plant control equipment as designed to ensure compliance with applicable requirements, comply with source–specific maintenance requirements specified in a part 70, state, or general permit, and shall perform the following on each piece of asphalt plant control equipment unless otherwise specified in a part 70, state, or general permit:

A. thoroughly inspect all asphalt plant control equipment, including structural components, annually;

B. inspect ducts, connections, and housings for leaks monthly;

C. check monitoring equipment daily to ensure it is operating in the range required by subpart 1, for example: pressure gauges, temperature indicators, flow gauges, and recorders;

D. calibrate all monitoring equipment annually;

E. for fabric filter control devices: check exterior cleaning system equipment and its operation daily; and check interior cleaning equipment and its operation, and the clean air side of bags for evidence of leaks at least monthly; and

F. for control devices using water such as spray towers, scrubbers, and wet cyclone separators: check sediment level in non–self–cleaning ponds daily so as not to exceed one–half the pond depth, and check to ensure the pH of the water leaving the control device is between five and ten weekly; and check accessible dampers, spray bars, nozzles, and demister monthly for wear.

The owner or operator shall maintain a record of activities conducted in items A to F, consisting of the activity completed, the date the activity was completed, and any corrective action taken; and the owner or operator shall maintain the records required by this subpart for a minimum of five years from the date the record was made.

Subp. 3. **Installation of monitoring equipment.** The owner or operator of a hot mix asphalt plant shall install monitoring equipment to measure operating hours as specified in part 7011.0922, subpart 3, and the monitoring parameters for all asphalt plant control equipment as specified by subpart 7. For hot mix asphalt plants not in operation on April 22, 1996, the monitoring equipment must be installed prior to operation of any hot mix asphalt plant equipment controlled by the control equipment. For hot mix asphalt plants in operation on April 22, 1996, the owner or operator must install monitoring equipment no later than 30 days after April 22, 1996.

Subp. 4. **Operation of monitoring equipment.** The owner or operator of a hot mix asphalt plant shall operate in compliance with this part the monitoring equipment for each piece of asphalt plant control equipment at all times the asphalt plant control equipment is required to operate.

Subp. 5. **Shutdown and breakdown procedures.** In the event of a shutdown or breakdown of asphalt plant control equipment, the owner or operator of a hot mix asphalt plant shall comply with part 7019.1000.

Subp. 6. **Deviation of asphalt plant control equipment from operating specifications.** Unless otherwise specified in a part 70, state, or general permit, the owner or operator

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of a stationary source shall report to the commissioner deviations from any monitored operating parameter required by subpart 7. "Deviation" means any recorded reading outside of the specification or range of specifications allowed by subpart 1. The report shall be on a form approved by the commissioner. The owner or operator shall report the deviation to the commissioner semiannually in a midyear report and an end–of–year report. The midyear report, covering deviations which occurred during the period from January 1 to June 30, is due by July 30 of each year. The end–of–year report, covering deviations which occurred during the period from July 1 to December 31, is due by January 30 each year.

Subp. 7. **Monitoring and recordkeeping for asphalt plant control equipment.** Unless otherwise specified in a part 70, state, or general permit, the owner or operator of a hot mix asphalt plant shall comply with the monitoring and recordkeeping required by the table in this subpart for asphalt plant control equipment. The owner or operator shall maintain the records required by this subpart for a minimum of five years from the date the record was made.

EPA ID NO.	POLLUTION CONTROL EQUIPMENT TYPE	MONITORING PARAMETERS	RECORDKEEPING REQUIREMENT
001, 002, 003	"Miscellaneous Wet Scrubber" means a control device in which the particulates in the incoming gas stream are entrained by a liquid and the control device is not a spray tower, venturi scrubber, impingement plate scrubber, or a wet cyclone separator.	Pressure drop, liquid flow rate, and water pressure	Record each parameter every calendar day of operation
016	"Fabric Filter" (Bag House) means a control device in which the incoming gas stream passes through a porous fabric filter forming a dust cake.	Pressure drop	Record every calendar day of operation
052	"Spray Tower" means a control device in which the incoming gas stream passes through a chamber in which it contacts a liquid spray.	Liquid flow rate, pressure drop, and water pressure	Record each parameter every calendar day of operation
053	"Venturi Scrubber" means a control device in which the incoming gas stream passes through a venturi into which low pressure liquid is introduced.	Pressure drop, liquid flow rate, and water pressure	Record each parameter every calendar day of operation

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055	"Impingement Plate Scrubber" means a control device in which the incoming gas stream passes a liquid spray and is then directed at high velocity into a plate.	Pressure drop, liquid flow rate, and water pressure	Record each parameter every calendar day of operation
085	"Wet Cyclone Separator" or "Cyclonic Scrubbers" means a cyclonic device that sprays water into a cyclone.	Pressure drop, water pressure, and water flow rate	Record each parameter every calendar day of operation
019	"Afterburners" (thermal or catalytic oxidation) means a device used to reduce VOCs to the products of combustion through thermal (high temperature) oxidation or catalytic (use of a catalyst) oxidation in a combustion chamber.	Combustion temperature or inlet and outlet temperatures	Continuous hard copy readout of temperatures or manual readings every 15 minutes of operation

Statutory Authority: *MS s 116.07*

History: *20 SR 2253(NO. 42)*

7011.0920 PERFORMANCE TESTS.

Subpart 1. **Methods and procedures.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Performance test frequency for hot mix asphalt plants using fabric filters.** If an owner or operator of a hot mix asphalt plant uses a fabric filter, including, but not limited to, EPA ID No. 016 listed in part 7011.0917, subpart 7, as the primary or secondary control equipment to remove particulate matter, then the owner or operator shall conduct performance testing for particulate matter and opacity as required by part 7017.2020, subpart 1.

Subp. 3. **Performance test frequency for hot mix asphalt plants with control equipment that uses liquid to remove pollutants.** If an owner or operator operates a hot mix asphalt plant that has only control equipment that uses liquid to remove pollutants or has a secondary control device that uses liquid to remove pollutants, including, but not limited to, EPA ID Nos. 052, 053, 055, and 085 listed in part 7011.0917, subpart 7, then the owner or operator shall conduct performance testing for particulate matter and opacity as described in items A to E.

A. If the hot mix asphalt plant produced no more than 35,000 tons in each of the three previous calendar years and has a manufacturer's rated capacity of 100 tons per hour or less at five percent moisture, then the owner or operator shall conduct performance testing as required by part 7017.2020, subpart 1.

B. Except as provided in item A, if the hot mix asphalt plant produced no more than 100,000 tons in any of the three previous calendar years, then the owner or operator shall conduct performance testing every three calendar years.

C. If the hot mix asphalt plant produced greater than 100,000 tons, but no more than 200,000 tons in any of the three previous calendar years, then the owner or operator shall conduct performance testing every two calendar years.

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D. If the hot mix asphalt plant produced more than 200,000 tons in the previous calendar year, then the owner or operator shall conduct performance testing within 60 days of start–up in the following calendar year.

E. The owner or operator of a hot mix asphalt plant shall conduct additional performance testing as required by part 7017.2020, subpart 1.

Subp. 4. **Performance test required for all hot mix asphalt plants.** If the owner or operator of a hot mix asphalt plant has not conducted a performance test for particulate matter and opacity approved by the commissioner under parts 7017.2001 to 7017.2060 since January 1, 1991, the owner or operator must conduct such a performance test:

A. in 1996, for hot mix asphalt plants that are operated in the state in 1996; or

B. within 60 days after the hot mix asphalt plant begins operation in the state.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412; 20 SR 2253(NO. 42)*

7011.0922 OPERATIONAL REQUIREMENTS AND LIMITATIONS FROM PERFORMANCE TESTS.

Subpart 1. **Throughput limit.** The owner or operator of a hot mix asphalt plant shall not exceed the production throughput at which compliance with part 7011.0905 or 7011.0909 was demonstrated during the plant's most recent performance test, unless authorized by subpart 2.

Subp. 2. **Certain exceptions to throughput limit.** Except as provided in items A and B, if a hot mix asphalt plant demonstrated compliance for particulate matter and opacity during its most recent performance test and its tested emission rate (gr/dscf or lb/hr) was less than 80 percent of the applicable rule or permit emission limit, then the owner or operator may increase production throughput ten percent over that allowed under subpart 1.

A. If a hot mix asphalt plant with a fabric filter control device has conducted a performance test since January 1, 1991, has demonstrated compliance for particulate matter and opacity, and its tested emission rate (gr/dscf or lb/hr) was less than 50 percent but greater than or equal to 25 percent of the applicable rule or permit emission limit, then the owner or operator may increase production throughput 15 percent over that allowed under subpart 1.

B. If a hot mix asphalt plant with a fabric filter control device has conducted a performance test since January 1, 1991, has demonstrated compliance for particulate matter and opacity, and its tested emission rate (gr/dscf or lb/hr) was less than 25 percent of the applicable rule or permit emission limit, then the owner or operator may increase production throughput 20 percent over that allowed by subpart 1.

Subp. 3. **Monitoring and recordkeeping required.** To determine compliance with subpart 1, the owner or operator of a hot mix asphalt plant must:

A. operate an accumulating hour meter on the dryer burner at all times the dryer burner is in operation;

B. record each day the plant's hours of operation as determined by the hour meter and total tons of hot mix asphalt produced; and

C. determine the production throughput by dividing the total tons of hot mix asphalt produced by the hours of operation for each calendar day of operation.

Statutory Authority: *MS s 116.07*

History: *20 SR 2253(NO. 42)*

7011.0925 [Renumbered 7011.0909]

ASPHALT PROCESSING AND ASPHALT ROOFING MANUFACTURE

7011.0950 STANDARDS OF PERFORMANCE FOR NEW ASPHALT PROCESSING AND ASPHALT ROOFING MANUFACTURE.

Code of Federal Regulations, title 40, part 60, subpart UU, as amended, entitled "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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BULK AGRICULTURAL COMMODITY FACILITIES

7011.1000 DEFINITIONS.

Subpart 1. **Scope.** For the purposes of parts 7011.1000 to 7011.1015 the following terms have the meanings given them.

Subp. 2. **Capture system.** "Capture system" means equipment such as hoods, ducts, fans, and dampers used to capture particulate matter.

Subp. 3. **Column dryer.** "Column dryer" means equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in one or more continuous packed columns between two perforated metal sheets.

Subp. 4. **Dry bulk agricultural commodity, commodity.** "Dry bulk agricultural commodity" or "commodity" includes grain, grain by–products, seed, beet pulp or pellets, and alfalfa meal or pellets.

Subp. 5. **Dry bulk agricultural commodity facility.** "Dry bulk agricultural commodity facility" means a facility where bulk commodities are unloaded, handled, cleaned, dried, stored, ground, or loaded. "Dry bulk agricultural commodity facility" does not include a facility located on a family farm or family farm corporation, as defined in Minnesota Statutes, section 116B.02, which handles commodities from the farm or used on the farm.

Subp. 6. **Grain.** "Grain" means corn, wheat, sorghum, rice, rye, oats, barley, flax, soybeans, and sunflower seeds.

Subp. 7. **Grain storage elevator.** "Grain storage elevator" means a grain elevator located at a wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant that has a permanent grain storage capacity of more than 35,200 cubic meters, which is approximately 1,000,000 bushels.

Subp. 8. **Grain terminal elevator.** "Grain terminal elevator" means a grain elevator that has a permanent storage capacity of more than 88,100 cubic meters, which is approximately 2,500,000 bushels, except a grain elevator located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries, and livestock feedlots.

Subp. 9. **Handling operation.** "Handling operation" includes the use of bucket elevators, scale hoppers, conveyors, trippers, and spouts for the distribution and weighing of commodities within a commodity facility.

Subp. 10. **Loading station.** "Loading station" means the part of a commodity facility where the commodities are transferred from the facility to a truck, railcar, barge, or ship.

Subp. 11. **Normal loading procedure.** "Normal loading procedure" means that part of a barge or ship loading operation where the spout and associated dust suppression systems are capable of distributing the commodity in the hold as needed without making modifications to the loading procedure, such as removing the dust suppressor, raising the spout, slowing the loading rate below the design capability of the spout, or attaching equipment at the end of the spout.

Subp. 12. **Rack dryer.** "Rack dryer" means equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in a cascading flow around rows of baffles (racks).

Subp. 13. **Reasonably available control technology (RACT).** "Reasonably available control technology (RACT)" means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

Subp. 14. **Throughput.** "Throughput" means the number of tons of commodities received, plus the number of tons of commodities shipped, divided by two, determined on the basis of an average year. An average year is determined by averaging the actual receipts and shipments for the last three consecutive fiscal years. For facilities less than three years old, actual and anticipated receipts and shipments must be used.

Subp. 15. **Topping–off.** "Topping–off" means the placing of grain in the final three feet of void in a barge, nine feet in a ship, between the fore and aft center line of the hatch and the outboard side of the vessel. The depth is determined by vertical measurement along the outboard side of the vessel from the top of the hatch opening.

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Subp. 16. **Trimming.** "Trimming" means the part of ship loading that requires the use of spoons, slingers, and other equipment attached to the loading spout to ensure that a ship is loaded to capacity.

Subp. 17. **Unloading station.** "Unloading station" means the part of a commodity facility where the commodities are transferred from a truck, railcar, barge, or ship to a receiving hopper.

Statutory Authority: *MS s 116.07 subd 1*

History: *8 SR 1675; 18 SR 614*

7011.1005 STANDARDS OF PERFORMANCE FOR DRY BULK AGRICULTURAL COMMODITY FACILITIES.

Subpart 1. **Owner or operator duties.** The owner or operator of a commodity facility shall:

A. clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT; and

B. maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed.

Subp. 2. **Federal requirements.** The owner, operator, or other person who conducts activities at a grain terminal elevator or grain storage elevator, of which construction, modification, or reconstruction commenced after August 3, 1978, shall meet the requirements of Code of Federal Regulations, title 40, part 60, subpart DD, as amended, entitled "Standards of Performance for Grain Elevators," which is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.302(d)(3), are not delegated to the commissioner and must be made by the administrator.

Subp. 3. **Prohibited discharges.** A commodity facility that is not required to be controlled under subpart 2 must be controlled if the facility meets one of the descriptions listed in part 7011.1015 where the table indicates "control required." For a facility where control is required under this section, no owner, operator, or other person who conducts activities at the facility may allow:

A. a discharge of fugitive emissions that exhibit greater than five percent opacity from a truck unloading station, railcar unloading station, railcar loading station, or handling operation;

B. a discharge of fugitive emissions that exhibit greater than ten percent opacity from a truck loading station;

C. a discharge of fugitive emissions that exhibit greater than 20 percent opacity from a ship or barge loading or unloading station, except that during trimming or topping-off, when normal loading procedures cannot be used, no opacity standard applies; and

D. a discharge of particulate matter from control equipment that exceeds the limits set forth in part 7011.0735 or that exhibits greater than ten percent opacity, except that facilities constructed prior to January 1, 1984, with an annual commodity throughput of more than 180,000 tons and located in an unincorporated area or in a city with a population of less than 7,500, outside the Minneapolis-Saint Paul Air Quality Control Region, is in compliance if the control equipment has a collection efficiency of not less than 85 percent by weight.

Subp. 4. **Capture systems and control equipment.** The owner or operator of a commodity facility not required to control emissions under subpart 2 or 3 is not required to install capture systems and control equipment but shall unload, handle, clean, dry, and load commodities to minimize fugitive emissions to a level consistent with RACT. If a capture system is used, the particulate matter must be conveyed through control equipment that has a collection efficiency of not less than 85 percent by weight.

Subp. 5. **Grain dryer specifications.** A grain dryer must meet the following design specifications:

A. the perforations of a column dryer screen must not exceed 3/32 inches in diameter; and

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B. the emissions from a rack dryer must pass through a 50–mesh screen enclosure before discharge to the atmosphere.

Statutory Authority: *MS s 116.07*

History: *8 SR 1675; 18 SR 580; 18 SR 614*

7011.1010 NUISANCE.

Notwithstanding any provisions in parts 7011.1000 to 7011.1015, no owner or operator of a dry bulk agricultural commodity facility may operate or maintain a facility that creates a public nuisance. If the commissioner determines that operation or maintenance of a commodity facility creates a public nuisance, the commissioner may require the owner or operator to take measures necessary to eliminate the nuisance.

Statutory Authority: *MS s 116.07 subd 1*

History: *8 SR 1675; L 1987 c 186 s 15; 18 SR 614*

7011.1015 CONTROL REQUIREMENTS SCHEDULE.

Facility Description	Date Construction, Modification or Reconstruction Commenced	
	Prior to 1/1/84	After 1/1/84
Facility located in Minneapolis–Saint Paul Air Quality Control Region or located in a city with a population of 7,500 or more or with annual commodity throughput of more than 180,000 tons	Control required	Control required
Facility with annual commodity throughput of 120,000 to 180,000 tons and located in a city with a population of less than 7,500	No control required	Control required
Facility with annual commodity throughput and location other than those described above	No control required	No control required

Statutory Authority: *MS s 116.07 subd 1*

History: *8 SR 1675; 18 SR 614*

COAL HANDLING FACILITIES

7011.1100 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.1100 to 7011.1140, the following words shall have the meanings defined herein.

Subp. 2. **Coal.** "Coal" means any solid fossil fuel described as anthracite, bituminous, subbituminous, lignite, or coke (as derived from coal).

Subp. 3. **Coal handling.** "Coal handling" means operations including, but not limited to, operations such as dumping, loading, unloading, storing, reclaiming, transferring, and conveying.

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Subp. 4. **Coal handling facility.** "Coal handling facility" means a facility where coal is handled such as coal transshipment terminals, electric generating plants, boiler plants, or steam plants.

Subp. 5. **Coal throughput.** "Coal throughput" means the number of tons of coal received plus the number of tons of coal shipped by an owner or operator of a coal transshipment facility in any one calendar year. In the case of facilities where coal is consumed at the same facility where received, such as electric generating plants, boiler plants, or steam plants, coal throughput means the number of tons of coal received at the facility.

Subp. 6. **Dust suppression methods.** "Dust suppression methods" mean dust control equipment or measures including, but not limited to, hoppers, hoods, screens, enclosures, wetting or chemical agents, foam agents, surfactants, precleaning treatment, utilizing induced draft and air pollution control equipment, watering, and other equivalent methods approved by the commissioner.

Subp. 7. **Hauler.** "Hauler" means any vehicle engaged in reclaiming, moving, or dumping coal within a coal handling facility.

Subp. 8. **Minimize.** "Minimize" means, with respect to the control of fugitive emissions, to reduce such emissions to a level consistent with RACT.

Subp. 9. **Pneumatic coal–cleaning equipment.** "Pneumatic coal–cleaning equipment" means any equipment which classifies coal by size or separates coal from refuse by application of air stream(s).

Subp. 10. **Reasonably available control technology (RACT).** "Reasonably available control technology (RACT)" is the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

Subp. 11. **Thermal dryer.** "Thermal dryer" means any device in which the moisture content of coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1105 STANDARDS OF PERFORMANCE FOR CERTAIN COAL HANDLING FACILITIES.

The owner or operator of a new or existing coal handling facility which is located within the Minneapolis–Saint Paul Air Quality Control Region or within the boundaries of the city of Duluth shall perform the following abatement measures unless otherwise exempt by portions of these parts:

A. Access areas, roads, parking facilities.

(1) Install asphalt or concrete surfaces or chemical agents on all active truck haul roads of the coal handling facility when the coal throughput by truck is 200,000 tons or greater. All paved roads and areas shall be cleaned to minimize the discharge to the atmosphere of fugitive particulate emissions. Such cleaning shall be accomplished in a manner which minimizes resuspension of particulate matter. Access areas surrounding coal stockpiles and parking facilities which are located within a coal handling facility shall be treated with water, oils, or chemical agents.

(2) No person shall cause or permit the use of access areas surrounding coal stockpiles and use of all active truck haul roads and parking facilities which are located within a coal handling facility whose coal throughput by truck is less than 200,000 tons unless such areas and roads are treated with water, oils, or chemical agents.

B. Coal loading stations. Control fugitive particulate emissions from the loading of trucks, haulers, and railcars by dust suppression methods so that emissions from such sources are minimized.

C. Truck and hauler unloading stations. Control fugitive particulate emissions from the unloading of trucks or haulers by dust suppression methods so that emissions from such sources are minimized.

D. Barge or vessel loading stations.

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When the amount of coal loaded into barges or vessels at a given facility is 200,000 tons per year or greater, conveyor systems shall utilize loadout spouts with remote control capability for movement sideways, up and down, and telescoping so as to decrease as much as practical the vertical free fall of coal at all times during the loadout operation. Choke feeding devices, flood loading, or other equivalent equipment or methods may be installed as alternates on conveyor systems to control fugitive emissions. Crane and shovels shall be operated so as to minimize the vertical free fall of coal.

When the amount of coal loaded into barges or vessels at a given facility is less than 200,000 tons per year, control fugitive particulate emissions by dust suppression methods so that emissions from such sources are minimized.

E. Barge or vessel unloading station. Cranes, shovels, and conveyors shall be operated in a manner which decreases as much as practical the vertical free fall of coal. Control fugitive particulate emissions during unloading so that fugitive particulate emissions are minimized.

F. Stockpiles, stockpile construction, and reclaiming.

(1) Control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emissions are minimized.

(2) In the alternative, use an underground bottom feed (plow) of coal to an underground conveyor system provided the exhaust gases from the enclosed spaces do not contain particulate matter in excess of 0.020 grains per dry standard cubic foot (gr/dscf).

G. Enclosed coal handling facilities or emissions units not specifically covered by any other provision in these parts. If exhaust gases from any enclosed coal handling facility exceed 20 percent opacity, then the owner or operator of such facility shall select and implement one of the following further controls:

(1) install exhaust air system and control exhaust gases so that particulate emissions in such gases do not exceed 0.020 gr/dscf;

(2) control exhaust gases using dust suppression methods so that particulate emissions do not exhibit greater than 20 percent opacity.

H. Railcar unloading. When the amount of coal unloaded by rail is 200,000 tons per year or greater, unload railcars only within a permanent building or structure. If exhaust gases from such building or structure exceed 20 percent opacity, then the owner or operator of such facility shall select and implement one of the following further controls: install an exhaust air system and control exhaust gases so that particulate emissions in such gases do not exceed 0.020 gr/dscf; or control exhaust gases using dust suppression methods so that particulate emissions do not exhibit greater than 20 percent opacity.

When the amount of coal unloaded by rail is less than 200,000 tons per year control fugitive particulate emissions during unloading so that fugitive particulate emissions are minimized.

I. Operating practices. Clean up all coal spilled on roads or access areas as soon as practicable using methods that minimize the amount of dust suspended.

Maintain air pollution control equipment in proper operating condition and utilize air pollution control systems as designed.

Statutory Authority: *MS s 116.07 subd 4*

History: *13 SR 2154; 18 SR 614*

7011.1110 STANDARDS OF PERFORMANCE FOR EXISTING OUTSTATE COAL HANDLING FACILITIES.

The owner or operator of an existing coal handling facility which is located outside the Minneapolis–Saint Paul Air Quality Control Region and outside the boundaries of the city of Duluth shall comply with the requirements of existing rules (part 7011.0150) for the control of fugitive particulate emissions.

Statutory Authority: *MS s 116.07*

History: *18 SR 614*

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7011.1115 STANDARDS OF PERFORMANCE FOR PNEUMATIC COAL-CLEANING EQUIPMENT AND THERMAL DRYERS AT ANY COAL HANDLING FACILITY.

Subpart 1. **Pneumatic coal-cleaning equipment.** The owner or operator of a coal handling facility shall not cause to be discharged into the atmosphere from any pneumatic coal-cleaning equipment any gases which:

A. contain particulate matter in excess of 0.040 g/dscm (0.018 gr/dscf); or

B. exhibit ten percent opacity or greater.

Subp. 2. **Thermal dryers.** The owner or operator of a coal handling facility shall not cause to be discharged into the atmosphere from any thermal dryer any gases which:

A. contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf); or

B. exhibit 20 percent opacity or greater.

Subp. 3. **Installation.** The owner or operator shall install pneumatic coal-cleaning equipment and thermal dryers in a manner that performance tests for particulate matter can be run in accordance with applicable procedures and methods set forth in parts 7011.1130 to 7011.1135.

Subp. 4. **Monitoring.** The owner or operator of any coal handling facility that contains a thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

A. A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device shall be certified by the manufacturer to be accurate within three degrees Fahrenheit.

B. In the event venturi scrubber emission control equipment is utilized:

(1) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device shall be certified by the manufacturer to be accurate within one inch water gauge.

(2) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device shall be certified by the manufacturer to be accurate within five percent of design water supply pressure. The pressure sensor or tap shall be located close to the water discharge point.

C. The owner or operator of a coal handling facility who is required to maintain monitoring devices shall recalibrate each device annually in accordance with the manufacturer's written requirements for checking the operation and calibration of the device.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1120 EXEMPTION.

During freezing temperatures, owners or operators shall not be required to apply water or dust suppressants.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1125 CESSATION OF OPERATIONS.

The owner or operator of a coal handling facility shall not conduct any nonessential coal handling operations that are not shielded from the wind or enclosed in a building when steady wind speeds exceed 30 miles per hour as determined at the nearest official station of the United States Weather Bureau or by wind speed instruments on or adjacent to the site.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1130 PERFORMANCE TEST METHOD.

Unless another equivalent method is approved by the commissioner, any person required to conduct performance tests for coal handling facilities shall utilize the following test methods, as referenced in Code of Federal Regulations, title 40, part 60, appendix A as in force on November 17, 1980:

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A. Method 1 for sample and velocity traverses;

B. Method 5 for the concentration of particulate material and moisture content;

C. Method 9 for the visual determination of the opacity of emission from stationary sources.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1135 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Special procedures.** For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller sampling times or volumes, when necessitated by process variables or other factors, shall be approved by the commissioner. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature between 100 degrees Celsius and 120 degrees Celsius (212 degrees Fahrenheit and 250 degrees Fahrenheit). Sampling shall not be started until at least 30 minutes after start up and shall be terminated before shutdown procedures commence. The owner or operator shall eliminate cyclonic flow during performance tests.

Statutory Authority: *MS s 116.07*

History: *L 1987 c 186 s 15; 18 SR 614; 18 SR 1412*

7011.1140 DUST SUPPRESSANT AGENTS.

Nothing in these parts shall authorize the use of surface hardening agents, wetting or chemical agents, foam agents, and oils that may cause ground water or surface water contamination in violation of any applicable water pollution law.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

COAL PREPARATION PLANTS

7011.1150 STANDARDS OF PERFORMANCE FOR NEW COAL PREPARATION PLANTS.

Code of Federal Regulations, title 40, part 60, subpart Y, as amended, entitled "Standards of Performance for Coal Preparation Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

WASTE COMBUSTORS

7011.1201 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7007.0200, 7007.0250, 7007.0501, 7007.0801, and 7011.1201 to 7011.1285 the following words have the meanings defined in this part.

Subp. 1a. **Statutes and other rules.** The definitions in Minnesota Statutes, section 116.06, and in part 7001.0010 and chapters 7005, 7007, 7009, 7011, 7017, and 7019 apply to terms in parts 7011.1201 to 7011.1285, unless the terms are specifically otherwise defined in this part.

Subp. 2. [Repealed, 18 SR 2584]

Subp. 3. [Repealed, 18 SR 2584]

Subp. 4. [Repealed, 18 SR 2584]

Subp. 5. **Accurate and valid data.** "Accurate and valid data" means data which provides the measurement of emissions of an air contaminant from the waste combustor or operating parameters of a component of the waste combustor. For continuously monitored emissions, data shall be considered accurate and valid immediately upon recording. For emis-

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sions for which a performance test is conducted, data shall be considered accurate and valid 14 days after the waste combustor owner or operator receives the performance test report, unless the waste combustor owner or operator notifies the commissioner within the same 14 days that the owner or operator can show reason for rejecting the data.

Subp. 6. **Air contaminant.** "Air contaminant" has the meaning given in Minnesota Statutes, section 116.06, subdivision 2.

Subp. 7. **Certified operator.** "Certified operator" means the person who has obtained certification from the state signifying the person's qualification to be the person in direct charge and control of the operation of a solid waste combustion system, including the duties of start–up, operation, or shutdown of the solid waste combustion system. Certified operator includes chief facility operator, shift supervisor, and operator supervisor.

Subp. 8. **Chief facility operator.** "Chief facility operator" means the person in direct charge and control of the operation of a waste combustor who is responsible for daily on–site supervision, technical direction, management, and overall performance of the facility.

Subp. 9. **Class A waste combustor.** "Class A waste combustor" means that the total of the design capacities for all waste combustor units at a stationary source is 400×10^6 Btu/hr or more, the waste combustor units combust primarily mixed municipal solid waste or RDF, and the waste combustor was issued a permit for construction on or before December 20, 1989.

Subp. 10. **Class B waste combustor.** "Class B waste combustor" means that the total of the design capacities for all waste combustor units at a stationary source is 93.75×10^6 Btu/hr or more and less than 400×10^6 Btu/hr, the waste combustor units combust primarily mixed municipal solid waste or RDF, and the waste combustor was issued a permit for construction on or before December 20, 1989.

Subp. 11. **Class C waste combustor.** "Class C waste combustor" means that the total of the design capacities for all waste combustor units at a stationary source is 15×10^6 Btu/hr or more and less than 93.75×10^6 Btu/hr, the waste combustor units combust primarily mixed municipal solid waste or RDF, and the waste combustor was issued a permit on or before December 20, 1989.

Subp. 12. **Class D waste combustor.** "Class D waste combustor" means that the design capacity of a waste combustor unit is 3.0×10^6 Btu/hr or more, combusts waste other than mixed municipal solid waste or RDF, and was operating on or before December 20, 1989.

Subp. 13. **Class I waste combustor.** "Class I waste combustor" means that the design capacity for a waste combustor unit is 93.75×10^6 Btu/hr or more, and the waste combustor is issued a permit for construction after December 20, 1989.

Subp. 14. **Class II waste combustor.** "Class II waste combustor" means that the design capacity for a waste combustor unit is 15×10^6 Btu/hr or more and less than 93.75×10^6 Btu/hr, and the waste combustor is issued a permit for construction after December 20, 1989.

Subp. 15. **Class III waste combustor.** "Class III waste combustor" means that the design capacity for a waste combustor unit is 3.0×10^6 Btu/hr or more and less than 15×10^6 Btu/hr, and the waste combustor is issued a permit for construction after December 20, 1989.

Subp. 16. **Class IV waste combustor.** "Class IV waste combustor" means that the design capacity for a waste combustor unit is less than 3.0×10^6 Btu/hr.

Subp. 17. **Cofired unit.** "Cofired unit" means an emissions unit which combusts mixed municipal solid waste with a fuel that is not mixed municipal solid waste or RDF and 30 percent or less by weight of the total fuel input is comprised in aggregate of solid waste or RDF as measured on a 24–hour basis. The fuel feed stream composition calculation shall be the ratio of the weights of mixed municipal solid waste and RDF to mixed municipal solid waste, RDF, and all other fuels delivered to the combustion chamber.

Subp. 18. **Crematorium.** "Crematorium" means a furnace used to reduce the dead human body to ashes and inorganic bone fragments.

Subp. 19. **Design capacity.** "Design capacity" means the hourly throughput of the waste combustor unit based on heat input from solid waste of the combustion system stated by the manufacturer or designer, based on accepted design and engineering practices. For a noncontinuous feed system, design capacity means the total heat input from solid waste per cycle.

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Subp. 20. **Dumpstack.** "Dumpstack" means a stack, chimney, vent, or other functionally equivalent opening by which uncontrolled emissions are vented into the ambient air.

Subp. 21. **Energy recovery facility.** "Energy recovery facility" means an emissions unit or emission facility used to capture the heat value of solid waste for conversion to steam, electricity, or immediate heat value by direct combustion or by burning an intermediate fuel product derived from solid waste. For the purposes of parts 7011.1201 to 7011.1285, this definition does not include landfill facilities that recover methane gases, or facilities processing solid waste to convert the solid waste to an intermediate fuel product.

Subp. 22. **Fluidized bed combustor.** "Fluidized bed combustor" means a classification of combustion systems in which the bed material is maintained in a fluidized state in the primary zone of combustion. Combustion systems included in this classification include bubbling fluidized bed and circulating fluidized bed combustors.

Subp. 23. **Four–hour block average.** "Four–hour block average" means the average of all hourly emission rates when the emissions unit is operating and combusting solid waste measured over six discrete four–hour periods beginning at midnight.

Subp. 24. **Hazardous waste.** "Hazardous waste" has the meaning given in Minnesota Statutes, section 115B.02, subdivision 9.

Subp. 25. **Household batteries.** "Household batteries" has the meaning given in Minnesota Statutes, section 115A.961.

Subp. 26. **Household hazardous waste.** "Household hazardous waste" has the meaning given in Minnesota Statutes, section 115A.96, subdivision 1, paragraph (b).

Subp. 27. **Incinerator.** "Incinerator" means any emissions unit, emission facility, furnace, or other device used for the primary purpose of reducing the volume of solid waste by removing combustible matter.

Subp. 28. **Industrial solid waste.** "Industrial solid waste" has the meaning given in part 7035.0300, subpart 45.

Subp. 29. **Infectious waste.** "Infectious waste" has the meaning given in Minnesota Statutes, section 116.76, subdivision 12.

Subp. 30. **Initial start–up.** "Initial start–up" means the date on which solid waste is first fired in a new, modified, or reconstructed emissions unit.

Subp. 31. **Mass burn.** "Mass burn" means a classification of field–erected combustion systems in which solid waste is combusted that has not been subjected to shredding or size classification. Combustion systems included in this classification are mass burn waterwall, mass burn refractory, and mass burn rotary waterwall combustors.

Subp. 32. **Maximum demonstrated capacity.** For waste combustors with heat recovery, "maximum demonstrated capacity" means the maximum four–hour integrated average load for each waste combustor unit achieved during the most recent test during which compliance with the PCDD/PCDF limit in part 7011.1225 is achieved, as measured by steam flow or alternative method as approved by the commissioner. For waste combustors without heat recovery, "maximum demonstrated capacity" means the maximum four–hour arithmetic average input rate for each waste combustor unit achieved during the most recent test during which compliance with the PCDD/PCDF limit was achieved. If PCDD/PCDF testing is not required to be conducted, the maximum demonstrated capacity is the capacity achieved during the conduct of the most recent test for which compliance with particulate matter standards and carbon monoxide in part 7011.1225 is demonstrated.

Subp. 33. **Metals recovery incinerator.** "Metals recovery incinerator" means a furnace or incinerator used primarily to recover precious and nonprecious metals by burning the combustible fraction from waste. An aluminum sweat furnace is not a metals recovery incinerator.

Subp. 34. **Mixed municipal solid waste.** "Mixed municipal solid waste" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 21.

Subp. 35. **Modular waste combustor.** "Modular waste combustor" means a classification of combustion systems that are not field–erected, and have more than one combustion chamber. Combustion systems included in this classification are modular starved air and modular excess air combustors.

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Subp. 36. **Normal start–up.** "Normal start–up" means the period of time between the initial start–up of a new, modified, or reconstructed emissions unit of a waste combustor, or emissions unit of a waste combustor that is modified or reconstructed to meet the requirements of parts 7011.1201 to 7011.1285, and the lesser of 60 days after achieving the maximum production rate at which the emissions unit will operate or 180 days after initial start–up.

If no modification or reconstruction of a waste combustor is necessary to meet the requirements of parts 7011.1201 to 7011.1285, then normal start–up means the period of time between June 20, 1994, and the applicable date in part 7011.1215, subpart 5 or 6.

Subp. 37. **Operator supervisor.** "Operator supervisor" means the Class IV waste combustor personnel who has direct responsibility for control of the operation of a waste combustor and is responsible for overall on–site supervision, technical direction, management, and performance of the facility. This personnel may also be responsible for operating the waste combustor including start–up, operation, shutdown, and maintenance of the equipment.

Subp. 38. **Paint burn–off oven.** "Paint burn–off oven" means an oven or furnace designed, installed, and operated to burn off paint overspray from hooks and other painting process accessories.

Subp. 39. **Pathological waste.** "Pathological waste" has the meaning given in Minnesota Statutes, section 116.76, subdivision 14.

Subp. 40. **Polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans or PCDD/PCDF.** "Polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans" or "PCDD/PCDF" means the total of tetra–through octa–polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans.

Subp. 41. **Problem material.** "Problem material" has the meaning given in Minnesota Statutes, section 115A.03, subdivision 24a.

Subp. 42. **RDF stoker.** "RDF stoker" means a steam generating unit that combusts RDF in a semisuspension firing mode using air–fed distributors.

Subp. 43. **Refuse–derived fuel or RDF.** "Refuse–derived fuel" or "RDF" has the meaning given in Minnesota Statutes, section 116.90, subdivision 1, paragraph (d).

Subp. 44. **Shift supervisor.** "Shift supervisor" means the person in direct charge and control of the operation of a waste combustor and who is responsible for on–site supervision, technical direction, management, and overall performance of the facility during an assigned shift.

Subp. 45. **Solid waste.** "Solid waste" has the meaning given in Minnesota Statutes, section 116.06, subdivision 22.

Subp. 46. **Waste combustor.** "Waste combustor" means any emissions unit or emission facility where solid waste or refuse–derived fuel is combusted, and includes incinerators, energy recovery facilities, or other combustion devices. A metals recovery incinerator is a waste combustor. A combustion device combusting primarily wood, or at least 70 percent fossil fuel and wood in combination with up to 30 percent papermill wastewater treatment plant sludge, is not a waste combustor. A soil treatment facility, paint burn–off oven, wood heater, or residential fireplace is not a waste combustor.

Subp. 47. **Waste tire.** "Waste tire" has the meaning given in Minnesota Statutes, section 115A.90, subdivision 11.

Subp. 48. **Wood.** "Wood" means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including sawdust, sander dust, wood chips, wood scraps, slabs, millings, shavings, and processed pellets made from wood and other forest residues.

Subp. 49. **Wood heater.** "Wood heater" means an enclosed woodburning appliance capable of and intended for space heating and domestic water heating that meets the following criteria:

A. an air–to–fuel ratio in the combustion chamber averaging less than 35 to 1 as determined by the test procedure prescribed in Code of Federal Regulations, title 40, section 60.534, as amended, performed at an accredited laboratory;

B. a useable firebox volume of less than 20 cubic feet;

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C. a minimum burn rate less than five kg/hr as determined by the test procedure prescribed in Code of Federal Regulations, title 40, section 60.534, as amended, performed at an accredited laboratory; and

D. a maximum weight of 800 kilograms. In determining the weight of the appliance for these purposes, fixtures and devices that are normally sold separately, such as flue pipe, chimney, and masonry components that are not an integral part of the appliance or heat distribution ducting shall not be included.

Subp. 50. **Yard waste.** "Yard waste" means garden wastes, leaves, lawn cuttings, weeds, and prunings.

Statutory Authority: *MS s 116.07*

History: *L 1987 c 186 s 15; 18 SR 614; 18 SR 2584*

7011.1202 [Repealed, 18 SR 2584]

7011.1203 [Repealed, 18 SR 2584]

7011.1204 [Repealed, 18 SR 2584]

7011.1205 INCORPORATIONS BY REFERENCE.

For the purpose of parts 7007.0501, 7007.0801, and 7011.1201 to 7011.1285, the documents in items A to C are incorporated by reference. These documents are subject to frequent change.

A. Annual Book of American Society for Testing and Materials Standards (ASTM), Part 26, Gaseous Fuels, Coal and Coke; Atmospheric Analysis, 1981 Edition. This publication is available through the Minitex interlibrary loan system.

B. Test Methods for Evaluating Solid Waste, SW–846, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Third Edition, November 1986. This publication is available through the Minitex interlibrary loan system.

C. The following material is available from the American Society of Mechanical Engineers (ASME), 345 East 47th Street, New York, New York 10017 or from the State Law Library, Judicial Center, 25 Constitution Avenue, Saint Paul, Minnesota 55155.

(1) Standards for the Qualification and Certification of Resource Recovery Facility Operators, ASME QRO–1–1989, March 1990.

(2) Power Tests Code for Steam Generating Units, PTC 4.1, 1972.

(3) Interim Supplement 19.5 on Instrumentation and Apparatus, Application Part II of Fluid Meters, 6th Edition, 1971.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1206 [Repealed, 18 SR 2584]

7011.1207 [Repealed, 18 SR 2584]

7011.1210 NOTIFICATION REQUIRED OF CLASS IV WASTE COMBUSTORS.

Subpart 1. **Class IV waste combustors at hospitals.** The owner or operator of a Class IV waste combustor located at a hospital that was operating on June 20, 1994, shall notify the commissioner by September 19, 1994, of the existence of the waste combustor. The notice submitted by owners and operators of these waste combustors shall contain:

A. the name of the owner and operator, and the address of the waste combustor installation;

B. a schedule showing that the waste combustor will meet the requirements of parts 7011.1201 to 7011.1285 on January 30, 1996, or upon expiration of a current permit for those waste combustors to which permits were issued between December 1, 1992, and June 20, 1994; and

C. the information in subpart 2, items B to H.

Subp. 2. **Waste combustors at hospitals.** The owner or operator of a Class IV waste combustor located at a hospital and installed after June 20, 1994, shall notify the commis-

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sioner 90 days prior to the installation of the waste combustor. The notice submitted by the owner or operator of this Class IV waste combustor shall contain the information in items A to H.

A. The name of the owner and operator, and the address of the waste combustor installation.

B. The results of a current fractional analysis and the heat value of the solid waste stream. The fractional analysis shall be conducted according to part 7007.0501, subpart 2, item A, subitem (1). Published data may be used to determine heat value of the solid waste stream. If published data is unavailable, the owner or operator shall use the methods described in part 7007.0501, subpart 2, item A, subitem (4), to determine heat value of the solid waste stream.

C. The waste combustor manufacturer and model number, the diameter in feet, the exit height of the stack in feet, and the minimum stack height that is required to be installed by part 7011.1235, subpart 1, for the proposed waste combustor.

D. The design capacity of the waste combustor in million Btu's per hour.

E. A plan that describes how solid wastes that contain mercury will be identified, separated, and collected before the waste is combusted in accordance with part 7011.1255.

F. A plan for disposal of the ash generated, as described in part 7007.0501, subpart 7.

G. A schedule for a performance test to demonstrate compliance with emission limits in part 7011.1225, according to the schedule in part 7011.1270. The owner or operator shall use the methods described in part 7011.1265 when conducting compliance tests.

H. The signature of the owner or operator with the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, the waste combustor complies with the design, installation, and operating requirements of Minnesota Rules, parts 7011.1201 to 7011.1285, applicable to a Class IV waste combustor."

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1215 APPLICABILITY OF STANDARDS OF PERFORMANCE FOR WASTE COMBUSTORS.

Subpart 1. **Waste combustors.** A person who constructs, modifies, reconstructs, or operates a waste combustor shall comply with parts 7011.1201 to 7011.1285, except as provided in subparts 2 and 3.

Subp. 2. **Cofired facilities.** A person who constructs, modifies, reconstructs, or operates a cofired unit is not a waste combustor, and shall comply with the applicable requirements of parts 7011.0500 to 7011.0551 or 7011.0600 to 7011.0625.

Subp. 3. **Exemptions from standards of performance.** Crematoria, pathological waste combustors, and waste combustors used solely for the disposal of animal carcasses are exempt from the requirements of parts 7011.1210 to 7011.1285, and shall meet the conditions of this subpart.

A. No owner or operator of a crematorium, pathological waste combustor unit, or waste combustor unit used solely for the disposal of animal carcasses shall cause to be emitted into the atmosphere gases which are greater than 20 percent opacity.

B. Waste combustor owners and operators shall install and operate an afterburner which maintains flue gases at 1,200 degrees Fahrenheit for at least 0.3 seconds.

C. Ash shall be stored and transported in such a manner to prevent avoidable amounts of particulate matter to become airborne.

Subp. 4. **Standards.** The standards of parts 7011.1227, 7011.1229, 7011.1231, 7011.1233, and 7011.1240, subparts 2 and 6, apply at all times when waste is being com-

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busted, except during periods of start–up, shutdown, or malfunction, provided that the duration of start–up, shutdown, or malfunction does not exceed three hours. "Malfunction" means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown are not considered malfunctions.

Subp. 5. **Transition for Class A, B, or C waste combustors.** Notwithstanding subpart 1, a Class A, B, or C waste combustor holding a permit on June 20, 1994, shall comply with the requirements of parts 7011.1201 to 7011.1285 by June 20, 1997.

Subp. 6. **Transition for Class D, III, or IV waste combustors.** Notwithstanding subpart 1, Class D, III, or IV waste combustors installed and operable on June 20, 1994, shall comply with parts 7011.1201 to 7011.1285 by January 30, 1996. Notwithstanding subpart 1, Class IV waste combustors operating under an air emissions permit issued between December 1, 1992, and June 20, 1994, shall comply with parts 7011.1201 to 7011.1285 upon expiration of that permit.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1220 PROHIBITIONS.

Subpart 1. **Prohibited waste combustors.** No person shall operate a Class IV waste combustor unless that waste combustor is:

A. a waste combustor located at a hospital;

B. a crematorium, pathological waste combustor, or waste combustor used solely for the disposal of animal carcasses; or

C. a metals recovery incinerator.

Subp. 2. **Solid wastes requiring special approval.** No waste combustor shall combust yard waste or waste tires unless specifically allowed to do so in the air emission permit for the waste combustor.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1225 STANDARDS OF PERFORMANCE FOR WASTE COMBUSTORS.

Subpart 1. **Permit in existence for Class A, B, or C waste combustor.** No owner or operator of a Class A, B, or C waste combustor shall cause to be emitted into the atmosphere from each waste combustor unit gases which contain particulate matter, polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans (PCDD/PCDF), mercury, carbon monoxide, sulfur dioxide, or hydrogen chloride in excess of the standards of performance shown in part 7011.1227. Emissions shall be calculated under standard conditions corrected to seven percent oxygen on a dry volume basis. An owner or operator of a mixed municipal solid waste or RDF waste combustor may determine compliance with the emission limitations using carbon dioxide measurements corrected to an equivalent of seven percent oxygen. The relationship between carbon dioxide and oxygen shall be established at each compliance test.

Subp. 2. **Class I or II waste combustors.** No owner or operator of a Class I or II waste combustor shall cause to be emitted into the atmosphere from each waste combustor unit gases that contain particulate matter, polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans (PCDD/PCDF), mercury, carbon monoxide, nitrogen oxides, sulfur dioxide, or hydrogen chloride in excess of the standards of performance shown in part 7011.1229. Emissions shall be calculated under standard conditions, corrected to seven percent oxygen on a dry volume basis. An owner or operator of a mixed municipal solid waste or RDF waste combustor may determine compliance with the emission limitations using carbon dioxide measurements corrected to an equivalent of seven percent oxygen. The relationship between carbon dioxide and oxygen shall be established at each compliance test.

Subp. 3. **Class III waste combustors.** No owner or operator of a Class III waste combustor shall cause to be emitted into the atmosphere from each waste combustor unit gases that contain particulate matter, PCDD/PCDF, mercury, carbon monoxide, or opacity in ex-

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cess of the standards of performance in part 7011.1231. Emissions shall be calculated under standard conditions, corrected to seven percent oxygen on a dry volume basis. An owner or operator may determine compliance with the emission limitations using carbon dioxide measurements corrected to an equivalent of seven percent oxygen. The relationship between carbon dioxide and oxygen shall be established at each compliance test.

Subp. 4. **Class D waste combustors.** Except as provided in this subpart, no owner or operator of a Class D waste combustor shall cause to be emitted into the atmosphere from each waste combustor unit gases that contain particulate matter, PCDD/PCDF, carbon monoxide, or opacity in excess of the standards of performance in part 7011.1231. Emissions shall be calculated under standard conditions, corrected to seven percent oxygen on a dry volume basis. An owner or operator may determine compliance with the emission limitations using carbon dioxide measurements corrected to an equivalent of seven percent oxygen. The relationship between carbon dioxide and oxygen shall be established at each compliance test.

A Class D waste combustor that was burning more than 30 percent by weight of RDF on January 1, 1991, shall comply with the applicable standards of performance in parts 7011.0500 to 7011.0551 or 7011.0600 to 7011.0625, for equipment burning solid waste.

Subp. 5. **Class IV waste combustors.** No owner or operator of a Class IV waste combustor shall cause to be emitted into the atmosphere from each waste combustor unit gases that contain particulate matter, carbon monoxide, or opacity in excess of those concentrations in part 7011.1233. Emissions shall be calculated under standard conditions, corrected to seven percent oxygen on a dry volume basis. An owner or operator may determine compliance with the emission limitations using carbon dioxide measurements corrected to an equivalent of seven percent oxygen. The relationship between carbon dioxide and oxygen shall be established at each compliance test.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1227 TABLE 1.

The table in this part governs emission limitations for Class A, B, and C waste combustors. For acid gas limitations, either the applicable percent reduction or the parts per million by volume emission limitation, whichever is less stringent, is the emission limitation for the waste combustor.

		Class C	Class B	Class A
Particulate Matter				
Front–half			0.015 gr/dscf	0.015 gr/dscf
Total		0.020 gr/dscf	0.020 gr/dscf	0.020 gr/dscf
PCDD/PCDF				
Total		500 ng/dscm	30 ng/dscm	30 ng/dscm
Acid Gases:	HCl	NA	90% control or 25 ppm	90% control or 25 ppm
	SO_2	NA	70% control or 30 ppm	70% control or 30 ppm
Carbon Monoxide				
Modular		50 ppm	50 ppm	50 ppm
Mass burn, or fluidized bed		100 ppm	100 ppm	100 ppm
RDF stoker		150 ppm	200 ppm	200 ppm
Opacity		10%	10%	10%

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Mercury (short–term)			
Modular with ESP	1,000 µg/dscm	NA	NA
Mass burn	1,000 µg/dscm	100 µg/dscm or 85% removal	100 µg/dscm or 85% removal
RDF (90–day test interval)		50 µg/dscm or 85% removal	50 µg/dscm or 85% removal
Modular, mass burn, or fluidized bed with wet or dry scrubber	100 µg/dscm or 85% removal	100 µg/dscm or 85% removal	100 µg/dscm or 85% removal
Mercury (long–term)			
Modular with ESP	600 µg/dscm		
Mass burn	600 µg/dscm	60 µg/dscm or 85% removal	60 µg/dscm or 85% removal
RDF (90–day test interval)		30 µg/dscm or 85% removal	30 µg/dscm or 85% removal
Modular, mass burn, or fluidized bed with wet or dry scrubber	60 µg/dscm or 85% removal		
RDF (15–month test interval)		30 µg/dscm or 85% removal	30 µg/dscm or 85% removal

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1229 TABLE 2.

The table in this part governs emission limitations for Class I and II waste combustors. For acid gas limitations, either the applicable percent reduction or the parts per million by volume emission limitation, whichever is less stringent, is the emission limitation for the waste combustor.

Size	Class II	Class I
Particulate Matter		
Front–half	0.015 gr/dscf	0.015 gr/dscf
Total	0.020 gr/dscf	0.020 gr/dscf
PCDD/PCDF (total)	30 ng/dscm	30 ng/dscm
Acid Gases		
HCl	90% control or 25 ppm	95% control or 25 ppm
SO_2	80% control or 30 ppm	80% control or 30 ppm

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Carbon monoxide		
Modular	50 ppm	50 ppm
Mass burn or fluidized bed	100 ppm	100 ppm
RDF stoker	150 ppm	150 ppm
Opacity	10%	10%
NO_x	NA	180 ppm
Mercury (short–term)		
Modular	100 µg/dscm or 85% removal	100 µg/dscm or 85% removal
Mass Burn	100 µg/dscm or 85% removal	100 µg/dscm or 85% removal
RDF (90–day test interval)	50 µg/dscm or 85% removal	50 µg/dscm or 85% removal
FBC	100 µg/dscm or 85% removal	100 µg/dscm or 85% removal
Mercury (long–term)		
Modular	60 µg/dscm or 85% removal	60 µg/dscm or 85% removal
Mass burn	60 µg/dscm or 85% removal	60 µg/dscm or 85% removal
RDF (90–day test interval)	30 µg/dscm or 85% removal	30 µg/dscm or 85% removal
FBC	60 µg/dscm or 85% removal	60 µg/dscm or 85% removal
RDF (15–month test interval)	30 µg/dscm or 85% removal	30 µg/dscm or 85% removal

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1231 TABLE 3.

The table in this part governs emission limitations for Class III and D waste combustors.

Size	Class III	Class D
Particulate Matter		
Total	0.020 gr/dscf	0.035 gr/dscf
PCDD/PCDF		
Total	60 ng/dscm	200 ng/dscm
Carbon monoxide		
Modular	50 ppm	50 ppm
RDF	275 ppm	275 ppm
Opacity	10%	20%

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Mercury	
Short–term	500 µg/dscm or 85% removal
Long–term	300 µg/dscm or 85% removal

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1233 TABLE 4.

The table in this part governs emissions from Class IV waste combustors.

Use	Hospital	Metal Recovery
Particulate Matter		
Total	0.08 gr/dscf	0.035 gr/dscf
Opacity	20%	20%
Carbon Monoxide	50 ppm	50 ppm

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1235 REQUIREMENTS OF CLASS IV WASTE COMBUSTORS.

Subpart 1. **Stack height.** The exit height of the stack at a Class IV waste combustor shall be equal to or greater than H plus 0.5L where H is the building height and L is the lesser of the building height or the maximum projected width of the building.

The building which gives the greatest value for H plus 0.5L shall determine the stack exit height. All buildings nearby the stack shall be considered in determining stack exit height.

Maximum projected width is the longest diagonal distance of the building footprint. The stack is considered to be nearby a building if it is within five times the lesser of the building height or building width.

In the alternative, a Class IV waste combustor may use a stack with an exit height less than that required by the formula in this subpart, if the facility:

A. demonstrates that it can achieve the same ambient concentrations achieved with the exit height required by this subpart; and

B. obtains a permit under parts 7007.0250 and 7007.0501.

Subp. 2. **Combustion chamber.** The final combustion chamber of a Class IV waste combustor shall be designed and operated to maintain combustion gases at a minimum of 1,800 degrees Fahrenheit for one second in a zone after the last overfire air or secondary air has entered the combustion chamber.

Subp. 3. **Mercury and ash plans.** The plans submitted under part 7011.1210, subpart 2, items E and F, within the time provided in part 7011.1215, subpart 6, shall be implemented upon submittal.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1240 OPERATING REQUIREMENTS.

Subpart 1. **Presence of certified operator.** A certified operator who holds an appropriate certificate as described by part 7011.1280 shall be present at the waste combustor facility at all times when solid waste is being combusted. The certification shall be appropriate to the waste combustor class.

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Subp. 2. **Particulate matter control device operating temperature.** The inlet gas stream to the most efficient particulate matter control device on a waste combustor as measured by part 7011.1260, subpart 4, item A, shall have a temperature of no greater than 30 degrees Fahrenheit above the mean temperature measured for this gas stream during the most recent performance test for polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans that demonstrated compliance at all times when solid waste is being combusted.

Subp. 3. **Start–up on waste prohibited.** During start–up from a cold furnace, auxiliary fuels shall be used to achieve combustion chamber operating temperature.

Subp. 4. **Use of auxiliary fuel.** Auxiliary fuel shall be used to maintain the operating temperature in the combustion chamber from the time the solid waste feed has been discontinued until the combustion chamber is clear of combustible material or active combustion ceases to exist in the combustion chamber.

Subp. 5. **Range of operation.** No owner or operator of a waste combustor shall operate the waste combustor while combusting solid waste at a level above 110 percent of the maximum demonstrated capacity of the combustion system, without conducting a performance test under part 7011.1265, which demonstrates compliance with the emission limitations of part 7011.1225 at greater than 110 percent of the maximum demonstrated capacity.

Subp. 6. **Mercury additive feedrate.** The feedrate of additives used to control mercury shall be maintained at all times at a rate no less than that arithmetic average of the feedrates used during the most recent performance test for mercury which demonstrated compliance with the emission limit.

Subp. 7. **Dumpstack use and reporting requirements.** The dumpstack of a waste combustor must not be used for conducting routine inspection or maintenance on the control equipment or the combustion system without prior approval of the commissioner.

A dumpstack shall only be used at a waste combustor when plant or worker safety would be in jeopardy without its use.

The owner or operator of a waste combustor shall record in the daily operating record required in part 7011.1285, subpart 2, the date of use of the dumpstack, the length of time the dumpstack was used, the operating conditions of the waste combustor during dumpstack use, and the reason for using the dumpstack.

Subp. 8. **Shutdown or breakdown reporting requirements.** The owner or operator of a waste combustor shall comply with part 7019.1000 and Minnesota Statutes, section 116.85.

Subp. 9. **Notification.** The owner or operator of a waste combustor must notify the commissioner in writing at least ten days before the initial start–up of a waste combustor.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1245 GENERAL WASTE COMBUSTOR FACILITY REQUIREMENTS.

The owner or operator of a waste combustor shall design, construct, and operate the facility in compliance with the solid waste management requirements as set forth in items A to H. Plans required in the items in this part shall identify those required portions of the plan which are not applicable.

A. security requirements in part 7035.2535, subpart 3;

B. general inspection requirements in part 7035.2535, subpart 4;

C. household hazardous waste management requirements of part 7035.2535, subpart 6;

D. emergency preparedness and prevention plans and emergency procedures shall be prepared in accordance with parts 7035.2595 and 7035.2605;

E. contingency action plans in part 7035.2615;

F. closure plans in part 7035.2625 and closure procedures in part 7035.2635;

G. solid waste transfer facility requirements as required in part 7035.2865; and

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H. for waste combustors accepting infectious wastes, infectious waste management requirements of parts 7035.9100 to 7035.9150.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1250 INDUSTRIAL SOLID WASTE MANAGEMENT PLAN.

Subpart 1. **Preparation of industrial waste management plan.** The waste combustor owner or operator shall prepare a plan for the management of industrial solid wastes in accordance with part 7035.2535, subpart 5, items A and B. The plan must also include the contents listed in subpart 2. The owner or operator shall submit the plan to the commissioner with the waste combustor's permit application.

Subp. 2. **Contents of plan.** The plan must address how the following additional categories of solid waste will be managed to comply with the requirements of part 7035.2535, subpart 5, item A, subitems (2) to (4), as well as state whether each of the following solid wastes will be accepted at the facility:

A. spilled fossil fuels and the sorbents used to collect the spilled fossil fuels;

B. infectious and pathological wastes;

C. media contaminated with oil;

D. problem materials as defined in Minnesota Statutes, section 115A.03, subdivision 24a; and

E. any other solid wastes that can be identified that would adversely impact waste combustor operations or result in environmental and health problems if combusted.

Subp. 3. **Modification.** The owner or operator shall modify the industrial waste management plan whenever the management practices or solid wastes identified in the plan have changed. The owner or operator shall submit the amended plan to the commissioner for approval.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1255 PLAN TO SEPARATE SOLID WASTES WHICH CONTAIN MERCURY.

Subpart 1. **Preparation of a mercury waste separation plan.** If a mercury waste separation plan is required by part 7007.0501 or 7011.1210, the waste combustor owner or operator must prepare a plan to identify, separate, and collect before combustion solid wastes which contain mercury.

Subp. 2. **Contents of plan.** The plan shall, at a minimum, include the collection of household batteries, electrical devices and switches, electric lighting components, and solid wastes from laboratories where mercury is used, and shall include a plan to identify, separate, and collect before combustion other significant sources of mercury.

The plan shall also contain:

A. the name and title of the person responsible for implementing the plan;

B. an identification of solid waste streams and generators targeted under the plan;

C. a description of the methods that will be used to separate and dispose of mercury–containing solid wastes, including the name of the person or persons responsible for identifying, separating, collecting, transporting, recycling, and disposing of the separated mercury–containing solid waste stream;

D. an estimate of the number of pounds per year of mercury that will be removed from the solid waste stream when the plan is implemented; and

E. a description of the methods to be used to generate public awareness of the mercury separation plan and to generate public participation and cooperation.

Subp. 3. **Revising the plan periodically.** Except for Class C waste combustors, in each application for reissuance of a permit, or every five years for Class IV waste combustors, the plan shall be revised to improve identification, separation, and collection before combustion of mercury from the solid waste stream. The Class C waste combustor owner or operator must submit an updated plan to the commissioner every year after initial issuance of a permit

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under chapter 7007. The updated plan must identify improvements that have been made to the plan to increase identification, separation, and collection before combustion of mercury from the solid waste stream. If no changes are being made, the Class C waste combustor operator must state that no changes are being made for that year.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1260 CONTINUOUS MONITORING.

Subpart 1. **Combustion chamber temperature monitor.** The owner or operator of a waste combustor shall install and operate at all times temperature monitors that continuously read and record the temperature at the point in the combustion unit one second downstream of the entrance of the last overfire or secondary air injection. The owner or operator may elect to place temperature monitors at another point downstream from the entrance of the last overfire or secondary air injection, provided that the owner or operator conducts mapping of the operating combustion chambers to develop temperature isopleths and correlates these temperatures to the downstream temperature monitors.

Subp. 2. **Particulate matter control device temperature monitors.** The owner or operator of a waste combustor shall install and operate at all times temperature monitors that continuously read and record the temperatures of the flue gas at the inlet of the most efficient particulate matter control device.

Subp. 3. **Continuous monitors.** The owner or operator of a waste combustor shall install and operate a continuous monitoring system when burning solid waste. Monitoring systems that continuously read and record the following outputs shall be installed:

A. in Class I, II, III, A, B, C, or D waste combustors:

(1) for carbon monoxide at the waste combustor outlet;

(2) for steam flow or an alternative unit load measurement parameter as described in part 7011.1265, subpart 4a, in waste combustors which recover heat with a boiler;

(3) for flue gas opacity, at a location after which the flue gas has exited the air pollution control equipment; and

(4) for oxygen or carbon dioxide, to report corrected concentrations of regulated pollutants;

B. in all classifications of waste combustors subject to nitrogen oxides emission limits for nitrogen oxides; and

C. in all classifications of waste combustors subject to sulfur dioxide emission limits for sulfur dioxide. For those facilities for which compliance is determined by the percent reduction of emissions, monitors shall be installed at the inlets and outlets of the air pollution control system.

Subp. 4. **Averaging periods.** Except as provided in this subpart and subpart 5, the requirements of part 7017.1000 apply to continuous monitoring data collection, reduction, and averaging periods.

A. For combustion chamber temperature monitoring and particulate matter control device inlet temperature monitoring, four–hour arithmetic block averages calculated from four one–hour arithmetic averages. Each one–hour arithmetic average shall consist of at least ten data points equally spaced in time.

B. For steam flow or alternative unit load measurement parameter as described in part 7011.1265, subpart 4a, four–hour arithmetic block averages.

C. At waste combustors other than mass burn rotary waterwall combustors or RDF waste combustors for carbon monoxide, a four–hour block average. For mass burn rotary waterwall combustors or RDF stokers, the averaging period for carbon monoxide shall be a daily 24–hour arithmetic average measured between 12 midnight and the following midnight. The four–hour and 24–hour average shall be calculated from one–hour arithmetic averages. At least four points equally spaced in time shall be used to calculate each one–hour average.

D. For sulfur dioxide, the geometric average of the one–hour arithmetic average emission rates during each 24–hour daily period measured from midnight to midnight. At

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least four data points equally spaced in time shall be used to calculate each one–hour arithmetic average.

E. For nitrogen oxides, the arithmetic average of the one–hour arithmetic average emission rates during each 24–hour daily period measured from midnight to midnight. At least four data points equally spaced in time shall be used to calculate each one–hour arithmetic average.

F. For opacity, a six–minute average, calculated using 36 or more data points equally spaced over a six–minute period.

Subp. 5. **Operation of continuous monitors.** The owner or operator of a waste combustor with continuous monitors shall comply with the requirements of part 7017.1000, except as provided in items A to H.

A. Following the initial compliance test as required under part 7011.1270, the owner or operator of a waste combustor shall submit the initial compliance report as required under part 7011.1285, subpart 5.

B. Continuous monitors shall be operated so as to measure and record data for at least 90 percent of the hours the emission unit is operated each calendar quarter. Valid monitoring data shall be obtained for at least 75 percent of the hours per day for 75 percent of the days per month that the waste combustor is operating and combusting solid waste.

C. All valid monitoring data shall be used to calculate emission rates, emission reductions, and operating parameters, even if the conditions of item B are not met.

D. When continuous emissions data for sulfur dioxide removal efficiency or sulfur dioxide or nitrogen oxide emission rates are not obtained because of monitor breakdowns, repairs, calibration checks, and zero and span adjustments, emission data calculations to determine compliance shall be made using other monitoring systems or other data collection methods as approved by the commissioner or Code of Federal Regulations, title 40, part 60, Appendix A, Method 19, as amended, to provide valid emission data in order to meet the requirements of item B.

E. Zero drift and span drift checks of emission monitoring systems shall be conducted in accordance with Code of Federal Regulations, title 40, section 60.13, as amended.

F. The span value of the sulfur dioxide continuous monitors at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the waste combustor unit, and the span value of the monitor at the outlet of the sulfur dioxide control device is 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the waste combustor unit.

G. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedures in Code of Federal Regulations, title 40, part 60, Appendix F, as amended, for sulfur dioxide, nitrogen oxides, and carbon monoxide.

H. The procedures under Code of Federal Regulations, title 40, section 60.13, as amended, shall be followed for installation, evaluation, and operation of continuous emissions monitoring systems.

Subp. 6. **Recording data from continuous monitoring.** The owner or operator of a waste combustor shall maintain a record of the information contained in this subpart. Waste combustors shall maintain a permanent record of continuously measured emissions. The record of monitoring shall contain:

A. the calendar date;

B. the following measurements recorded in computer–readable format and on paper:

(1) all six–minute opacity readings;

(2) all one–hour average sulfur dioxide emission rates at the inlet and outlet of the acid gas control device if compliance is based on a percent reduction, or at the outlet only if compliance is based on the outlet emission limit; and

(3) all one–hour average carbon monoxide and nitrogen oxide emission rates, steam flow or alternative unit load measurement parameter as described in part 7011.1265, subpart 4a, combustion chamber temperature, and particulate matter control device temperatures; and

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C. the following average rates:

(1) all 24–hour daily geometric average percent reductions in sulfur dioxide emissions and all 24–hour daily geometric average sulfur dioxide emission rates;

(2) all 24–hour daily arithmetic average nitrogen oxides emission rates;

(3) all four–hour block or 24–hour daily arithmetic average carbon monoxide emission rates, as applicable; and

(4) all four–hour block arithmetic average unit load levels and particulate matter control device inlet temperatures.

Subp. 7. **Exceedances of continuously monitored emission limits.** If accurate and valid data results collected from continuous monitors for sulfur dioxide, nitrogen oxides, or carbon monoxide data exceed emission limits established in part 7011.1225 or in the waste combustor's permit after normal start–up, the waste combustor owner or operator shall undertake the following actions:

A. The exceedance shall be reported to the commissioner as soon as reasonably possible giving consideration to matters of plant or worker safety, or access to communications.

B. Appropriate repairs or modifications to return the waste combustor to compliance must be commenced within 72 hours of the exceedance.

C. If the waste combustor cannot be returned to compliance within 72 hours of the occurrence of the exceedance, the waste combustor shall be shut down. If the modifications to return the waste combustor to compliance require the amendment of the air emission facility permit, the waste combustor shall shut down within 72 hours of the exceedance.

D. When repairs or modifications have been completed, the waste combustor owner or operator shall demonstrate to the commissioner that the waste combustor is in compliance. The waste combustor may be started up after the owner or operator has notified the commissioner in writing of the date the owner or operator plans to start up the waste combustor and the date that compliance testing is scheduled. Notification shall be given at least ten days in advance of the compliance test date.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1265 REQUIRED PERFORMANCE TESTS, METHODS, AND PROCEDURES.

Subpart 1. **Performance test methods and procedures.** An owner or operator of a waste combustor required to conduct performance tests for a waste combustor shall use the performance test methods and procedures specified in part 7017.2000 except as modified in this part. Not operating a sorbent injection system for the sole purpose of testing in order to demonstrate compliance with the percent reduction standards for sulfur dioxide and hydrogen chloride is not a modification under part 7007.0100, subpart 14, as proposed at 17 SR 3008, and subsequently adopted.

Subp. 2. **Performance test methods for criteria pollutants.** An owner or operator of a waste combustor required to conduct performance tests for particulate matter, sulfur dioxide, or nitrogen oxides shall use test methods as described in items A to E.

A. Part 7011.0725 shall apply to tests for particulate matter, except that for Class I, II, A, B, and C waste combustors, the minimum sample volume shall be 1.7 dscm (60 dscf). For Class III, IV, and D waste combustors, the minimum sample volume shall be 0.85 dscm (30 dscf). Smaller sampling times or sample volumes shall be approved by the commissioner, when the commissioner determines that they are necessitated by process variables or other factors. Particulate matter emissions, expressed in gr/dscf, shall be corrected to seven percent oxygen by using the following formula:

$$c_7 = \frac{14c}{(21-\%O_2)}$$

where: c_7 is the concentration of particulate matter corrected to seven percent oxygen;

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c is the concentration of particulate matter as measured by Code of Federal Regulations, title 40, part 60, Appendix A, Method 5, as amended, or in part 7011.0725; and

$\%O_2$ is the percentage of oxygen as measured by Code of Federal Regulations, title 40, part 60, Appendix A, Method 3, as amended.

(1) Front–half particulate matter emission is the concentration of particulate matter as measured by Code of Federal Regulations, title 40, part 60, Appendix A, method 5, as amended.

(2) Total particulate matter emission is the concentration of particulate matter as measured by part 7011.0725.

For each Code of Federal Regulations, title 40, part 60, Appendix A, Method 5, as amended, run, the emission rate shall be determined using:

(a) oxygen or carbon dioxide measurements;

(b) dry basis F factor; and

(c) dry basis emission rate calculation procedures in Code of Federal Regulations, title 40, part 60, Appendix A, Method 19, as amended.

B. For sulfur dioxide emissions, Code of Federal Regulations, title 40, part 60, Appendix A, Method 19, section 5.4, as amended, shall be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission rate. Method 19, section 4.3, as amended, shall be used to determine the daily geometric average sulfur dioxide emission rate. Compliance with the sulfur dioxide emission limit and percent reduction shall be determined by using a continuous emission monitor to measure sulfur dioxide and calculating a 24–hour daily geometric mean emission rate and daily geometric mean percent reduction using Method 19, sections 4.3 and 5.4, as amended, as applicable. For waste combustors which do not operate continuously, compliance shall be determined using a daily geometric mean of all hourly average values for the hours during the day that the facility is operated.

C. For nitrogen oxides emissions, Code of Federal Regulations, title 40, part 60, Appendix A, Method 19, section 4.1, as amended, shall be used for determining the daily arithmetic average nitrogen oxides emission rate. Compliance with the nitrogen oxides emission standards shall be determined by using a continuous emission monitor for measuring nitrogen oxides and calculating a 24–hour daily arithmetic average emission rate using Method 19, section 4.1, as amended. For waste combustors which do not operate continuously, compliance shall be determined using an arithmetic mean of all hourly average values for the hours during the day that the facility is operated.

D. For opacity emissions, Code of Federal Regulations, title 40, part 60, Appendix A, Method 9, as amended, shall be used to determine compliance with opacity limits.

E. For Class IV waste combustors carbon monoxide emissions, compliance with the emission limit shall be determined by using Code of Federal Regulations, title 40, part 60, Appendix A, Method 10, as amended.

Subp. 3. **Performance test methods for other air contaminants.** If not specified in this subpart, the owner or operator shall use test methods in Code of Federal Regulations, title 40, part 60, Appendix A, or part 61, Appendix B, as amended, or other methods determined by the commissioner in writing to be equivalent.

A. For hydrogen chloride, the percentage reduction in the potential hydrogen chloride emissions ($\%P_{HCl}$) is computed using the following formula:

$$\%P_{HCl} = \frac{(E_i - E_o)}{E_i}$$

where E_i is the potential hydrogen chloride emission rate; and E_o is the hydrogen chloride emission rate measure at the outlet of the acid gas control device.

Code of Federal Regulations, title 40, part 60, Appendix A, Method 26, as amended, shall be used for determining the hydrogen chloride emission rate. The minimum sampling time for Method 26 shall be one hour.

B. For PCDD/PCDF emissions, Code of Federal Regulations, title 40, part 60, Appendix A, Method 23, as amended, shall be used for determining compliance with the

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PCDD/PCDF emission limits. For Class I, II, A, and B facilities, the minimum sample time shall be four hours per test run. For Class III, C, and D facilities, the minimum sample time shall be three hours per test run.

C. For metal emissions, Code of Federal Regulations, title 40, part 266, Appendix IX, section 3.1, as amended, shall be used for measuring metal emissions, except that in lieu of paragraph 3.1.1.1, the following shall apply: Applicability. This method is applicable to the determination of total chromium (Cr), cadmium (Cd), arsenic (As), nickel (Ni), manganese (Mn), beryllium (Be), copper (Cu), zinc (Zn), lead (Pb), selenium (Se), phosphorus (P), thallium (Tl), silver (Ag), antimony (Sb), barium (Ba), and mercury (Hg) emissions from stationary sources. This method may not be used for determining particulate emissions when performing a mercury analysis because changes in the procedures to further facilitate particulate determination may affect the front-half mercury determination.

To determine the mercury concentration, the arithmetic average of three or more samples at the outlet of the air pollution control device shall be used. The minimum sample volume shall be 30 dscf. The maximum sample run time shall be two hours. To determine the percent reduction of mercury, concurrent sampling for mercury at the inlet and outlet of the air pollution control system shall be performed at each occurrence of mercury emissions performance testing.

Owners and operators of RDF combustors may choose to conduct mercury emissions testing either every 90 days or every 15 months. If the owner or operator of an RDF combustor chooses to conduct testing every 90 days, the requirements of subitems (1) and (2) apply. If the RDF combustor chooses to test every 15 months, the requirements of subitem (3) apply.

(1) Procedures to determine compliance with the short-term mercury emission concentration limit are described in unit (a). If the waste combustor does not show compliance as determined in unit (a), compliance shall be determined as described in units (b) and (c).

(a) The waste combustor is in compliance with the mercury concentration limit if the arithmetic average of three or more samples is less than or equal to the applicable short-term mercury emission concentration limit.

(b) If the average computed in unit (a) exceeds the short-term mercury emission concentration limit, the removal efficiency for each run shall be computed as follows:

$$\%Hg_{\text{removal efficiency}} = [Hg_{in} - Hg_{out}]/HG_{in} \times 100$$

Where: $Hg_{\text{removal efficiency}}$ is the removal efficiency of each sample run, HG_{in} is the mercury concentration measured at the inlet of the air pollution control device, and Hg_{out} is the mercury concentration measured at the outlet.

(c) The waste combustor is in compliance with the short-term mercury emission limit, if the arithmetic average of each of the removal efficiencies as computed in unit (b) is greater than or equal to 85 percent.

(2) Procedures to determine compliance with the long-term mercury emission concentration limit are described in unit (a). If the waste combustor does not show compliance as determined in unit (a), compliance shall be determined as described in unit (b).

(a) To determine compliance with the mercury emission concentration limit, the arithmetic average of all mercury emission concentrations measured in a compliance test available for the previous calendar year shall be used. Initial compliance with the long-term mercury concentration limit shall be determined upon completion of the first calendar year. Subsequent compliance shall be determined at each occurrence of mercury emission performance testing.

(b) If the average that was computed in unit (a) exceeds the long-term mercury emission concentration, the removal efficiency for each run shall be computed by the equation in subitem (1), unit (b). The waste combustor is in compliance with the long-term mercury emission limit if the arithmetic average of each of the removal efficiencies is greater than or equal to 85 percent.

(3) Owners or operators of waste combustors combusting RDF who choose to conduct mercury emission testing every 15 months shall use the procedures in this subitem to determine compliance with mercury emission limits.

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(a) The waste combustor is in compliance with the 15–month mercury emission concentration limit if the arithmetic average of three or more samples is less than the 15–month test interval mercury emission concentration limit.

(b) If the average computed in unit (a) exceeds the 15–month mercury emission concentration limit, the removal efficiency for each run shall be computed by the equation in subitem (1), unit (b). The waste combustor is in compliance with the 15–month mercury emission limit if the arithmetic average of the removal efficiencies is greater than 85 percent.

Subp. 4. **Steam flow measurement method.** The method contained in ASME Power Test Codes: Test Codes for Steam Generating Units, PTC 4.1 (1972), section 4, incorporated by reference in part 7011.1205, shall be used for calculating the steam flow required under part 7011.1260, subpart 3, item A, subitem (2). The recommendations of Instruments and Apparatus: Measurement of Quantity of Materials, Interim Supplement 19.5 (1971), chapter 4, incorporated by reference in part 7011.1205, shall be followed for design, construction, installation, calibration, and use of nozzles and orifices.

Subp. 4a. **Alternative methods for measuring unit load.** Alternative continuous measuring methods in place of steam flow may be installed and operated, provided that the method continuously measures the waste combustor unit load, is equivalent to results obtained when using the method in subpart 4, and the use of the method is approved by the commissioner.

Subp. 5. **Performance tests required.** Performance tests shall be conducted on waste combustors to determine the emission rates of the following air contaminants:

A. lead;

B. cadmium;

C. mercury; and

D. any other air contaminant for which an emission limitation applies to the waste combustor.

Subp. 6. **Operation during performance testing.** The owner or operator of a waste combustor shall report to the commissioner the operating conditions including operating parameters of the air pollution control equipment, flue gas temperatures, air flow rates, and pressure drop across the combustion system.

Subp. 7. **Maximum demonstrated capacity.** For Class I, II, III, A, B, C, and D waste combustors, maximum demonstrated capacity of each waste combustor unit shall be determined during the initial performance test for PCDD/PCDF and each subsequent performance test during which compliance with the PCDD/PCDF emission limit in part 7011.1225 is achieved. For Class IV waste combustors, maximum demonstrated capacity shall be determined during the initial performance test and each subsequent performance test during which compliance with emission limits is demonstrated.

Subp. 8. **Particulate matter control device temperature.** The owner or operator of a waste combustor with postcombustion particulate matter control shall determine and record the average gas stream temperature as measured at the inlet to the most efficient particulate matter control device during the initial and each subsequent performance test for polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans demonstrating compliance with the PCDD/PCDF emission limit in part 7011.1225.

Subp. 9. **Mercury removal equipment operation.** The owner or operator of a waste combustor using additives for the control of mercury shall determine and record the average additive feedrate during the initial and at each subsequent performance test for mercury.

Subp. 10. **Solid waste composition.** Solid waste composition studies shall be conducted as described in part 7007.0501, subpart 2.

Subp. 11. **Exceedances of emission limits.** If accurate and valid data results of a performance test demonstrate an exceedance of a standard of performance as described in part 7011.1225 or in the waste combustor's air emission facility permit after normal start–up, the waste combustor owner or operator shall undertake the actions in items A to D.

A. The exceedance shall be reported to the commissioner as soon as reasonably possible giving consideration to matters of plant or worker safety, or access to communications and the applicable reporting provisions of part 7007.0800, subpart 6, shall be met.

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B. Within 30 days of the report of the exceedance, the owner or operator shall undertake appropriate repairs or modifications to return the waste combustor to compliance or undertake performance testing for a maximum of 30 days, for the purpose of demonstrating compliance with the emission limit.

C. If the waste combustor cannot be returned to compliance within 30 days of the report of initial exceedance, the waste combustor shall be shut down. If the modifications to return the waste combustor to compliance require the amendment of the air emission facility permit, the waste combustor shall shut down on the 31st day after the report of the exceedance.

D. When repairs or modifications have been completed, the waste combustor owner or operator shall demonstrate to the commissioner that the waste combustor is in compliance. If shutdown was required under item C, the waste combustor may be restarted after the owner of operator has notified the commissioner in writing of the date on which the owner or operator plans to start–up and to begin compliance testing. Notification shall be at least ten days in advance of the compliance test date.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1270 PERFORMANCE TEST, WASTE COMPOSITION STUDY, AND ASH SAMPLING FREQUENCY.

The owner or operator of a waste combustor shall conduct the performance tests required in part 7011.1265, subpart 5, based on the schedules in items A to D.

A. Class I, A, and B waste combustors shall conduct performance tests:

(1) once within the normal start–up;

(2) once annually after the test in subitem (1), but not more than 12 months following the initial performance test;

(3) for mercury emissions every 90 days. Waste combustors combusting RDF may choose to conduct performance tests for mercury every 15 months. If a test shows that an emission limit for mercury from a waste combustor combusting RDF is exceeded, the commissioner shall require testing every 90 days thereafter; and

(4) a current waste composition study every five years.

B. Class II and C waste combustors shall conduct performance tests:

(1) once within the normal start–up, except as provided in subitem (3)(b);

(2) once annually after the test in subitem (1), but not more than 12 months following the initial performance test. If all three annual performance tests for a three–year period show compliance with the particulate matter and PCDD/PCDF standards in part 7011.1215, the owner or operator may continue to conduct annual testing, or may choose to conduct performance tests every 2–1/2 years, except as required by subitem (3). At a minimum, a performance test for particulate matter and PCDD/PCDF shall be conducted every 2–1/2 years, but no more than 30 months following the previous compliance test. If a performance test indicates noncompliance with the particulate matter and PCDD/PCDF standards, the owner or operator shall resume annual testing for three years. If all three annual performance tests for the three–year period show compliance with particulate matter and PCDD/PCDF standards in part 7011.1215, the owner or operator may conduct performance testing every 2–1/2 years;

(3) for mercury emissions:

(a) Class II waste combustors shall test every 90 days. Waste combustors combusting RDF may choose to conduct performance tests for mercury emissions every 15 months. If a test shows that an emission limit for mercury from a waste combustor combusting RDF is exceeded, the commissioner shall require performance testing every 90 days; and

(b) Class C waste combustors shall commence testing June 20, 1995, and continue testing every 90 days thereafter. Waste combustors combusting RDF may choose to conduct performance tests for mercury emissions every 15 months. If a test shows that emission limits for mercury from a waste combustor combusting RDF are exceeded, the commissioner shall require performance testing every 90 days; and

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(4) a current waste composition study every five years.

C. Class III and D waste combustors shall conduct performance tests:

(1) once within the normal start–up;

(2) every 2–1/2 years after the test in subitem (1), but not more than 30 months following the initial performance test;

(3) for Class III waste combustors, emissions of mercury, every 90 days;

(4) for Class D waste combustors, emissions of mercury every 2–1/2 years;

(5) for ash, in accordance with part 7045.0131 every 30 months for toxicity by toxic characteristic leach procedure for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and nickel; and

(6) a current waste composition study every five years.

D. Class IV waste combustors shall conduct performance tests:

(1) once within the normal start–up;

(2) every five years after the test in subitem (1), but not more than 60 months following the initial performance test; and

(3) for ash, in accordance with part 7045.0131 every 60 months for toxic characteristic leach procedure for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and nickel.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1275 PERSONNEL TRAINING.

Subpart 1. **General.** Waste combustor facility personnel described in subpart 2 must complete a program of instruction and on–the–job training based on the operating manual described in subpart 3. The program must train facility personnel to maintain compliance with parts 7011.1201 to 7011.1285. Individual training shall be specific to the position held and shall, at a minimum, address the items in subpart 3.

For personnel described in subpart 2, the training program shall require:

A. initial review of the operating manual prior to assumption of any job–related activities affecting air emissions, except that those hired prior to June 20, 1994, must complete the review by June 20, 1995;

B. review of the operating manual relevant to a newly assigned position before assumption of new job–related activities affecting air emissions;

C. that those without waste combustor or boiler operation experience, initially review the operating manual and work under the direct supervision of a certified operator or a certified operator's designee before assumption of job–related activities affecting air emissions for the following duration:

(1) for Class I, II, III, A, B, C, or D waste combustor personnel, 40 hours; and

(2) for Class IV waste combustor personnel, 12 hours; and

D. annual review of the operating manual.

Subp. 2. **Personnel who shall be trained.** The training program shall train waste combustor personnel who have responsibilities which affect the operation of the waste combustor, including, but not limited to, chief facility operators, shift supervisors, operator supervisors, control room personnel, ash handlers, maintenance personnel, and crane/load handlers.

Subp. 3. **Operating manual requirements.** The owner or operator of a waste combustor shall develop and update on a yearly basis a site specific operating manual that shall, at a minimum, address the following elements of waste combustor unit operation:

A. a summary of the applicable state rules and federal regulations to the activities described in the facility's air emissions permit;

B. a description of basic combustion theory applicable to the facility's waste combustor unit;

C. procedures for receiving, handling, and feeding solid waste;

D. waste combustor unit start–up, shutdown, and malfunction procedures;

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E. procedures for maintaining proper combustion air levels;

F. procedures for operating the waste combustor within the standards established in parts 7011.1201 to 7011.1285;

G. procedures for responding to periodic upset or off-specification conditions;

H. procedures for minimizing particulate matter carryover;

I. procedures for monitoring the degree of solid waste burnout;

J. procedures for handling ash;

K. procedures for monitoring waste combustor emissions;

L. procedures for reporting and recordkeeping;

M. timetables and procedures for routine inspection and maintenance of equipment affecting air emissions;

N. procedures for activating communications and alarm systems; and

O. procedures to implement the facility's industrial waste management plan.

The operating manual shall be kept in a location easily accessed by the personnel described in subpart 2.

Subp. 4. **Personnel identity.** The owner or operator must maintain as a part of the operating record required by part 7011.1285, subpart 2, a record of the identity of all personnel who have received training and the number of training hours. The records shall be provided to the commissioner on demand.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1280 OPERATOR CERTIFICATION.

Subpart 1. **Scope.** The commissioner shall certify a person provided the person can demonstrate the completion of:

A. ASME provisional certification as described in Standard for the Qualification and Certification of Resource Recovery Facility Operators, American Society of Mechanical Engineers (ASME) QRO-1-1989, incorporated by reference in part 7011.1205, for chief facility operators and shift supervisors of municipal waste combustors; or

B. the coursework and examination program set forth in subpart 3.

Subp. 2. **Personnel who shall be certified.** The following personnel shall be certified through the process established in this part:

A. for Class I, II, III, A, B, C, or D waste combustors, the chief facility operator and shift supervisors; and

B. for Class IV waste combustors, the operator supervisor.

Subp. 3. **Requirements for operator certification.** To be certified, a person must demonstrate the skill, knowledge, and experience necessary to operate a waste combustor, by meeting the criteria of item A or B.

A. A certified operator of a Class IV waste combustor shall:

(1) hold a high school diploma or equivalent, or demonstrate five years of experience in incinerator operation, general industry, industrial process, or power plant operation;

(2) complete at least 16 hours of training approved by the commissioner which are designed to ensure competency to operate a Class IV waste combustor;

(3) complete the certification process described in subpart 4; and

(4) pass the examination described in subpart 5.

B. A certified operator of a Class I, II, III, A, B, C, or D waste combustor shall comply with the requirements in subitems (1) and (2).

(1) Persons who possess a Minnesota Department of Labor and Industry boiler license of at least second class engineer, Grade B, shall:

(a) have one year of experience operating a steam generation plant or Class I, II, III, A, B, C, or D waste combustor at the licensure level of at least second class engineer, Grade B, and complete at least 24 hours of training approved by the commissioner

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which are designed to ensure competency to operate a Class I, II, III, A, B, C, or D waste combustor;

(b) complete the certification process described in subpart 4; and

(c) pass the examination described in subpart 5.

(2) Persons who do not meet the qualifications of subitem (1), unit (a), shall:

(a) have three years of experience operating a Class I, II, III, A, B, C, or D waste combustor or in power generation and complete at least 24 hours of training approved by the commissioner which are designed to ensure competency to operate a Class I, II, III, A, B, C, or D waste combustor;

(b) complete the certification process described in subpart 4; and

(c) pass the examination described in subpart 5.

Subp. 4. **Certification process.**

A. Application for certification shall be made in writing on a form provided by the commissioner.

B. Within 15 days of receipt, the commissioner shall review the application for certification and determine the adequacy of the information included in the application. If the commissioner determines that additional information or documentation is necessary to assess the eligibility of the applicant, the commissioner shall notify the applicant. The application shall be considered incomplete until the applicant provides the required information.

C. The commissioner shall notify an applicant of eligibility for certification.

Subp. 5. **Examinations.**

A. The commissioner shall approve an examination for the different classes of waste combustors. The examination shall be administered as a written closed book examination.

B. For certification of a person to operate a Class I, II, III, A, B, C, or D waste combustor, the examination shall be in three areas, divided as follows:

(1) 25 percent of the questions on solid waste collection, transfer, and management covering, but not limited to, solid waste composition, collection techniques, seasonal and industrial impact on the character of solid waste, ash disposal, landfills, composting, environmental regulations and requirements, and public perceptions;

(2) 25 percent of the questions on theory covering combustion, chemistry, thermodynamics, material science, waste combustor design principles, mechanical and electrical operation and technology, air pollution control technology theory, and air emission stack monitoring;

(3) 50 percent of the questions on the operation of a waste combustor covering material handling equipment, ash handling and disposal operations within the facility, waste combustor design applications, general operations and maintenance procedures and techniques, control room operations and troubleshooting, operation of pollution control devices, and continuous emissions monitors and their calibration.

C. For certification of a person to operate a Class IV waste combustor, the examination shall be as follows:

(1) 30 percent of the questions shall cover basic principles, including principles of combustion, products of combustion, solid waste characteristics, and air pollutants;

(2) 30 percent of the questions shall cover equipment including incineration equipment characteristics, automatic control equipment, and emission monitoring equipment; and

(3) 40 percent of the questions shall cover incinerator and monitoring equipment operation including typical operating problems and solutions, maintenance procedures, incinerator operation, ash handling, and solid waste feed management systems.

D. A minimum grade of 70 percent shall be required to pass.

E. An applicant who fails to pass the examination shall be eligible to retake the examination whenever it is next offered by an institution approved by the commissioner.

Subp. 6. **Certificates.** Within ten days of the examination date, the institution administering the certification examination shall provide to the commissioner a list of individuals who completed the training and those who successfully passed the examination.

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The commissioner shall issue a certificate when the applicant has met all necessary conditions prescribed in subpart 1. Certificates are valid for three years.

Subp. 7. **Renewal.**

A. A certified individual shall apply for certificate renewal 30 days prior to certificate expiration. Renewal certificates shall be issued by the commissioner when the commissioner receives the application, along with evidence that the person has, during the preceding three years, earned credit for attending training courses offered by the agency or other training courses approved by the commissioner as described in subpart 8, including personnel training described in part 7011.1265, for the number of hours as identified as follows:

(1) Class I, II, III, A, B, C, or D, 24 hours; and

(2) Class IV, eight hours.

An individual whose certificate has expired must comply with item B or C.

B. If an individual applies for certificate renewal within one year following the expiration of the certificate, the commissioner may renew the certificate without examination. The individual must meet the training requirements of item A at the time of application before the certificate will be renewed.

C. If an individual applies for certificate renewal more than one year following the expiration of the certificate, the commissioner may renew the certificate when the individual complies with the requirements of subpart 3.

Subp. 8. **List of courses.** The commissioner shall biennially prepare and make available to interested parties a list of accredited waste combustor operator training sources and educational activities for which credit may be obtained to meet the training requirements for certification.

Subp. 9. **Sanctions.**

A. Criteria. The commissioner shall refuse to issue, renew, or reinstate a certificate, suspend or revoke a certificate, or use any lesser remedy against an individual for any of the following reasons:

(1) submittal of false or misleading information or credentials in order to obtain or renew a certificate;

(2) failure to meet the requirements for renewal certification; or

(3) incompetency, negligence, or inappropriate conduct in the performance of duties as a certified operator.

B. Investigation. Upon receiving a signed written complaint which alleges the existence of grounds for sanctions against a certified operator, the commissioner may initiate an investigation. No revocation, suspension, or other sanction shall be imposed before notice is given to the certified operator and an opportunity for a contested case hearing is provided.

C. Procedures. Procedures for contested case hearings shall comply with the provisions of the Administrative Procedure Act, Minnesota Statutes, chapter 14.

D. Recertification. An individual whose certificate has been revoked shall not be entitled to apply for recertification until at least one year following the effective date of revocation or for any longer period of time specified in the revocation order.

E. Reinstatement after suspension. The commissioner shall reinstate a suspended certificate if the individual whose certificate has been suspended fulfills the terms of the suspension order and meets all applicable requirements of the rules for obtaining a certificate.

Subp. 10. **Certification deadlines.** Individuals requiring certification who are employed as a chief facility operator or shift supervisor of a Class A or B waste combustor shall obtain certification by February 11, 1993. All other individuals employed on June 20, 1994, who require certification as described in this part shall obtain certification by June 20, 1996, or normal start–up of a waste combustor, whichever is later.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

7011.1285 OPERATING RECORDS AND REPORTS.

Subpart 1. **Scope.** The owner or operator of a waste combustor shall maintain records and submit reports as required in this part. The owner or operator of a waste combustor re-

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quired to obtain a permit under part 7007.0200, subpart 4, or 7007.0250, subpart 5, are also subject to the recordkeeping and reporting requirements in part 7007.0800, subparts 5 and 6. Records shall be retained for a minimum of five years.

Subp. 2. **Daily operating record.** The owner or operator shall maintain a daily record of the operation of the waste combustor. The record shall contain:

A. the calendar date;

B. the hours of operation;

C. the weight of solid waste combusted;

D. the weight of solid waste requiring disposal at a solid waste land disposal facility, including separated noncombustibles, excess solid waste, and ash;

E. the amount and description of industrial solid waste received each day, the generator's name, and the method of handling;

F. the measurements and determination of emissions averages as required in part 7011.1260, subpart 6;

G. results of performance tests conducted on waste combustor units as required in part 7011.1270;

H. instances of dumpstack use;

I. the names of persons who have completed initial review or subsequent annual review of the operating manual;

J. the reasons for exceeding any of the average emission rates, percent reductions, or operating parameters specified under part 7011.1260, subpart 6, item C, or the opacity limit and a description of corrective actions taken; and

K. reasons for not obtaining the minimum number of hours of sulfur dioxide or nitrogen oxides emissions or operational data (carbon monoxide emissions, steam flow or alternative unit load measurement parameter as described in part 7011.1265, subpart 4a, particulate matter control device temperature) and a description of corrective actions taken.

Subp. 3. **Quarterly reports.** The owner or operator of a Class I, II, III, A, B, C, or D waste combustor shall submit quarterly reports to the commissioner within 30 days after the quarter ending December 30, March 30, June 30, and September 30 of each year. The report shall contain the following items:

A. calendar date;

B. sulfur dioxide, nitrogen oxide, carbon monoxide emissions, and load level and particulate matter control device temperature as required by part 7011.1260, subpart 6, item C;

C. instances of dumpstack use;

D. the identification of operating days when any of the average emission rates, percent reductions, or operating parameters specified under part 7011.1260, subpart 6, item C, or the opacity level exceeded the applicable limits, with the reasons for such exceedances as well as a description of corrective actions taken;

E. the percent of the operating time for the quarter that the opacity CEMS was operating and collecting valid data;

F. the identification of operating days for which the minimum number of hours of sulfur dioxide or nitrogen oxides emissions or operational data (carbon monoxide emissions, steam flow or alternative unit load measurement parameter as described in part 7011.1265, subpart 4a, particulate matter control device temperature) have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

G. the results of daily sulfur dioxide, nitrogen oxides, and carbon monoxide CEMS drift tests and accuracy assessments as required in part 7011.1260, subpart 5;

H. the information required in subpart 2, items C, D, and E, summarized to reflect quarterly totals; and

I. a compliance certification as required in part 7007.0800, subpart 6, item C.

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Subp. 4. **Annual reports.** By April 30 of each year, the owner or operator of a Class IV waste combustor shall submit the following information to the commissioner in an annual report:

A. the information required in subpart 2 summarized to reflect annual totals;

B. a summary report of any excess emissions that occurred during the year; and

C. a compliance certification as required in part 7007.0800, subpart 6, item C.

Subp. 4a. **Annual report for Class C waste combustors.** By April 30 of each year, the owner or operator of a Class C waste combustor shall submit a plan to separate wastes which contain mercury, as required by part 7011.1255.

Subp. 5. **Initial compliance report.** Following the initial compliance test as required under part 7011.1270, the owner or operator of a waste combustor shall submit the initial compliance test data, the performance evaluation of the CEMS using the applicable performance specifications in part 7017.1000, and the maximum demonstrated capacity and particulate matter control device temperature established during the PCDD/PCDF testing.

Subp. 6. **Performance test reports.** The owner or operator shall submit a report containing the results of performance tests conducted to determine compliance with waste combustor unit emission limits whenever performance testing is conducted. The report shall be submitted within 14 days of the owner's or operator's receipt of the results of the performance test.

Statutory Authority: *MS s 116.07*

History: *18 SR 2584*

SEWAGE SLUDGE INCINERATORS

7011.1300 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.1300 to 7011.1325, the following words shall have the meanings defined herein.

Subp. 2. **Burning capacity.** "Burning capacity" means the manufacturer's or designer's maximum rate or such other rate that is considered good engineering practice and accepted by the commissioner.

Subp. 3. **Sewage sludge incinerator.** "Sewage sludge incinerator" means any furnace or other device used in the process of burning sludge produced by a sewage treatment facility.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1305 STANDARDS OF PERFORMANCE FOR EXISTING SEWAGE SLUDGE INCINERATORS.

No owner or operator of an existing sewage sludge incinerator shall cause to be discharged into the atmosphere from the sewage sludge incinerator any gases which:

A. contain particulate matter in excess of 0.3 gr/dscf corrected to 12 percent CO_2 if the incinerator has a burning capacity of less than 200 pounds per hour;

B. contain particulate matter in excess of 0.2 gr/dscf corrected to 12 percent CO_2 if the incinerator has a burning capacity of 200 to 2,000 pounds per hour;

C. contain particulate matter in excess of 0.1 gr/dsf corrected to 12 percent CO_2 if the incinerator has a burning capacity of greater than 2,000 pounds per hour.

No owner or operator of an existing sewage sludge incinerator shall cause to be discharged into the atmosphere from the incinerator any gases which exhibit greater than 20 percent opacity, except that a maximum of 40 percent opacity shall be permissible for four minutes in any 60–minute period.

No owner or operator of an existing sewage sludge incinerator shall operate such incinerator unless such incinerator utilizes auxiliary fuel burners that maintain a minimum temperature of 1,200 degrees Fahrenheit for a minimum retention time of 0.3 second or other method of odor control as approved by the commissioner.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

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7011.1310 STANDARDS OF PERFORMANCE FOR NEW SEWAGE SLUDGE INCINERATORS.

No owner or operator of a new sewage sludge incinerator shall cause to be discharged into the atmosphere from the incinerator any gases which:

A. contain particulate matter in excess of 0.65 g/kg dry sludge input (1.30 lb/ton dry sludge input); or

B. exhibit 20 percent opacity or greater.

No owner or operator of a new sewage sludge incinerator shall operate such incinerator unless such incinerator utilizes auxiliary fuel burners that maintain a minimum temperature of 1200 degrees Fahrenheit for a minimum retention time of 0.3 second or other method of odor control as approved by the commissioner.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1315 MONITORING OF OPERATIONS.

The owner or operator of any sewage sludge incinerator shall:

A. Install, calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall have an accuracy of plus or minus five percent over its operating range.

B. Provide access to the sludge charged so that a well–mixed representative grab sample of the sludge can be obtained.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1320 PERFORMANCE TEST METHODS.

Unless another method is approved by the agency, any owner or operator required to submit performance tests for a sewage sludge incinerator shall utilize the following methods:

A. Method 1 for sample and velocity traverses;

B. Method 2 for volumetric flow rate;

C. Method 3 for gas analysis; and

D. Method 5 for concentration of particulate matter and associated moisture content.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1325 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Sampling time for Method 5.** For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the agency.

Subp. 3. **Dry sludge charging rate.** Dry sludge charging rate shall be determined as follows:

A. Determine the mass (S_m) or volume (S_v) of sludge charged to the incinerator during each run using a flow measuring device meeting the requirements of part 7011.1315, item A. If total input during a run is measured by a flow measuring device, such readings shall be used. Otherwise, record the flow measuring device readings at five–minute intervals during a run. Determine the quantity charged during each interval by averaging the flow rates at the beginning and end of the interval and then multiplying the average for each interval by the time for each interval. Then add the quantity for each interval to determine the total quantity charged during the entire run, (S_m) or (S_v).

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B. Collect samples of the sludge charged to the incinerator in nonporous collecting jars at the beginning of each run and at approximately one–hour intervals thereafter until the test ends, and determine for each sample the dry sludge content (total solids residue) in accordance with "224 G. Method for Solid and Semisolid Samples," Standard Methods for the Examination of Water and Wastewater, Thirteenth Edition, American Public Health Association, Inc., New York, N.Y., 1971, pp. 539–41, except that:

(1) evaporating dishes shall be ignited to at least 103 degrees Celsius rather than the 550 degrees Celsius specified in step 3(a)(1);

(2) determination of volatile residue, step 3(b) may be deleted;

(3) the quantity of dry sludge per unit sludge charged shall be determined in terms of either R_{dv} (metric units: mg dry sludge/liter sludge charged or English units: lb/ft^3) or R_{dm} (metric units: mg dry sludge/mg sludge charged or English units: lb/lb).

C. Determine the quantity of dry sludge per unit sludge charged in terms of either R_{dv} or R_{dm}:

(1) If the volume of sludge charged is used:

$$S_d = (60 \times 10^{-3}) \frac{R_{dv}S_v}{T} \text{(Metric Units)}$$

or

$$S_d = (8.021) \frac{R_{dv}S_v}{T} \text{(English Units)}$$

where:

S_d = average dry sludge charging rate during the run, kg/hr (English units: lb/hr);

R_{dv} = average quantity of dry sludge per unit volume of sludge charged to the incinerator, mg/l (English units: lb/ft^3);

S_v = sludge charged to the incinerator during the run, m^3 (English units: gal);

T = duration of run, min (English units: min);

60×10^{-3} = metric units conversion factor, 1–kg–min/m_3–mg–hr;

8.021 = English units conversion factor, ft^3–min/gal–hr.

(2) If the mass of sludge charged is used:

$$S_d = (60) \frac{R_{dm}S_m}{T} \text{ (Metric or English Units)}$$

where:

S_d = average dry sludge charging rate during the run, kg/hr (English units: lb/hr);

R_{dm} = average ratio of quantity of dry sludge to quantity of sludge charged to the incinerator, mg/mg (English units: lb/lb);

S_m = sludge charged during the run, kg (English units: lb);

T = duration of run, min (metric or English units);

60 = conversion factor, min/hr (metric or English units).

Subp. 4. **Particulate emission rate.** Particulate emission rate shall be determined by:

$C_{aw} = C_sQ_3$ (metric or English units)

where:

C_{aw} = Particulate matter mass emissions, mg/hr (English units: lb/hr).

C_s = Particulate matter concentration, mg/m^3 (English units: lb/dscf).

Q_s = Volumetric stack gas flow rate, dscm/hr (English units: dscf/hr). Q_s and c_s shall be determined using methods 2 and 5, respectively.

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Subp. 5. **Compliance with standards.** Compliance with part 7011.1310 shall be determined as follows:

$$C_{ds} = (10^{-3}) \frac{C_{aw}}{S_d} \text{ (Metric Units)}$$

or

$$C_{ds} = (2000) \frac{C_{aw}}{S_d} \text{ (English Units)}$$

where:

C_{ds} = particulate emission discharge, g/kg dry sludge (English units: lb/ton dry sludge).

10^{-3} = Metric conversion factor, g/mg.

2,000 = English conversion factor, lb/ton.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.1350 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart O, as amended, entitled "Standards of Performance for Sewage Treatment Plants," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.153(e), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

PETROLEUM REFINERIES

7011.1400 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.1400 to 7011.1430 the following words shall have the meanings defined herein.

Subp. 2. **Coke burn–off.** "Coke burn–off" means the coke removed from the surface of the fluid catalytic cracking unit catalyst by combustion in the catalyst regenerator. The rate of coke burn–off is calculated by the formula specified in part 7011.1430, subpart 5.

Subp. 3. **Fossil fuel.** "Fossil fuel" means natural gas, petroleum, coal, wood, and any form of solid, liquid, or gaseous fuel derived from such materials.

Subp. 4. **Fuel gas.** "Fuel gas" means any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of a natural gas and fuel gas which is combusted.

Subp. 5. **Fuel gas combustion device.** "Fuel gas combustion device" means any equipment, such as process heaters, boilers, and flares used to combust fuel gas, but does not include fluid coking units and fluid catalytic cracking unit incinerator–waste heat boilers and facilities in which gases are combusted to produce sulfur or sulfuric acid.

Subp. 6. **Heat input.** "Heat input" means the number of Btu per hour (cal/hr) determined by multiplying the high heating value (Btu/lb) (cal/gm) of each fossil fuel or fuel gas that is fired in the indirect heating equipment or fuel gas combustion device (at the time of determining the heat input) times the rate of each fuel burned (lb/hr) (gm/hr).

Subp. 7. **High heating value.** "High heating value" means the number of (Btu/lb) (cal/gm) of a fossil fuel as determined by the A.S.T.M. test methods described in part 7011.0525.

Subp. 8. **Indirect heating equipment.** "Indirect heating equipment" means a furnace, boiler, or other unit of combustion equipment used in the process of burning fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the

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products of combustion do not have direct contact with the heated medium. "Indirect heating equipment" includes all fuel gas combustion devices which burn a liquid or solid fossil fuel but does not include fluid catalytic cracking unit incinerator–waste heat boilers, fluid coking units, and facilities in which gases are combusted to produce sulfur or sulfuric acid.

Subp. 9. **Petroleum.** "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Subp. 10. **Petroleum refinery.** "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oil, lubricants, or other products through distillation of petroleum or through redistillation, cracking, or reforming of unfinished petroleum derivatives. "Petroleum refinery" includes fluid catalytic cracking unit catalyst regenerators, fluid catalytic cracking unit incinerator–waste heat boilers, fuel gas combustion devices, and all indirect heating equipment associated with the refinery.

Subp. 11. **Process gas.** "Process gas" means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this part.

Subp. 12. **Process upset gas.** "Process upset gas" means any gas generated by a petroleum refinery process unit as a result of start–up, shutdown, upset, or malfunction.

Subp. 13. **Refinery process unit.** "Refinery process unit" means any segment of the petroleum refinery in which a specific processing operation is conducted.

Subp. 14. **Steam generating unit.** "Steam generating unit" means indirect heating equipment used to produce steam.

Statutory Authority: *MS s 116.07*

History: *18 SR 614*

7011.1405 STANDARDS OF PERFORMANCE FOR EXISTING AFFECTED FACILITIES AT PETROLEUM REFINERIES.

Subpart 1. **Fluid catalytic cracking unit catalyst regenerator and incinerator–waste heat boiler.** No owner or operator of an existing fluid catalytic cracking unit catalyst regenerator or its incinerator–waste heat boiler at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator or its incinerator–waste heat boiler any gases which:

A. contain particulate matter in excess of 10.0 lb/1000 lb (10.0 kg/1000 kg) of coke burn–off in the catalyst regenerator; or

B. exhibit greater than 30 percent opacity, except that 30 percent opacity may be exceeded for three minutes in any 60–minute period and except that this opacity standard shall not apply during periods of soot blowing.

If auxiliary liquid or solid fossil fuels are burned in the fluid catalytic cracking unit incinerator–waste heat boiler, particulate matter in excess of that permitted by item A may be emitted provided that the incremental rate of particulate emissions shall not exceed 0.4 pounds per million Btu (0.72 grams per million cal) of heat input attributable to such liquid or solid fossil fuel.

Subp. 2. **Fuel gas combustion device and indirect heating equipment.** No owner or operator of existing fuel gas combustion devices and indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such devices and equipment any gases which contain sulfur dioxide in excess of 1.75 pounds per million Btu (3.15 grams per million cal) heat input. The total emissions of sulfur dioxide from all existing fuel gas combustion devices and all indirect heating equipment shall be divided by the total heat input of all such devices and equipment to determine compliance with this section; provided that no owner or operator shall cause to be discharged from any one fuel gas combustion device or any one unit of indirect heating equipment any gases which contain sulfur dioxide in excess of 3.0 pounds per million Btu (5.4 grams per million cal) heat input.

Subp. 3. **Indirect heating equipment.** No owner or operator of existing indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which:

A. contain particulate matter in excess of 0.4 pounds per million Btu (0.72 grams per million cal) heat input; or

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B. exhibit greater than 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60–minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60–minute period.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1410 STANDARDS OF PERFORMANCE FOR NEW AFFECTED FACILITIES AT PETROLEUM REFINERIES.

Subpart 1. **Fluid catalytic cracking unit catalyst regenerator and incinerator–waste heat boiler.** No owner or operator of a new fluid catalytic cracking unit catalyst regenerator or its incinerator–waste heat boiler at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator or incinerator–waste heat boiler any gases which:

A. contain particulate matter in excess of 1.0 lb/1000 lb (1.0 kg/1000 kg) of coke burn–off in the catalyst regenerator; or

B. exhibit greater than 30 percent opacity, except that 30 percent opacity may be exceeded for three minutes in any 60–minute period.

If auxiliary liquid or solid fossil fuels are burned in the fluid catalytic cracking unit incinerator–waste heat boiler, particulate matter in excess of that permitted by item A may be emitted provided that the incremental rate of particulate emissions shall not exceed 0.1 pound per million Btu of heat input attributable to such liquid or solid fossil fuel.

No owner or operator of a new fluid catalytic cracking unit catalyst regenerator at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator any gases which contain carbon monoxide in excess of 0.050 percent by volume.

Subp. 2. **Fuel gas combustion device.** No owner or operator of a new fuel gas combustion device at a petroleum refinery shall burn in any such device any fuel gas which contains H_2S in excess of 0.10 gr/dscf, (230 mg/dscm) except as provided herein. The owner or operator may elect to treat the gases resulting from the combustion of fuel gas in a manner which limits the release of SO_2 to the atmosphere if it is shown to the satisfaction of the commissioner that this prevents SO_2 emissions as effectively as compliance with the H_2S restriction set forth above.

Subp. 3. **Indirect heating equipment.** Indirect heating equipment:

A. No owner or operator of new indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which contain sulfur dioxide in excess of 1.75 pounds per million Btu (3.15 grams per million cal) heat input. The total emissions of sulfur dioxide from all existing and new fuel gas combustion devices and indirect heating equipment shall be divided by the total heat input of all such devices and equipment to determine compliance with this part; provided that no owner or operator shall cause to be discharged from any one unit of new indirect heating equipment any gases which contain sulfur dioxide in excess of 3.0 pounds per million Btu (5.4 grams per million cal) heat input.

B. No owner or operator of new indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which:

(1) contain particulate matter in excess of 0.4 pounds per million Btu (0.72 grams per million cal) heat input; or

(2) exhibit greater than 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60–minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60–minute period.

C. The owner or operator of a new steam generating unit of more than 250 million Btu per hour (63 million cal per hour) heat input at a petroleum refinery shall comply with the following requirements:

(1) No gases shall be discharged from the steam generating unit which contain particulate matter in excess of 0.1 pounds per million Btu (0.18 grams per million cal) heat input.

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(2) No gases shall be discharged which exhibit greater than 20 percent opacity, except that a maximum of 40 percent opacity shall be permissible for two minutes in any hour.

(3) No gases shall be discharged which contain sulfur dioxide in excess of 0.80 pounds per million Btu (1.4 grams per million cal) heat input if a liquid fossil fuel is burned and 1.2 pounds per million Btu (2.2 grams per million cal) heat input if a solid fossil fuel is burned. When different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula:

$$x = \frac{y(0.8) + z(1.2)}{y + z}$$

where:

x is the maximum allowable emissions of sulfur dioxide gases in lbs/per million Btu;

y is the percentage of total heat input derived from liquid fossil fuel;

z is the percentage of total heat input derived from solid fossil fuel; and

Compliance shall be based on the total heat input from all fossil fuel burned including gaseous fuels.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1415 EXEMPTIONS.

The combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas which is released to the flare as a result of relief valve leakage, is exempt from the standards of performance set forth in these parts.

The standards of performance promulgated in parts 7011.1400 to 7011.1430 for indirect heating equipment shall not apply to indirect heating equipment at a petroleum refinery. Only those standards of performance for indirect heating equipment set forth in these parts shall apply to such equipment.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1420 EMISSION MONITORING.

Subpart 1. **Fluid catalytic cracking unit catalyst regenerators.** Fluid catalytic cracking unit catalyst regenerators:

A. Opacity.

(1) The owner or operator of any new fluid catalytic unit catalyst regenerator and the owner or operator of an existing fluid catalytic cracking unit catalyst regenerator for fluid bed catalyst cracking units of greater than 20,000 barrels per day fresh feed capacity shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of opacity of emissions discharged into the atmosphere from the regenerator.

(2) The continuous monitoring system shall be spanned at 60, 70, or 80 percent opacity.

B. Coke burn–off. The average coke burn–off rate (thousands of pounds per hour or thousands of kilograms per hour) and hours of operation of any fluid catalytic cracking unit catalyst regenerator shall be recorded daily.

Subp. 2. **Fuel gas combustion devices.** Fuel gas combustion devices:

A. Sulfur dioxide.

(1) The owner or operator of a new fuel gas combustion device at a petroleum refinery shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of sulfur dioxide in the gases discharged into the atmosphere.

(2) The pollutant gas used to prepare calibration gas mixtures and for calibration checks shall be sulfur dioxide (SO_2).

(3) The span shall be set at 100 ppm.

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(4) Reference Method 6 shall be used for conducting monitoring system performance specifications.

(5) For the purpose of reports under part 7019.2000, subpart 1, item B, periods of excess emissions that shall be reported are defined as any six–hour period during which the average emissions (arithmetic average of six continuous one–hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standards of performance in part 7011.1410.

B. Hydrogen sulfide. The owner or operator of a new fuel gas combustion device at a petroleum refinery may elect to install a continuous monitoring system for the measurement of hydrogen sulfide in the fuel gas instead of the sulfur dioxide monitor described in item A. The owner or operator shall notify the commissioner in writing of such election. The owner or operator who elects to install the hydrogen sulfide monitor shall not be required to do so until monitoring requirements for such a system are promulgated; provided, however, the commissioner may require the installation of a sulfur dioxide monitor under the provisions of part 7017.1000, subpart 1.

Subp. 3. **Incinerator waste heat boilers.** The owner or operator of any fluid catalytic cracking unit catalyst regenerator at a petroleum refinery which utilizes an incinerator–waste heat boiler to combust the exhaust gases from the catalyst regenerator shall record daily the rate of combustion of liquid or solid fossil fuels (gallons per hour or liters per hour, pounds per hour or kilograms per hour) and the hours of operation during which liquid or solid fossil fuels are combusted in the incinerator–waste heat boiler.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1425 PERFORMANCE TEST METHODS.

Subpart 1. **In general.** Unless another method is approved by the commissioner, any person required to submit performance tests for a petroleum refinery shall utilize the following test methods.

Subp. 2. **Gases released to atmosphere from fluid catalytic cracking unit catalyst regenerator.** For gases released to the atmosphere from the fluid catalytic cracking unit catalyst regenerator:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 5 for the concentration of particulate matter and moisture content;

D. Method 9 for visual determination of the opacity of emissions from stationary sources;

E. Method 10 for carbon monoxide.

Subp. 3. **Exhaust gases.** For exhaust gases from the fluid catalytic cracking unit catalyst regenerator prior to the emission control system:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate.

C. Method 3 for gas analysis;

D. Method 4 for moisture content.

Subp. 4. **Determination of concentration.** For determining the concentration of H_2S in any fuel gas, Method 11 shall be used.

Subp. 5. **Gases to atmosphere from combustion.** For gases released to the atmosphere from the combustion of fuel gas, fossil fuel, and the combination of fuel gas and fossil fuel:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 5 for the concentration of particulate matter and moisture content;

D. Method 6 for concentration of SO_{O2};

E. Method 9 for visual determination of the opacity of emissions from stationary sources.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

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7011.1430 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Sampling time.** For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm (0.53 dscf/min), except that shorter sampling times may be approved by the agency when process variable or other factors preclude sampling for at least 60 minutes.

Subp. 3. **Extraction rate.** For Method 10, the sample shall be extracted at a rate proportional to the gas velocity at a sampling point near the centroid of the duct. The sampling time shall not be less than 60 minutes.

Subp. 4. **Introduction of gases into sampling train.** For Method 11, when refinery fuel gas lines are operating at pressures substantially above atmospheric, the gases sampled must be introduced into the sampling train at approximately atmospheric pressure. This may be accomplished with a flow control valve. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line. The minimum sampling time shall be ten minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples shall constitute one run. Samples shall be taken at approximately one–hour intervals. For most fuel gases, sample times exceeding 20 minutes may result in depletion of the collecting solution, although fuel gases containing low concentrations of hydrogen sulfide may necessitate sampling for longer periods of time.

Subp. 5. **Sampling to determine SO_2 concentration.** The sampling site for determining SO_2 concentration by Method 6 shall be the same as for determining volumetric flow rate by Method 2. The sampling point in the duct for determining SO_2 concentration by Method 6 shall be at the centroid of the cross section if the cross sectional area is less than 5 m^2 (54 ft^2) or at a point no closer to the walls than 1 meter (39 inches) if the cross sectional area is 5 m^2 or more and the centroid is more than one meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be ten minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples shall constitute one run. Samples shall be taken at approximately one–hour intervals.

Subp. 6. **Coke burn–off rate.** Coke burn–off rate shall be determined by the following formula:

$$R_c = 0.2982\ Q_{re}\ (\%CO_2 + \%CO) + 2.088\ Q_{ra} - 0.0994\ Q_{re}\ (\%CO/2 + \%CO_2 + \%O_2) \text{ (metric units)}$$

$$R_c = 0.0186\ Q_{re}\ (\%CO_2 + \%CO) + 0.1303\ Q_{ra} - 0.0062\ Q_{re}\ (\%CO/2 + CO_2 + O_2) \text{ (English units)}$$

R_c = coke burn–off rate, kg/hr (English units lb/hr).

0.2982 = metric units material balance factor divided by 100, kg–min/hr–m^3;

0.0186 = English units material balance factor divided by 100, lb–min/hr–ft^3;

Q_{re} = fluid catalytic cracking unit catalyst regenerator exhaust gas flow rate before entering the emission control system, as determined by Method 2, dscm/min (English units: dscf/min);

$\%CO_2$ = percent carbon dioxide by volume, dry basis, as determined by Method 3;

%CO = percent carbon monoxide by volume, dry basis, as determined by Method 3;

$\%O_2$ = percent oxygen by volume, dry basis, as determined by Method 3;

2.088 = metric units material balance factor divided by 100, kg–min/hr–m^3;

0.1303 = English units material balance factor divided by 100, lb–min/hr–ft^3;

Q_{ra} = air rate to fluid catalytic cracking unit catalyst regenerator, as determined from fluid catalytic cracking unit control room instrumentation, dscm/min (English units: dscf/min);

0.0994 = metric units material balance factor divided by 100, kg–min/hr–m^3;

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0.0062 = English units material balance factor divided by 100, lb–min/hr–ft^3.

Subp. 7. **Particulate emissions.** Particulate emissions shall be determined by the following equation:

$R_e = (60 \times 10^{-6}) Q_{rv} C_x$ (metric units); or

$R_e = (8.57 \times 10^{-3}) Q_{rv} C_s$ (English units)

where:

R_e = particulate emission rate, kg/hr (English units: lb–hr);

60×10^{-6} = metric units conversion factor, min–kg/hr–gr;

8.57×10^{-3} = English units conversion factor, min–lb/hr.gr;

Q_{rv} = volumetric flow rate of gases discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator following the emission control system, as determined by Method 2, dscm/min (English units: dscf/min);

C_s = particulate emission concentration discharged in the atmosphere, as determined by Method 5, mg/dscm (English units: gr/dscf).

Subp. 8. **Coke burn–off.** For each run, emissions expressed in kg/1000 kg (lb/1000 lb) of coke burn–off in the catalyst regenerator shall be determined by the following equation:

$$R_s = 1000 \frac{R_e}{R_c} \text{(Metric or English Units)}$$

where:

R_s = particulate emission rate, kg/1000 kg (lb/1000 lb) of coke burn–off in the fluid catalytic cracking unit catalyst regenerator;

1000 = conversion factor, kg to 1000 kg (lb to 1000 lb);

R_e = particulate emission rate, kg/hr (lb/hr);

R_c = coke burn–off rate, kg/hr (lb/hr).

Subp. 9. **Rate of particulate matter emissions permitted.** In those instances in which auxiliary liquid or solid fossil fuels are burned in an incinerator–waste heat boiler, the rate of particulate matter emissions permitted must be determined. Auxiliary fuel heat input, expressed in millions of cal/hr (English units: millions of Btu/hr) shall be calculated for each run by fuel flow rate measurement and analysis of the liquid or solid auxiliary fossil fuels. For each run, the rate of particulate emissions permitted shall be calculated from the following equation:

New Affected Facilities		Existing Affected Facilities	
$R_a = 1.0 + \frac{0.18\ H}{R_c}$		$R_a = 10.0 + \frac{0.72\ H}{R_c}$	(Metric Units)
	or		
$R_a = 1.0 + \frac{0.10\ H}{R_c}$		$R_a = 10.0 + \frac{0.4\ H}{R_c}$	(English Units)

where:

R_a = allowable particulate emission rate, kg/1000 kg (English units: lb/1000 lb) of coke burn–off in the fluid catalytic cracking unit catalyst regenerator;

1.0 = emission standard for new affected facilities, 1.0 kg/1000 kg (English units: 1.0 lb/1000 lb) of coke burn–off in the fluid catalytic cracking unit catalyst regenerator;

10.0 = emission standard for existing affected facilities;

0.18 = metric units maximum allowable incremental rate of particulate emissions for new affected facilities gm/million cal;

0.10 = English units maximum allowable incremental rate of particulate emissions for new affected facilities, lb/million Btu;

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0.72 = metric units maximum allowable incremental rate of particulate emissions for existing affected facilities gm/million cal;

0.4 = English units maximum allowable incremental rate of particulate emissions for existing affected facilities, lb/million Btu;

H = heat input from solid or liquid fossil fuel, million cal/hr (English units: million Btu/hr);

R_c = coke burn–off rate, kg/hr (English units: lb/hr).

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.1435 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

The following New Source Performance Standards are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 60, subpart J, as amended, entitled "Standards of Performance for Petroleum Refineries," except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.105(a)(13)(iii) and 60.106(i)(12), are not delegated to the commissioner and must be made by the administrator.

B. Code of Federal Regulations, title 40, part 60, subpart GGG, as amended, entitled "Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.592(c), are not delegated to the commissioner and must be made by the administrator.

C. Code of Federal Regulations, title 40, part 60, subpart QQQ, as amended, entitled "Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.694, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

LIQUID PETROLEUM AND VOLATILE ORGANIC LIQUID STORAGE VESSELS

7011.1500 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.1500 to 7011.1515 the following words shall have the meanings defined herein.

Subp. 2. **Condensate.** "Condensate" means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.

Subp. 3. **Custody transfer.** "Custody transfer" means the transfer of produced petroleum and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

Subp. 4. **Drilling and production facility.** "Drilling and production facility" means all drilling and servicing equipment, wells, flow lines, separators, equipment, gathering lines, and auxiliary nontransportation related equipment used in the production of petroleum but does not include natural gasoline plants.

Subp. 5. **Floating roof.** "Floating roof" means a storage vessel cover consisting of a double deck, pontoon single deck, internal floating cover, or covered floating roof, which rests upon and is supported by the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank wall.

Subp. 6. **Hydrocarbon.** "Hydrocarbon" means any organic compound consisting predominantly of carbon and hydrogen.

Subp. 7. **Petroleum.** "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

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Subp. 8. **Petroleum liquids.** "Petroleum liquids" means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean number 2 through number 6 fuel oils as specified in A.S.T.M. D396–69, gas turbine fuel oils Numbers 2–GT through 4–GT as specified in A.S.T.M. D2880–71, or diesel fuel oils Numbers 2–D and 4–D as specified in A.S.T.M. D975–68.

Subp. 9. **Petroleum refinery.** "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking, or reforming of unfinished petroleum derivatives.

Subp. 10. **Reid vapor pressure.** "Reid vapor pressure" is the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids, except liquefied petroleum gases, as determined by A.S.T.M.–D–323–58 (reapproved 1968).

Subp. 11. **Storage vessel.** "Storage vessel" means any tank, reservoir, or container used for the storage of petroleum liquids, but does not include:

A. pressure vessels which are designed to operate in excess of 15 pounds per square inch gauge without emissions to the atmosphere except under emergency conditions;

B. subsurface caverns or porous rock reservoirs; or

C. underground tanks if the total volume of petroleum liquids added to and taken from a tank annually does not exceed twice the volume of the tank.

Subp. 12. **Submerged fill pipe.** "Submerged fill pipe" means any fill pipe the discharge opening of which is entirely submerged when the liquid level is six inches above the bottom of the storage vessel. When applied to a storage vessel which is loaded from the side, "submerged fill pipe" means any fill pipe the discharge opening of which is entirely submerged when filling except for filling after the vessel has been emptied for cleaning and repairs.

Subp. 13. **True vapor pressure.** "True vapor pressure" means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss from Floating Roof Tanks, 1962.

Subp. 14. **Vapor recovery system.** "Vapor recovery system" means a vapor gathering system capable of collecting all hydrocarbon vapors and gases discharged from the storage vessel and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to prevent their emission to the atmosphere.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1505 STANDARDS OF PERFORMANCE FOR STORAGE VESSELS.

Subpart 1. **Pre–1969 storage vessels.** There are no standards of performance promulgated in this rule for storage vessels for which construction was commenced prior to July 7, 1969.

Subp. 2. **July 7, 1969 to June 11, 1973 storage vessels.** July 7, 1969 to June 11, 1973:

A. There are no standards of performance promulgated in this rule for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced after July 7, 1969, but prior to June 11, 1973.

B. The owner or operator of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters) but less than or equal to 65,000 gallons (246,405 liters) for which construction was commenced after July 7, 1969, but prior to June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of subpart 3, item C.

C. The owner or operator of any storage vessel with a storage capacity of greater than 65,000 gallons (246,405 liters) for which construction was commenced after July 7, 1969, but prior to June 11, 1973, shall comply with the following requirements:

(1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 128 mm Hg (2.5 psia) but not greater than 642 mm Hg (12.5 psia) the storage vessel shall be equipped with a floating roof, a vapor recovery system or their equivalents.

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(2) If the true vapor pressure of the petroleum liquid, as stored, is greater than 642 mm Hg (12.5 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent.

Subp. 3. **Post–June 11, 1973 storage vessels.** Post–June 11, 1973:

A. There are no standards of performance promulgated in this part for storage vessels with a storage capacity of 2,000 gallons (7,571 liters) or less for which construction was commenced on or after June 11, 1973.

B. The owner or operator of any storage vessel with a storage capacity of greater than 2,000 gallons (7,571 liters) but less than or equal to 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall equip the storage vessel with a permanent submerged fill pipe or comply with the requirements of item C.

C. The owner or operator of any storage vessel with a storage capacity of greater than 40,000 gallons (151,412 liters) for which construction was commenced on or after June 11, 1973, shall comply with the following requirements:

(1) If the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a floating roof, a vapor recovery system, or their equivalents.

(2) If the true vapor pressure of the petroleum liquid as stored is greater than 570 mm Hg (11.1 psia), the storage vessel shall be equipped with a vapor recovery system or its equivalent.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1510 MONITORING OF OPERATIONS.

Subpart 1. **Records.** The owner or operator of any storage vessel, the construction or modification of which commenced on or after June 11, 1973, which has a storage capacity of greater than 40,000 gallons (151,412 liters) shall for each storage vessel:

A. maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored, of the dates of storage and withdrawals, and of the date on which the storage vessel is empty;

B. determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if:

(1) the petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than one equipped with a floating roof, a vapor recovery system or their equivalents; or

(2) the petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg (9.1 psia) and is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent.

Subp. 2. **Calculation.** The average monthly storage temperature is an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days.

Subp. 3. **Vapor pressure determination.** The true vapor pressure shall be determined by the procedure in American Petroleum Institute Bulletin 2517. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the agency or the commissioner requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, that Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available on request of the agency or the commissioner when typical Reid vapor pressure is used.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

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7011.1515 EXCEPTION.

The provisions of parts 7011.1500 to 7011.1515 do not apply to storage vessels for petroleum or condensate stored, processed, or treated at a drilling and production facility prior to custody transfer.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1520 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

The following New Source Performance Standards are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 60, subpart K, as amended, entitled "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978."

B. Code of Federal Regulations, title 40, part 60, subpart Ka, as amended, entitled "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.114a, are not delegated to the commissioner and must be made by the administrator.

C. Code of Federal Regulations, title 40, part 60, subpart Kb, as amended, entitled "Standards of Performance for Volatile Organic Liquid Storage Vessels (including petroleum liquid storage vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984," except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

BULK GASOLINE TERMINALS

7011.1550 STANDARDS OF PERFORMANCE FOR NEW BULK GASOLINE TERMINALS.

Code of Federal Regulations, title 40, part 60, subpart XX, as amended, entitled "Standards of Performance for Bulk Gasoline Terminals," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

SULFURIC ACID PLANTS

7011.1600 DEFINITIONS.

As used in parts 7011.1600 to 7011.1700 the following words shall have the meanings defined herein:

A. Acid mist. "Acid mist" means sulfuric acid mist as measured by Method 8.

B. Sulfuric acid production unit. "Sulfuric acid production unit" means any emission facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.1605 STANDARDS OF PERFORMANCE OF EXISTING SULFURIC ACID PRODUCTION UNITS.

Subpart 1. **Pre–July 1, 1977 limit.** Prior to July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which contain sulfur dioxide in excess of 42 pounds per ton of acid produced (21 kg per metric ton), production being expressed as 100 percent H_2SO_4.

Subp. 2. **Post–July 1, 1977 limit.** After July 1, 1977, no owner or operator of an existing sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which contain sulfur dioxide in excess of 30 pounds per ton of acid produced (15 kg per metric ton), production being expressed as 100 percent H_2SO_4.

Subp. 3. **Acid mist.** No owner or operator of an existing sulfuric acid production unit shall cause to be discharged into the atmosphere from any sulfuric acid production unit any gases which contain acid mist, expressed as H_2SO_4, in excess of 1.70 pounds per ton of acid produced (0.85 kg per metric ton), the production being expressed as 100 percent H_2SO_4.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1610 [Repealed, 18 SR 580]

7011.1615 CONTINUOUS EMISSION MONITORING.

Subpart 1. **Instrumentalities.** The owner or operator of a sulfuric acid production unit shall install, calibrate, maintain, and operate an instrument for continuously monitoring and recording emissions of sulfur dioxide.

Subp. 2. **Calibration.** The pollutant gas used to prepare calibration gas mixtures and for calibration check shall be sulfur dioxide.

Subp. 3. **Method 8.** When conducting monitoring system performance evaluations only the sulfur dioxide portion of the Method 8 results shall be used.

Subp. 4. **Span set.** The span shall be set at 1,000 ppm of sulfur dioxide.

Subp. 5. **Conversion factor.** The owner or operator of a sulfuric acid production unit shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999–AP–13) and calculating the appropriate conversion factor for each eight–hour period as follows:

$$CF = k\left[\frac{1{,}000 - 0.015r}{r-s}\right]$$

where:

CF = conversion factor (kg/metric ton per ppm, lb/short ton per ppm).

k = constant derived from material balance. For determining CF in metric units, k = 0.0653. For determining CF in English units, k = 0.1306.

r = percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection.

s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under subpart 1.

Subp. 6. **Record of conversion factors.** The owner or operator of a sulfuric acid production unit shall record all conversion factors and values under subpart 5, i.e., CF, r, and s.

Subp. 7. **Record of production data.** The owner or operator of a sulfuric acid production unit shall record daily the production rate and hours of operation.

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Subp. 8. **Periods of excess emissions.** For the purpose of reports under part 7019.2000, subpart 1, item B, periods of excess emissions shall be all three–hour periods (or the arithmetic average of three consecutive one–hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under these parts.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1620 PERFORMANCE TEST METHODS.

Unless another method is approved by the commissioner, any person required to submit performance tests for a sulfuric acid production unit shall utilize the following test methods:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 3 for gas analysis; and

D. Method 8 for the concentrations of SO_2 and acid mist.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1625 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Sampling time and volume.** In testing for sulfur dioxide and acid mist, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 40.6 dscf (1.15 dscm) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the agency.

Subp. 3. **Acid production rate.** Acid production rate, expressed in tons per hour of 100 percent H_2SO_4, shall be determined during each testing period by a suitable method approved by the agency. The agency may require the production rate to be confirmed by a material balance over the production system.

Subp. 4. **Acid mist and sulfur dioxide emissions.** Unless the commissioner approves another method, acid mist and sulfur dioxide emissions, expressed in pounds per ton (kg/metric ton) of 100 percent $H_2\ SO_4$, shall be determined by dividing the emission rate in lb/hr (kg/hr) by the acid production rate. The emission rate shall be determined by the equation, Q_s x c = lb/hr (kg/hr), where Q_s = volumetric flow rate of the effluent in dscf/hr (dscm/hr) as determined in accordance with part 7011.1620, item B, and c = acid mist and sulfur dioxide concentrations in lb/dscf (kg/dscm) as determined in accordance with part 7011.1620, item D.

Statutory Authority: *MS s 116.07*

History: *L 1987 c 186 s 15; 18 SR 614; 18 SR 1412*

7011.1630 EXCEPTIONS.

Shutdowns and breakdowns of control equipment at any sulfuric acid production unit shall be governed by the provisions of part 7019.1000.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.1635 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart H, as amended, entitled "Standards of Performance for Sulfuric Acid Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

NITRIC ACID PLANTS

7011.1700 DEFINITIONS.

As used in parts 7011.1700 to 7011.1725 the following words shall have the meanings defined herein:

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A. "Nitric acid production unit" means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

B. "Weak nitric acid" means acid which is 30 to 70 percent in strength.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1705 STANDARDS OF PERFORMANCE FOR EXISTING NITRIC ACID PRODUCTION UNITS.

Prior to July 1, 1977, no owner or operator of an existing nitric acid production unit shall cause to be discharged into the atmosphere from any nitric acid production unit any gases which contain nitrogen oxides, expressed as NO_2, in excess of 50 pounds per ton of acid produced (25 kg per metric ton), the production being expressed as 100 percent nitric acid.

After July 1, 1977, no owner or operator of an existing nitric acid production unit shall cause to be discharged into the atmosphere from any nitric acid production unit any gases which contain nitrogen oxides, expressed as NO_2, in excess of 40 pounds per ton of acid produced (20 kg per metric ton), the production being expressed as 100 percent nitric acid.

No owner or operator of an existing nitric acid production unit shall cause to be discharged into the atmosphere from any nitric acid production unit any gases which exhibit greater than ten percent opacity.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1710 [Repealed, 18 SR 580]

7011.1715 EMISSION MONITORING.

The owner or operator of a nitric acid production unit shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement and recording of nitrogen oxides emissions.

The pollutant gas used to prepare calibration gas mixtures and for calibration checks shall be nitrogen dioxide (NO_2).

Reference Method 7 shall be used for conducting monitoring system performance evaluations.

The span shall be set at 500 ppm of nitrogen dioxide.

The owner or operator of a nitric acid plant shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable Reference Method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standards to units of the monitoring data, i.e., (kg/metric ton per ppm, lb/ton per ppm). The conversion factor shall be reestablished during any performance test or any continuous monitoring system performance evaluation.

The owner or operator of a nitric acid production unit shall record the daily production rate and hours of operation.

For the purpose of reports under part 7019.2000, subpart 1, item B, periods of excess emissions that shall be reported are defined as any three–hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous one–hour periods) are measured by a continuous monitoring system exceed the applicable standards under part 7011.1705.

Statutory Authority: *MS s 116.07*

History: *18 SR 580; 18 SR 614*

7011.1720 PERFORMANCE TEST METHODS.

Unless another method is approved by the commissioner, any person required to submit performance tests for a nitric acid production unit shall utilize the following test methods:

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A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 3 for gas analysis; and

D. Method 7 for the concentration of NO_2.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.1725 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Special procedures.** For Method 7, the same site shall be selected according to Method 1 and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 meter (3.28 feet). Each run shall consist of at least four grab samples taken at approximately 15-minute intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.

Acid production rate, expressed in metric tons per hour of 100 percent nitric acid, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.

For each run, nitrogen oxides, expressed in lb/ton of 100 percent nitric acid (kg/metric ton), shall be determined by dividing the emission rate in lb/hr (kg/hr) by the acid production rate. The emission rate shall be determined by the equation:

$Q_s \times c$ = lb/hr (kg/hr)

where Q_s = volumetric flow rate of the effluent in dscf/hr (dscm/hr), as determined in accordance with part 7011.1720, item B, and c = NO_2 concentration in lb/dscf (kg/dscm), as determined in accordance with part 7011.1720, item D.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.1730 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart G, as amended, entitled "Standards of Performance for Nitric Acid Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.1800 [Repealed, 18 SR 580]

7011.1805 [Repealed, 18 SR 580]

7011.1810 [Repealed, 18 SR 580]

7011.1815 [Repealed, 18 SR 580]

LEAD SMELTERS

7011.1820 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

The following New Source Performance Standards are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 60, subpart L, as amended, entitled "Standards of Performance for Secondary Lead Smelters."

B. Code of Federal Regulations, title 40, part 60, subpart R, as amended, entitled "Standards of Performance for Primary Lead Smelters."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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COPPER SMELTERS

7011.1840 STANDARDS OF PERFORMANCE FOR NEW PRIMARY COPPER SMELTERS.

Code of Federal Regulations, title 40, part 60, subpart P, as amended, entitled "Standards of Performance for Primary Copper Smelters," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

ZINC SMELTERS

7011.1880 STANDARDS OF PERFORMANCE FOR NEW PRIMARY ZINC SMELTERS.

Code of Federal Regulations, title 40, part 60, subpart Q, as amended, entitled "Standards of Performance for Primary Zinc Smelters," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

SECONDARY BRASS AND BRONZE INGOT PRODUCTION PLANTS

7011.1900 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.1900 to 7011.1915, the following words shall have the meanings defined herein.

Subp. 2. **Blast furnace.** "Blast furnace" means any furnace used to recover metal from slag.

Subp. 3. **Brass or bronze.** "Brass or bronze" means any metal alloy containing copper as its predominant constituent, and lesser amounts of zinc, tin, lead, or other metals.

Subp. 4. **Brass or bronze ingot production plant.** "Brass or bronze ingot production plant" means any facility producing brass or bronze from a copper alloy–bearing scrap material by smelting to the metallic form.

Subp. 5. **Electric furnace.** "Electric furnace" means any furnace which uses electricity to produce over 50 percent of the heat required in the production of refined brass or bronze.

Subp. 6. **Reverberatory furnace.** "Reverberatory furnace" includes the following types of reverberatory furnaces: stationary, rotating, rocking, and tilting.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1905 STANDARDS OF PERFORMANCE FOR SECONDARY BRASS AND BRONZE INGOT PRODUCTION PLANTS.

No owner or operator of a secondary brass or bronze ingot production plant shall cause to be discharged into the atmosphere from a reverberatory furnace any gases which:

A. contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf);

B. exhibit 20 percent opacity or greater.

No owner or operator of a secondary brass or bronze ingot production plant shall cause to be discharged into the atmosphere from any electric furnace of 1,000 kg (2,205 lbs) or greater production capacity any gases which exhibit ten percent opacity or greater.

No owner or operator of a secondary brass or bronze ingot production plant shall cause to be discharged into the atmosphere from any blast (cupola) furnace of 250 kg/hr (550 lb/hr) or greater production capacity any gases which exhibit ten percent opacity or greater.

No owner or operator of a secondary brass or bronze ingot production plant shall cause to be discharged into the atmosphere from any electric furnace of less than 1,000 kg (2,205 lbs) production capacity or any blast (cupola) furnace of less than 250 kg/hr (550 lb/hr) pro-

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duction capacity any gases which exceed the limits of parts 7011.0700 to 7011.0735 for particulate emissions, and exhibit 20 percent opacity or greater.

Statutory Authority: *MS s 116.07*

History: *18 SR 614*

7011.1910 PERFORMANCE TEST METHODS.

Unless another method is approved by the agency, any owner or operator required to submit performance tests for a brass or bronze ingot production plant shall utilize the following test methods:

A. Method 1 for sample and velocity traverses;

B. Method 2 for velocity and volumetric flow rate;

C. Method 3 for gas analysis;

D. Method 5 for the concentration of particulate matter and the associated moisture content.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.1915 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Special procedures.** In testing for the concentration of particulate matter and the associated moisture content, the minimum sampling time for each run shall be at least 120 minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the agency. Particulate matter sampling shall be conducted during representative periods of charging and refining, but not during pouring of the heat.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.1920 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

Code of Federal Regulations, title 40, part 60, subpart M, as amended, entitled "Standards of Performance for Secondary Brass and Bronze Production Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

IRON AND STEEL PLANTS

7011.2000 DEFINITIONS.

Subpart 1. **Scope.** As used in parts 7011.2000 to 7011.2015, the following words shall have the meanings defined herein.

Subp. 2. **Basic oxygen process furnace.** "Basic oxygen process furnace (BOPF)" means any furnace producing steel by charging scrap metal, hot metal, and flux materials into a vessel and introducing a high volume of an oxygen–rich gas.

Subp. 3. **Steel production cycle.** "Steel production cycle" means the operations required to produce each batch of steel and includes the following major functions: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, additional oxygen blowing (when used), and tapping.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.2005 STANDARDS OF PERFORMANCE FOR IRON AND STEEL PLANTS.

No owner or operator of an iron and steel plant shall cause to be discharged into the atmosphere from any basic oxygen process furnace any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.2010 PERFORMANCE TEST METHODS.

Unless another method is approved by the agency, any owner or operator required to submit performance tests for an iron and steel plant shall utilize the following test methods:

A. Method 1 for sample and velocity traverses;

B. Method 2 for volumetric flow rate;

C. Method 3 for gas analysis;

D. Method 5 for concentration of particulate matter and associated moisture content.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.2015 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.** Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Special procedures.** In testing for the concentration of particulate matter and the associated moisture content, the sampling for each run shall continue for an integral number of steel production cycles with total duration of at least 60 minutes. The sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the agency. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping.

Statutory Authority: *MS s 116.07*

History: *18 SR 614; 18 SR 1412*

7011.2020 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

The following New Source Performance Standards are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 60, subpart N, as amended, entitled "Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973."

B. Code of Federal Regulations, title 40, part 60, subpart Na, as amended, entitled "Standards of Performance for Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983."

C. Code of Federal Regulations, title 40, part 60, subpart AA, as amended, entitled "Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and on or Before August 17, 1983."

D. Code of Federal Regulations, title 40, part 60, subpart AAa, as amended, entitled "Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon–Oxygen Decarburization Vessels Constructed After August 7, 1983."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

PRIMARY ALUMINUM REDUCTION PLANTS

7011.2050 STANDARDS OF PERFORMANCE FOR NEW PRIMARY ALUMINUM REDUCTION PLANTS.

Code of Federal Regulations, title 40, part 60, subpart S, as amended, entitled "Standards of Performance for Primary Aluminum Reduction Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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FERROALLOY PRODUCTION FACILITIES

7011.2080 STANDARDS OF PERFORMANCE FOR NEW FERROALLOY PRODUCTION FACILITIES.

Code of Federal Regulations, title 40, part 60, subpart Z, as amended, entitled "Standards of Performance for Ferroalloy Production Facilities," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

EMISSION STANDARDS FOR INORGANIC FIBROUS MATERIALS

7011.2100 DEFINITIONS.

Subpart 1. **Scope.** The following definitions of words and phrases are controlling for purposes of parts 7011.2100 and 7011.2105.

Subp. 2. **Inorganic fibrous material.** "Inorganic fibrous material" means glass fibers, glass wool, rock wool, and aluminum oxide fibers having a length–to–diameter ratio of equal to or greater than three to one.

Subp. 3. **Spraying.** "Spraying" means an operation in which material is conveyed in the form of, or by the means of, a fluid stream from an application device to a receiving surface.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.2105 SPRAYING OF INORGANIC FIBROUS MATERIALS.

The spraying on any portion of a building or structure open to the outdoor atmosphere of any acoustical insulating, thermal insulating, or fireproofing product which does not contain asbestos but which contains inorganic fibrous material shall occur only under the following procedures:

A. The entire floor area where the spraying is to occur shall be enclosed with plastic–coated tarpaulins or by other means in a manner which shall prevent the escape of sprayed material from the enclosure. All interior areas, such as elevator shafts and stairwells, shall be enclosed in a manner which shall prevent the escape of sprayed material from the working area.

B. The entire area in which spraying has occurred, including all ledges, surfaces, equipment, and protective tarpaulins within the enclosure, shall be thoroughly cleaned by means of scraping, sweeping, vacuuming, or other acceptable methods upon completion of the spraying operation and before the enclosure is dismantled; provided, however, that all such cleaning procedures shall be followed by thorough vacuuming. The collected material shall be placed in a sealed container or bag strong enough to resist breaking and tearing under normal handling conditions and shall be transported directly to a disposal site approved by the commissioner.

C. All areas for opening containers of the material to be sprayed and for loading the material to be sprayed into hoppers, or other containers shall be enclosed in a manner which shall prevent the escape of the material to be sprayed to the outdoor atmosphere.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

PROCESSING ANIMAL MATTER

7011.2200 DEFINITION: REDUCTION OF ANIMAL MATTER.

For purposes of parts 7011.2200 to 7011.2220 the word "reduction" is defined as any heated process, including rendering, cooking, drying, dehydrating, digesting, evaporating, and protein concentrating. "Animal matter" is defined as any product or derivative of animal life.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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7011.2205 SCOPE.

The provisions of parts 7011.2200 to 7011.2220 shall not apply to any device, machine, equipment, or other contrivance used exclusively for the processing of food for human consumption in food service establishments.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.2210 FOOD SERVICE ESTABLISHMENT.

A food service establishment shall include: any fixed or mobile restaurant; coffee shop; cafeteria; short–order cafe; luncheonette; grill; tearoom; sandwich shop; soda fountain; tavern; bar; cocktail lounge; night club; roadside stand; industrial feeding establishment; private, public, or nonprofit organization or institution routinely serving food; catering kitchen, commissary, or similar place in which food or drink is placed for sale or for service on the premises or elsewhere; and any other eating or drinking establishment or operation where food is served or provided for the public with or without charge.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.2215 [Repealed, 21 SR 693]

7011.2220 OTHER ODOR CONTROL MEASURES REQUIRED.

Subpart 1. **Installation and operation of devices and measures.** Effective devices and measures shall be installed and operated such that no vent, exhaust pipe, blowoff pipe, or opening of any kind shall discharge into the outdoor air any odorous matter, vapors, gases, dusts, or any combination thereof which create odors or other nuisances in the neighborhood of the plant.

Subp. 2. **Storage and handling of materials.** Odor–producing materials shall be stored and handled in such a manner that odors produced from such materials are confined. Accumulation of odor–producing materials resulting from spillage or other escape is prohibited.

Subp. 3. **Confinement.** Odor–bearing gases, vapors, fumes, or dusts arising from materials in process shall be confined at the point of origin so as to prevent liberation of odorous matter. Confined gases, vapors, fumes, or dusts shall be treated before discharge to the atmosphere, as required in subpart 1.

Subp. 4. [Repealed, 21 SR 693]

Statutory Authority: *MS s 116.07*

History: *L 1987 c 186 s 15; 18 SR 614; 21 SR 693*

STATIONARY INTERNAL COMBUSTION ENGINES

7011.2300 STANDARDS OF PERFORMANCE FOR STATIONARY INTERNAL COMBUSTION ENGINES.

Subpart 1. **Visible air contaminants.** No owner or operator of any stationary internal combustion engine shall cause or permit the emission of visible air contaminants from the engine in excess of 20 percent opacity for more than ten consecutive seconds once operating temperatures have been obtained.

Subp. 2. **Sulfur dioxide.** No owner or operator of any stationary internal combustion engine shall cause to be discharged into the atmosphere from the engine any gases which contain sulfur dioxide in excess of 1.75 pounds per million Btu actual heat input if the engine is located in the Minneapolis–Saint Paul air quality control region or if the engine is located outside the Minneapolis–Saint Paul air quality control region but has a total rated heat input greater than 250 million Btu per hour.

Subp. 3. **Heat input.** The actual heat input and rated heat input of an internal combustion engine shall be determined in accordance with the provisions set forth in parts 7011.0500 to 7011.0550.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

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STATIONARY GAS TURBINES

7011.2350 STANDARDS OF PERFORMANCE FOR NEW STATIONARY GAS TURBINES.

Code of Federal Regulations, title 40, part 60, subpart GG, as amended, entitled "Standards of Performance for Stationary Gas Turbines," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.332(a)(3) and 60.335(a), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

PHOSPHATE FERTILIZER INDUSTRY

7011.2400 STANDARDS OF PERFORMANCE FOR PHOSPHATE FERTILIZER INDUSTRY.

The following New Source Performance Standards are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 60, subpart T, as amended, entitled "Standards of Performance for the Phosphate Fertilizer Industry: Wet–Process Phosphoric Acid Plants."

B. Code of Federal Regulations, title 40, part 60, subpart U, as amended, entitled "Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants."

C. Code of Federal Regulations, title 40, part 60, subpart V, as amended, entitled "Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants."

D. Code of Federal Regulations, title 40, part 60, subpart W, as amended, entitled "Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants."

E. Code of Federal Regulations, title 40, part 60, subpart X, as amended, entitled "Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

KRAFT PULP MILLS

7011.2450 STANDARDS OF PERFORMANCE FOR NEW KRAFT PULP MILLS.

Code of Federal Regulations, title 40, part 60, subpart BB, as amended, entitled "Standards of Performance for Kraft Pulp Mills," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

GLASS MANUFACTURING PLANTS

7011.2500 STANDARDS OF PERFORMANCE FOR NEW GLASS MANUFACTURING PLANTS.

Code of Federal Regulations, title 40, part 60, subpart CC, as amended, entitled "Standards of Performance for Glass Manufacturing Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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SURFACE COATING

7011.2550 STANDARDS OF PERFORMANCE FOR SURFACE COATING OF METAL FURNITURE.

Code of Federal Regulations, title 40, part 60, subpart EE, as amended, entitled "Standards of Performance for Surface Coating of Metal Furniture," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.2555 STANDARDS OF PERFORMANCE FOR AUTOMOBILE AND LIGHT-DUTY TRUCK SURFACE COATING OPERATIONS.

Code of Federal Regulations, title 40, part 60, subpart MM, as amended, entitled "Standards of Performance for Automobile and Light-Duty Truck Surface Coating Operations," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.2560 STANDARDS OF PERFORMANCE FOR PRESSURE SENSITIVE TAPE AND LABEL SURFACE COATING OPERATIONS.

Code of Federal Regulations, title 40, part 60, subpart RR, as amended, entitled "Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.2565 STANDARDS OF PERFORMANCE FOR INDUSTRIAL SURFACE COATING: LARGE APPLIANCES.

Code of Federal Regulations, title 40, part 60, subpart SS, as amended, entitled "Standards of Performance for Industrial Surface Coating: Large Appliances," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.2570 STANDARDS OF PERFORMANCE FOR METAL COIL SURFACE COATING.

Code of Federal Regulations, title 40, part 60, subpart TT, as amended, entitled "Standards of Performance for Metal Coil Surface Coating," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.2575 STANDARDS OF PERFORMANCE FOR THE BEVERAGE CAN SURFACE COATING INDUSTRY.

Code of Federal Regulations, title 40, part 60, subpart WW, as amended, entitled "Standards of Performance for the Beverage Can Surface Coating Industry," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.496(a)(1), and the last sentence of Code of Federal Regulations, title 40, section 60.493(b)(2)(i)(A), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.2580 STANDARDS OF PERFORMANCE FOR INDUSTRIAL SURFACE COATING: SURFACE COATING OF PLASTIC PARTS FOR BUSINESS MACHINES.

Code of Federal Regulations, title 40, part 60, subpart TTT, as amended, entitled "Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for

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Business Machines," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.723(b)(1), 60.723(b)(2)(i)(C), 60.723(b)(2)(iv), 60.724(e), and 60.725(b), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

LIME MANUFACTURING PLANTS

7011.2600 STANDARDS OF PERFORMANCE FOR NEW LIME MANUFACTURING PLANTS.

Code of Federal regulations, title 40, part 60, subpart HH, as amended, entitled "Standards of Performance for Lime Manufacturing Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

LEAD–ACID BATTERY MANUFACTURING PLANTS

7011.2650 STANDARDS OF PERFORMANCE FOR NEW LEAD–ACID BATTERY MANUFACTURING PLANTS.

Code of Federal Regulations, title 40, part 60, subpart KK, as amended, entitled "Standards of Performance for Lead–Acid Battery Manufacturing Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

METALLIC MINERAL PROCESSING PLANTS

7011.2700 STANDARDS OF PERFORMANCE FOR NEW METALLIC MINERAL PROCESSING PLANTS.

Code of Federal Regulations, title 40, part 60, subpart LL, as amended, entitled "Standards of Performance for Metallic Mineral Processing Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

PHOSPHATE ROCK PLANTS

7011.2750 STANDARDS OF PERFORMANCE FOR NEW PHOSPHATE ROCK PLANTS.

Code of Federal Regulations, title 40, part 60, subpart NN, as amended, entitled "Standards of Performance for Phosphate Rock Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

AMMONIUM SULFATE MANUFACTURE

7011.2800 STANDARDS OF PERFORMANCE FOR AMMONIUM SULFATE MANUFACTURE.

Code of Federal Regulations, title 40, part 60, subpart PP, as amended, entitled "Standards of Performance for Ammonium Sulfate Manufacture," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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GRAPHIC ARTS INDUSTRY

7011.2850 STANDARDS OF PERFORMANCE FOR PUBLICATION ROTOGRAVURE PRINTING.

Code of Federal Regulations, title 40, part 60, subpart QQ, as amended, entitled "Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY

7011.2900 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

The following New Source Performance Standards are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 60, subpart VV, as amended, entitled "Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.482–1(c)(2), are not delegated to the commissioner and must be made by the administrator.

B. Code of Federal Regulations, title 40, part 60, subpart III, as amended, entitled "Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.613(e), are not delegated to the commissioner and must be made by the administrator.

C. Code of Federal Regulations, title 40, part 60, subpart NNN, as amended, entitled "Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.663(e), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

NEW RESIDENTIAL WOOD HEATERS

7011.2950 STANDARDS OF PERFORMANCE FOR NEW RESIDENTIAL WOOD HEATERS.

Code of Federal Regulations, title 40, part 60, subpart AAA, as amended, entitled "Standards of Performance for New Residential Wood Heaters," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.530(c), 60.531, 60.533, 60.534, 60.535, 60.536(i)(2), 60.537, 60.538(e), and 60.539, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

RUBBER TIRE MANUFACTURING INDUSTRY

7011.3000 STANDARDS OF PERFORMANCE FOR THE RUBBER TIRE MANUFACTURING INDUSTRY.

Code of Federal Regulations, title 40, part 60, subpart BBB, as amended, entitled "Standards of Performance for the Rubber Tire Manufacturing Industry," is adopted and incorpo-

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rated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.543(c)(2)(ii)(B), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

POLYMER MANUFACTURING INDUSTRY

7011.3050 STANDARDS OF PERFORMANCE FOR POLYMER MANUFACTURING INDUSTRY.

Code of Federal Regulations, title 40, part 60, subpart DDD, as amended, entitled "Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.562–2(c), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

POLYMERIC COATING OF SUPPORTING SUBSTRATES FACILITIES

7011.3100 STANDARDS OF PERFORMANCE FOR NEW POLYMERIC COATING OF SUPPORTING SUBSTRATES FACILITIES.

Code of Federal Regulations, title 40, part 60, subpart VVV, as amended, entitled "Standards of Performance for Polymeric Coating of Supporting Substrates Facilities," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.743(a)(3)(v)(A) and (B), 60.743(e), 60.745(a), and 60.746, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

FLEXIBLE VINYL AND URETHANE COATING AND PRINTING

7011.3150 STANDARDS OF PERFORMANCE FOR FLEXIBLE VINYL AND URETHANE COATING AND PRINTING.

Code of Federal Regulations, title 40, part 60, subpart FFF, as amended, entitled "Standards of Performance for Flexible Vinyl and Urethane Coating and Printing," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

SYNTHETIC FIBER PRODUCTION FACILITIES

7011.3200 STANDARDS OF PERFORMANCE FOR NEW SYNTHETIC FIBER PRODUCTION FACILITIES.

Code of Federal Regulations, title 40, part 60, subpart HHH, as amended, entitled "Standards of Performance for Synthetic Fiber Production Facilities," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

PETROLEUM DRY CLEANERS

7011.3250 STANDARDS OF PERFORMANCE FOR NEW PETROLEUM DRY CLEANERS.

Code of Federal Regulations, title 40, part 60, subpart JJJ, as amended, entitled "Standards of Performance for Petroleum Dry Cleaners," is adopted and incorporated by refer-

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ence, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.623, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

ONSHORE NATURAL GAS PROCESSING PLANTS

7011.3300 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARDS BY REFERENCE.

The following New Source Performance Standards are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 60, subpart KKK, as amended, entitled "Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.634, are not delegated to the commissioner and must be made by the administrator.

B. Code of Federal Regulations, title 40, part 60, subpart LLL, as amended, entitled "Standards of Performance for Onshore Natural Gas Processing: SO2 Emissions."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

NONMETALLIC MINERAL PROCESSING PLANTS

7011.3350 STANDARDS OF PERFORMANCE FOR NEW NONMETALLIC MINERAL PROCESSING PLANTS.

Code of Federal Regulations, title 40, part 60, subpart OOO, as amended, entitled "Standards of Performance for Nonmetallic Mineral Processing Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

WOOL FIBERGLASS INSULATION MANUFACTURING PLANTS

7011.3400 STANDARDS OF PERFORMANCE FOR NEW WOOL FIBERGLASS INSULATION MANUFACTURING PLANTS.

Code of Federal Regulations, title 40, part 60, subpart PPP, as amended, entitled "Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

MAGNETIC TAPE COATING FACILITIES

7011.3450 STANDARDS OF PERFORMANCE FOR NEW MAGNETIC TAPE COATING FACILITIES.

Code of Federal Regulations, title 40, part 60, subpart SSS, as amended, entitled "Standards of Performance for Magnetic Tape Coating Facilities," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.711(a)(16), 60.713(b)(1)(i), 60.713(b)(1)(ii), 60.713(b)(5)(i), 60.713(d), 60.715(a), and 60.716, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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GAS EMISSIONS FROM MUNICIPAL SOLID WASTE LANDFILLS

7011.3500 DEFINITIONS.

Subpart 1. **Scope.** The definitions in Code of Federal Regulations, title 40, section 60.751, apply to terms in parts 7011.3500 to 7011.3510, unless the terms are otherwise defined in this part.

Subp. 2. **Design capacity.** "Design capacity" means solid waste capacity.

Subp. 3. **Existing landfill.** "Existing landfill" means a landfill that has accepted waste for disposal at any time since November 8, 1987, or has additional solid waste capacity available for future waste disposal, and for which construction, reconstruction, or modification was commenced before May 30, 1991.

Subp. 4. **Landfill.** "Landfill" means a mixed municipal solid waste land disposal facility as defined in part 7035.0300, subpart 64.

Subp. 5. **Modification.** "Modification" means any physical or operational change made to a landfill with a solid waste capacity less than 2.5 million megagrams, or 2.5 million cubic meters before May 30, 1991, or to any landfill constructed after May 30, 1991, that results in an increase in the solid waste capacity to a total greater than or equal to 2.5 million megagrams or 2.5 million cubic meters.

Subp. 6. **Solid waste capacity.** "Solid waste capacity" means the total amount of compacted solid waste, as defined in Code of Federal Regulations, title 40, section 60.751, that will be in place in the landfill at the time of the expiration of the facility's solid waste permit, or at the time ultimate capacity is reached.

Statutory Authority: *MS s 116.07*

History: *21 SR 993*

7011.3505 STANDARDS OF PERFORMANCE FOR EXISTING MUNICIPAL SOLID WASTE LANDFILLS.

Subpart 1. **Scope.** Each owner or operator of an existing landfill shall comply with the requirements of Code of Federal Regulations, title 40, part 60, subpart WWW, as amended, and as incorporated by reference in part 7011.3510, with the following additions and changes.

Subp. 2. **Operational standards for collection and control systems.** Each owner or operator of a landfill that must monitor surface methane concentrations shall comply with Code of Federal Regulations, title 40, section 60.755(c)(1), except that the owner or operator shall conduct the monitoring at least three times per year, once during each of the following time periods: March 14 to May 14, June 21 to September 23, and October 21 to November 21.

Subp. 3. **Monitoring of operations.** Each landfill owner or operator seeking to comply with Code of Federal Regulations, title 40, section 60.752(b)(2)(iii), may confirm that there is no means to bypass the control device in the design plan, submitted in accordance with Code of Federal Regulations, title 40, section 60.752(b)(2)(i), in lieu of complying with the requirements in Code of Federal Regulations, title 40, sections 60.756(b)(2) and 60.756(c)(2).

Subp. 4. **Reporting requirements.** The owner or operator of a landfill shall submit the reports required by Code of Federal Regulations, title 40, sections 60.752(a), 60.757(a)(1), 60.757(a)(3), and 60.757(b)(1)(i), on the following schedule.

A. The owner or operator of an active landfill, and the owner or operator of a closed existing landfill with a solid waste capacity greater than or equal to 2.5 million megagrams, or 2.5 million cubic meters, shall submit an initial solid waste capacity report no later than the submittal of the next annual report required by part 7035.2585.

B. The owner or operator of an active landfill that proposes to increase the total solid waste capacity to greater than or equal to 2.5 million megagrams, or 2.5 million cubic meters, shall submit an amended solid waste capacity report no later than the submittal of the solid waste management facility permit application that proposes an increase in permitted capacity.

C. The owner or operator of a landfill that must submit an NMOC emission rate report to comply with Code of Federal Regulations, title 40, section 60.757(b), shall submit

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the initial NMOC emission rate report no later than the submittal of the next annual report required by part 7035.2585 or the submittal of the solid waste management facility permit application that proposes an increase in permitted capacity, whichever occurs earlier.

Subp. 5. **Compliance times for equipment installation.** Each owner or operator of an existing landfill with a design capacity greater than or equal to 2.5 million megagrams, or 2.5 million cubic meters, and with an NMOC emission rate of 50 megagrams per year or more, shall complete installation of gas collection and control equipment capable of meeting the conditions provided in Code of Federal Regulations, title 40, section 60.752(b)(2)(ii), within 30 months after January 28, 1997. The owner or operator of an existing landfill with a design capacity greater than or equal to 2.5 million megagrams, or 2.5 million cubic meters, and an NMOC emission rate less than 50 megagrams per year on January 28, 1997, shall comply with this part within 30 months of the date of the first NMOC emission rate that equals or exceeds 50 megagrams per year.

Subp. 6. **Exception to standard or compliance schedule.** An owner or operator of an existing landfill seeking to apply a less stringent emission standard or longer compliance schedule than that specified in this part may submit a written request to the agency and the United States Environmental Protection Agency under Code of Federal Regulations, title 40, section 60.24(f).

Subp. 7. **NMOC emission rate estimations.** An owner or operator of an existing landfill that has a landfill gas collection system in place on January 28, 1997, may comply with Code of Federal Regulations, title 40, section 60.754(a)(5), using the method in Code of Federal Regulations, title 40, section 60.754(b), if the existing landfill owner or operator can demonstrate to the agency that the system effectively collects landfill gas from all gas producing areas of the landfill, and negative pressure can be maintained at each wellhead without excess air infiltration.

Statutory Authority: *MS s 116.07*

History: *21 SR 993*

7011.3510 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Subpart 1. **Incorporation by reference.** Code of Federal Regulations, title 40, part 60, subpart WWW, as amended, entitled "Standards of Performance for Municipal Solid Waste Landfills," is adopted and incorporated by reference.

Subp. 2. **Additional requirements.** The owner or operator of a landfill subject to Code of Federal Regulations, title 40, part 60, subpart WWW, as amended, shall comply with part 7011.3505, subpart 4.

Statutory Authority: *MS s 116.07*

History: *21 SR 993*

EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

7011.7000 GENERAL PROVISIONS OF FEDERAL NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES INCORPORATED BY REFERENCE.

For purposes of interpreting, applying, and enforcing National Emission Standards for Hazardous Air Pollutants for Source Categories that are incorporated by reference into this chapter, Code of Federal Regulations, title 40, sections 63.1, 63.2, 63.3, 63.4, 63.5, 63.6, 63.11, and 63.14, as amended, are adopted and incorporated by reference.

All requests, reports, applications, submittals, and other communications to the administrator pursuant to National Emission Standards for Hazardous Air Pollutants for Source Categories that are incorporated by reference into this chapter must be submitted to the commissioner.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

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7011.7040 ORGANIC HAZARDOUS AIR POLLUTANTS FROM SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY.

A. Code of Federal Regulations, title 40, part 63, subpart F, as amended, entitled "National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 63.102(b), are not delegated to the commissioner and must be made by the administrator.

B. Code of Federal Regulations, title 40, part 63, subpart G, as amended, entitled "National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations and Wastewater," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 63.150(i)(1) to (i)(4), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7060 ORGANIC HAZARDOUS AIR POLLUTANTS FROM EQUIPMENT LEAKS.

A. Code of Federal Regulations, title 40, part 63, subpart H, as amended, entitled "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 63.177, are not delegated to the commissioner and must be made by the administrator.

B. Code of Federal Regulations, title 40, part 63, subpart I, as amended, entitled "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7080 COKE OVEN BATTERIES.

Code of Federal Regulations, title 40, part 63, subpart L, as amended, entitled "National Emission Standards for Coke Oven Batteries," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 63.302(d), 63.304(b)(6), 63.305(b), (d), and (e), 63.307(d), and section 2 of Method 303 in Appendix A of Part 63, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7100 PERCHLOROETHYLENE DRY CLEANING FACILITIES.

Code of Federal Regulations, title 40, part 63, subpart M, as amended, entitled "National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7120 CHROMIUM EMISSIONS FROM HARD AND DECORATIVE CHROMIUM ELECTROPLATING AND CHROMIUM ANODIZING TANKS.

Code of Federal Regulations, title 40, part 63, subpart N, as amended, entitled "National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

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7011.7140 ETHYLENE OXIDE EMISSIONS STANDARDS FOR STERILIZATION FACILITIES.

Code of Federal Regulations, title 40, part 63, subpart O, as amended, entitled "Ethylene Oxide Emissions Standards for Sterilization Facilities," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7160 INDUSTRIAL PROCESS COOLING TOWERS.

Code of Federal Regulations, title 40, part 63, subpart Q, as amended, entitled "National Emission Standards for Hazardous Air Pollutants Industrial Process Cooling Towers," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7180 GASOLINE DISTRIBUTION.

Code of Federal Regulations, title 40, part 63, subpart R, as amended, entitled "National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 63.426 and 63.427(a)(5), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7200 HALOGENATED SOLVENT CLEANING.

Code of Federal Regulations, title 40, part 63, subpart T, as amended, entitled "National Emission Standards for Halogenated Solvent Cleaning," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7220 EPOXY RESINS PRODUCTION AND NON-NYLON POLYAMIDES PRODUCTION.

Code of Federal Regulations, title 40, part 63, subpart W, as amended, entitled "National Emission Standards for Hazardous Air Pollutants from Epoxy Resins Production and Non-Nylon Polyamides Production," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7240 SECONDARY LEAD SMELTING.

Code of Federal Regulations, title 40, part 63, subpart X, as amended, entitled "National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7260 MARINE TANK VESSEL LOADING OPERATIONS.

Code of Federal Regulations, title 40, part 63, subpart Y, as amended, entitled "National Emission Standards for Marine Tank Vessel Loading Operations," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

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7011.7280 PETROLEUM REFINERIES.

Code of Federal Regulations, title 40, part 63, subpart CC, as amended, entitled "National Emission Standards for Petroleum Refineries," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7300 MAGNETIC TAPE MANUFACTURING OPERATIONS.

Code of Federal Regulations, title 40, part 63, subpart EE, as amended, entitled "National Emission Standards for Magnetic Tape Manufacturing Operations," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.7320 AEROSPACE MANUFACTURING AND REWORK FACILITIES.

Code of Federal Regulations, title 40, part 63, subpart GG, as amended, entitled "National Emission Standards for Aerospace Manufacturing and Rework Facilities," is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *20 SR 2254(NO. 42)*

7011.9900 GENERAL PROVISIONS OF FEDERAL NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS INCORPORATED BY REFERENCE.

For purposes of interpreting, applying, and enforcing National Emission Standards for Hazardous Air Pollutants that are incorporated by reference into this chapter, Code of Federal Regulations, title 40, sections 61.02, 61.03, 61.05, 61.06, 61.07, 61.08, 61.12, 61.15, 61.18, and 61.19, as amended, are incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 60.12(d)(1), are not delegated to the commissioner and must be made by the administrator.

All requests, reports, applications, submittals, and other communications to the administrator pursuant to National Emission Standards for Hazardous Air Pollutants that are incorporated by reference into this chapter must be submitted to the commissioner.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9910 ARSENIC.

The following National Emission Standards for Hazardous Air Pollutants are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 61, subpart N, as amended, entitled "National Emission Standard for Inorganic Arsenic Emissions from Glass Manufacturing Plants," except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 61.164(a)(2) and 61.164(a)(3), are not delegated to the commissioner and must be made by the administrator.

B. Code of Federal regulations, title 40, part 61, subpart O, as amended, entitled "National Emission Standard for Inorganic Arsenic Emissions from Primary Copper Smelters," except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 61.172(b)(2)(ii)(B), 61.172(b)(2)(ii)(C), 61.174(a)(2), and 61.174(a)(3), are not delegated to the commissioner and must be made by the administrator.

C. Code of Federal Regulations, title 40, part 61, subpart P, as amended, entitled "National Emission Standard for Inorganic Arsenic Emissions from Arsenic Trioxide and Metallic Arsenic Production Facilities."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9920 ASBESTOS.

Code of Federal Regulations, title 40, part 61, subpart M, as amended, entitled "National Emission Standard for Asbestos," is adopted and incorporated by reference, except that

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decisions made by the administrator under Code of Federal Regulations, title 40, sections 61.149(c)(2), 61.150(a)(4), 61.151(c), 61.152(b)(3), 61.154(d), and 61.155(a), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9921 DEFINITIONS.

Subpart 1. **Scope.** The following definitions of words and phrases are controlling for the purposes of parts 7011.9921 to 7011.9927:

Subp. 2. **Air flow permeability.** "Air flow permeability" means the volumetric rate of air flow in cfm, produced by a pressure decrease of 0.5 inches water gage across a new, clean filtering fabric, divided by the area of the fabric in ft^2. Tests of air flow permeability must be performed as specified in ASTM Designation D737–69.

Subp. 3. **Agency.** "Agency" means the Minnesota Pollution Control Agency as constituted pursuant to Minnesota Statutes, section 116.02.

Subp. 4. **Asbestos.** "Asbestos" means any of six naturally occurring, hydrated mineral silicates: actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite.

Subp. 4a. **Commissioner.** "Commissioner" means the commissioner of the Minnesota Pollution Control Agency.

Subp. 5. **Debris.** "Debris" means waste produced by the demolition of a building or structure.

Subp. 6. [Repealed by amendment, L 1987 c 186 s 15]

Subp. 7. **Local exhaust ventilation system.** "Local exhaust ventilation system" means the capture of particulate matter generated by a process through the application of an air stream induced at the process and a device which encloses the process, partially encloses the process, or guides the capturing air flow at the process. The design and operation of ventilation devices must conform with ANSI Z9.2–1971, published by the American National Standards Institute.

Subp. 8. **Manufacturing operation.** "Manufacturing operation" means the processing of asbestos or the production of any product containing asbestos, with the exception of any process in which an asbestos containing material is sprayed.

Subp. 9. **Particulate matter.** "Particulate matter" means any material, other than uncombined water, which exists in a finely divided form as a liquid or solid.

Subp. 10. **Spraying.** "Spraying" means any operation in which material is conveyed in the form of, or by the means of, a fluid stream from an application device to a receiving surface.

Subp. 11. **Visible emission.** "Visible emission" means any emission which is visually detectable.

Subp. 12. **Detectable amount of asbestos.** For purposes of parts 7011.9921 to 7011.9927 a product shall be deemed to contain asbestos if a detectable amount of asbestos is present in the product or in any material that goes into the product. A detectable amount of asbestos is defined as that amount detectable by the methods of x–ray diffraction, petrographic optical microscopy, or other method approved by the commissioner.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 18 SR 614*

7011.9922 MANUFACTURING OPERATIONS.

Subpart 1. **Emissions from local exhaust ventilation system.** Emissions of particulate matter to the atmosphere from a local exhaust ventilation system in a building, structure, facility, or installation within which any manufacturing operation is carried on shall not exceed the amount which would be emitted if such emissions were treated in a fabric filter installation as described in part 7011.9925.

Subp. 2. **Other emissions.** All other visible emissions of particulate matter to the atmosphere from a building, structure, facility, or installation within which any manufacturing operation is carried on shall not exceed the amount which would be emitted if such emissions were treated in a fabric filter installation as described in part 7011.9925.

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Subp. 3. **Emissions externally generated.** Visible emissions of particulate matter to the atmosphere from any manufacturing operation located outside a building, structure, facility, or installation are prohibited.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.9923 SPRAYING.

Subpart 1. **Open area.** The spraying in any area open to the outdoor atmosphere of any acoustical insulating, thermal insulating, or fireproofing product which contains asbestos is prohibited.

Subp. 2. **Emissions to outdoor atmosphere.** Emissions to the outdoor atmosphere of particulate matter from the spraying of any acoustical insulating, thermal insulating, or fireproofing product which contains asbestos, if such spraying is not otherwise prohibited by law, shall not exceed the amounts which would be emitted to the atmosphere if the area containing such emissions were treated by a fabric filter installation as described in part 7011.9925.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.9924 [Repealed, 18 SR 580]

7011.9925 FABRIC FILTER SPECIFICATIONS.

Subpart 1. **Requirements.** Fabric filter collection devices referred to in parts 7011.9922, subparts 1 and 2 and 7011.9923, subpart 2 shall be operated at not more than four inches water gage pressure decrease as measured across the filter fabric. No bypass devices are permitted. Such collection devices shall be equipped with either of the following classes of fabrics:

A. woven fabrics which have an air flow permeability not exceeding 30 cfm/ft^2 and which, if constructed of synthetic materials, contain no fill yarn other than that which is spun; or

B. felted fabrics which have an average density of not less than 14 oz/yd^2, an average thickness of not less than 1/16 inch, and an air flow permeability of not more than 35 cfm/ft^2.

Subp. 2. **Failure to meet requirements.** Fabric filter devices do not meet the requirements of this part if any of the following conditions exist: leakage of gases, containing particulate matter, from the control system prior to filtration; torn or ruptured bags; improperly positioned bags; badly worn or threadbare bags; or presence of visible emissions of particulate matter during the emptying of collection hoppers.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.9926 SUBSTITUTE DEVICES FOR FABRIC FILTERS.

Subpart 1. **Wet collectors.** Where an owner or operator deems that the use of fabric filter installations for operations subject to parts 7011.9922, subparts 1 and 2 and 7011.9923, subpart 2 would create a fire or explosive hazard, application for approval to use wet collectors shall be made to the commissioner. Such application shall include sufficient information to demonstrate that fabric filters cannot be used. The commissioner shall authorize the use of wet collectors if the commissioner determines that fabric filters cannot be used.

Wet collectors must be operated with a unit contacting energy of not less than 40 inches water gage. Unit contacting energy is the sum of the gas static pressure head decrease across the contact chamber of the collector, the energy per unit weight of gas handled which is required to introduce scrubbing liquid into the contact chamber, and the shaft energy per unit weight of gas handled which is applied to effect contact between the scrubbing liquid and the gas stream. No bypass devices are permitted.

Wet collectors do not meet the requirements of this subpart if either of the following conditions exist:

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A. leakage of gases, containing particulate matter, from the control system prior to passage through the wet collector; or

B. operation at a gas static pressure head decrease, a scrubbing medium flow rate, or a mechanical energy level less than specified by the manufacturer for optimum collection efficiency.

Subp. 2. **Other control equipment.** Compliance with any applicable provision of parts 7011.9921 to 7011.9927 which refers to a control equipment specification shall be demonstrated in accordance with this part if the referenced control equipment is not used.

A. The owner or operator of the emissions unit, or vendor of emission control equipment, shall make available to the commissioner sufficient information as may be required to demonstrate that the substitute equipment will provide the degree of emission control which, in the judgment of the commissioner, is at least as stringent as that which would be achieved by using the equipment specified in the applicable standard. To the maximum extent practicable, the determination of equivalent degree of emission control will be based upon operation at the actual conditions at which the substitute device is, or will be, operated on the emissions unit. Factors which will be considered include, but are not limited to, total mass collection efficiency, collection efficiency versus particle size reliability, and maintenance practices associated with proper operation of the substitute device. The method used to determine the total mass collection efficiency and particle size distribution must be approved by the commissioner.

B. The owner or operator of the emissions unit, or vendor of emission control equipment, shall submit to the commissioner performance data including, but not limited to, total mass collection efficiency and collection efficiency versus particle size of the substitute control device under actual operating conditions which are representative of those of the existing or planned operating conditions.

C. In cases for which it is not reasonable, in the judgment of the commissioner, to require an owner or operator, or vendor of emission control equipment, to submit performance data which are based upon actual operating conditions which are representative thereof, the owner or operator, or vendor of emission control equipment, shall submit to the commissioner performance data on comparative tests, using subtle standard test aerosols, of the substitute device and the device specified by the applicable standard. The performance data shall include, but is not limited to, the total mass collection efficiency and the collection efficiency versus particle size of the substitute device and the device specified by the applicable standard.

Subp. 3. **Collection efficiency of substitute devices for fabric filters.** The total mass collection efficiency of any substitute device for a fabric filter shall not be less than 99.9 percent.

The total mass collection efficiency of any substitute device for a wet collector shall not be less than 99.5 percent.

Statutory Authority: *MS s 116.07 subd 4*

History: *L 1987 c 186 s 15; 13 SR 2154; 18 SR 614*

7011.9927 INSTALLATION AND OPERATION OF CONTROL EQUIPMENT.

Whenever a fabric filter, wet collector, or other control device is required by parts 7011.9921 to 7011.9927, the filter, collector, or other device shall be properly installed, used, and maintained at all times during the operation of the asbestos generating facility.

Statutory Authority: *MS s 116.07 subd 4*

History: *18 SR 614*

7011.9930 BENZENE.

The following National Emission Standards for Hazardous Air Pollutants are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 61, subpart J, as amended, entitled "National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 61.112(c), are not delegated to the commissioner and must be made by the administrator.

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B. Code of Federal Regulations, title 40, part 61, subpart L, as amended, entitled "National Emission Standard for Benzene Emissions from Coke–By–Product Recovery Plants," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 61.136(d), are not delegated to the commissioner and must be made by the administrator.

C. Code of Federal Regulations, title 40, part 61, subpart Y, as amended, entitled "National Emission Standard for Benzene Emissions from Benzene Storage Vessels," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 61.273, are not delegated to the commissioner and must be made by the administrator.

D. Code of Federal Regulations, title 40, part 61, subpart BB, as amended, entitled "National Emission Standard for Benzene Emissions from Benzene Transfer Operations."

E. Code of Federal Regulations, title 40, part 61, subpart FF, as amended, entitled "National Emission Standard for Benzene Waste Operations," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 61.353, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9940 BERYLLIUM.

The following National Emission Standards for Hazardous Air Pollutants are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 61, subpart C, as amended, entitled "National Emission Standard for Beryllium."

B. Code of Federal Regulations, title 40, part 61, subpart D, as amended, entitled "National Emission Standard for Beryllium Rocket Motor Firing."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9941 [Repealed, 18 SR 580]

7011.9942 [Repealed, 18 SR 580]

7011.9943 [Repealed, 18 SR 580]

7011.9944 [Repealed, 18 SR 580]

7011.9945 [Repealed, 18 SR 580]

7011.9950 MERCURY.

Code of Federal Regulations, title 40, part 61, subpart E, as amended, entitled "National Emission Standard for Mercury," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 61.53(c)(4) and 61.55(d), are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9951 [Repealed, 18 SR 580]

7011.9952 [Repealed, 18 SR 580]

7011.9953 [Repealed, 18 SR 580]

7011.9954 [Repealed, 18 SR 580]

7011.9955 [Repealed, 18 SR 580]

7011.9960 RADON.

The following National Emission Standards for Hazardous Air Pollutants are adopted and incorporated by reference:

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A. Code of Federal Regulations, title 40, part 61, subpart B, as amended, entitled "National Emission Standards for Radon Emissions from Underground Uranium Mines."

B. Code of Federal Regulations, title 40, part 61, subpart Q, as amended, entitled "National Emission Standard for Radon Emissions from Department of Energy Facilities."

C. Code of Federal Regulations, title 40, part 61, subpart R, as amended, entitled "National Emission Standards for Radon Emissions from Phosphogypsum Stacks."

D. Code of Federal regulations, title 40, part 61, subpart T, as amended, entitled "National Emission Standards for Radon Emissions from the Disposal of Uranium Mill Tailings."

E. Code of Federal Regulations, title 40, part 61, subpart W, as amended, entitled "National Emission Standards for Radon Emissions from Operating Mill Tailings."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9970 RADIONUCLIDES.

The following National Emissions Standards for Hazardous Air Pollutants are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, part 61, subpart H, as amended, entitled "National Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities."

B. Code of Federal Regulations, title 40, part 61, subpart I, as amended, entitled "National Emission Standards for Radionuclide Emissions From Facilities Licensed by the Nuclear Regulatory Commission and Federal Facilities Not Covered by Subpart H."

C. Code of Federal Regulations, title 40, part 61, subpart K, as amended, entitled "National Emission Standards for Radionuclide Emissions from Elemental Phosphorus Plants."

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9980 VINYL CHLORIDE.

Code of Federal Regulations, title 40, part 61, subpart F, as amended, entitled "National Emission Standard for Vinyl Chloride," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, section 61.66, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

7011.9990 VOLATILE HAZARDOUS AIR POLLUTANTS.

Code of Federal Regulations, title 40, part 61, subpart V, as amended, entitled "National Emission Standard for Equipment Leaks (Fugitive Emission Sources)," is adopted and incorporated by reference, except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 61.242–1(c)(2) and 61.244, are not delegated to the commissioner and must be made by the administrator.

Statutory Authority: *MS s 116.07*

History: *18 SR 580*

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