CHAPTER 7017
MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY DIVISION
MONITORING AND TESTING REQUIREMENTS

7017.0100 ESTABLISHING VIOLATIONS.

Subpart 1. **Definitions.** For purposes of this part, the following terms have the meanings given them:

A. "applicable requirement" has the meaning given in part 7007.0100, subpart 7; and

B. "compliance document" has the meaning given in part 7017.2005, subpart 2.

Subp. 2. **Establishing violations.** Notwithstanding any other provision of an applicable requirement or compliance document, a violation of an applicable requirement or a compliance document may be established based on:

A. any of the monitoring methods which the source is required to use by an applicable requirement or compliance document; or

B. any other credible evidence.

Statutory Authority: *MS s 116.07*

History: *19 SR 1775*

CONTINUOUS MONITORS

7017.1000 CONTINUOUS MONITORING.

Subpart 1. **Requirement.** The owner or operator of any emission facility, whether or not continuous monitoring is required by another rule, may be required to establish a continuous monitoring system, upon order of the commissioner, when in the commissioner's judgment other methods of measurement or calculation do not provide adequate information on the level or variation of emissions to assure compliance with applicable regulations.

Subp. 2. **Monitoring system specifications.** Any owner or operator of an emission facility who is required by applicable rule or by order of the commissioner to install a continuous monitoring system shall install a system which meets the following performance evaluations:

A. Continuous monitoring systems for measuring opacity of emissions shall comply with Performance Specification 1.

B. Continuous monitoring systems for measuring nitrogen oxides emissions shall comply with Performance Specification 2.

C. Continuous monitoring systems for measuring sulfur dioxide emissions shall comply with Performance Specification 2.

D. Continuous monitoring systems for measuring the oxygen content or carbon dioxide content of effluent gases shall comply with Performance Specification 3.

E. Continuous monitoring systems for measuring carbon monoxide emissions shall comply with Performance Specification 4A.

Subp. 3. **Performance evaluation.** The agency or the commissioner may order any owner or operator who has installed a continuous monitoring system to conduct performance evaluations of the system. The performance evaluations shall be conducted under such conditions as the agency or the commissioner may impose.

Subp. 4. **Old monitoring systems.** Any owner or operator of an emission facility who installed or entered into a binding contract to purchase a specific continuous monitoring system prior to September 11, 1974, may be exempt from meeting the performance evaluations set forth in subpart 2 provided the following requirements are met:

A. Continuous monitoring systems for measuring opacity of emissions shall be capable of measuring emission levels within ± 20 percent of the correct value with a confidence level of 95 percent. The calibration error test and associated calculation procedures set forth in Performance Specification 1 shall be used for demonstrating compliance with this specification.

B. Continuous monitoring systems for measurement of nitrogen oxides or sulfur dioxide shall be capable of measuring emission levels within ± 20 percent of the correct value with a confidence level of 95 percent. The calibration error test, the field test for accuracy (relative), and associated operating and calculation procedures set forth in Performance Specification 2 shall be used for demonstrating compliance with this specification. All continuous monitoring systems installed under this item shall be upgraded or replaced with new continuous monitoring systems which comply with the performance evaluations set forth in subpart 2 by September 11, 1979.

Subp. 5. **Zero and span drift.** Owners or operators who are required to install continuous monitoring systems shall check the zero and span drift at least once daily in accordance with the method prescribed by the manufacturer of such systems unless the manufacturer recommends adjustments at shorter intervals, in which case such recommendations shall be followed. The zero and span shall, as a minimum, be adjusted whenever the 24–hour zero drift or 24–hour calibration drift limits of the performance specifications in Performance Specification 1, 2, or 3, whichever is applicable, are exceeded. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero or span drift adjustments except that for systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds four percent opacity. Unless otherwise approved by the agency, the following procedures, as applicable, shall be followed:

A. For extractive continuous monitoring systems measuring gases, minimum procedures shall include introducing applicable zero and span gas mixtures into the measurement system as near the probe as is practical. Span and zero gases certified by their manufacturer to be traceable to National Bureau of Standards reference gases shall be used whenever these reference gases are available. The span and zero gas mixtures shall be the same composition as specified in Performance Specification 1, 2, or 3, whichever is applicable. Every six months from date of manufacture, span and zero gases shall be reanalyzed by conducting triplicate analyses with Reference Method 6 for SO_2, Reference Method 7 for NO_x, and Reference Method 3 for O_2 and CO_2, respectively. The gases may be analyzed at less frequent intervals if longer shelf lives are guaranteed by the manufacturer.

B. For nonextractive continuous monitoring systems measuring gases, minimum procedures shall include upscale check(s) using a certified calibration gas cell or test cell which is functionally equivalent to a known gas concentration. The zero check may be performed by computing the zero value from upscale measurements or by mechanically producing a zero condition.

C. For continuous monitoring systems measuring opacity of emissions, minimum procedures shall include a method of producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

Subp. 6. **Operation requirements.** Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

A. All continuous monitoring systems for measuring opacity of emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive ten–second period.

B. All continuous monitoring systems, except those old systems installed under subpart 4, for measuring oxides of nitrogen, sulfur dioxide, carbon dioxide, or oxygen shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15–minute period.

All old continuous monitoring systems installed under subpart 4 for measuring oxides of nitrogen, sulfur dioxide, carbon dioxide, or oxygen shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive one–hour period.

Subp. 7. **Location of system.** All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable performance specifications shall be used.

Subp. 8. **Combined or separated emissions.** When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install applicable continuous monitoring systems on each separate effluent unless the installation of fewer systems is approved by the agency.

Subp. 9. **Monitoring data.** Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to six–minute averages except that a one–minute averaging period as described in part 7017.2060, subparts 5 and 6, shall be used in the event an applicable standard of performance for opacity allows an excursion above the standard for a specified number of minutes in a one–hour period. Opacity averages shall be calculated from all equally spaced consecutive 15 second (or shorter) data points in the applicable averaging period. For systems other than opacity, the data shall be reduced to one hour averages, which shall be computed from four or more data points equally spaced over each one hour period.

Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this subpart. An arithmetic or integrated average of all data may be used. The data output of all continuous monitoring systems may be recorded in reduced or nonreduced form (e.g. ppm pollutant and percent O_2 or lb of pollutant/million Btu). All excess emissions shall be converted into units of the standard using the conversion procedures specified in the applicable regulation. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the regulation to specify the applicable standard (e.g. rounded to the nearest one percent opacity).

Subp. 10. **Exceptions.** Upon written application by an owner or operator, the commissioner may approve alternatives to any monitoring procedures or requirements including, but not limited to, the following:

A. Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances with the effluent gases.

B. Alternative monitoring requirements when the affected facility is infrequently operated.

C. Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.

D. Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

E. Alternative methods of converting pollutant concentration measurements to units of the standards.

F. Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.

G. Alternatives to the A.S.T.M. test methods or sampling procedures specified by any rule.

H. Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1 but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The commissioner may require that such demonstration be performed for each affected facility.

I. Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities are released to the atmosphere through more than one point.

Statutory Authority: *MS s 116.07*

History: *L 1987 c 186 s 15; 17 SR 1279; 18 SR 614; 18 SR 1412; 18 SR 2584*

7017.1010 INCORPORATION OF MONITORING REQUIREMENTS BY REFERENCE.

Subpart 1. **New Source Performance Standards.** Code of Federal Regulations, title 40, section 60.13, as amended, entitled "Monitoring Requirements," is adopted and incorporated by reference.

Subp. 2. **National Emissions Standards for Hazardous Air Pollutants.**

A. Code of Federal Regulations, title 40, section 63.8, as amended, entitled "Monitoring Requirements," is adopted and incorporated by reference.

B. Code of Federal Regulations, title 40, section 61.14, as amended, entitled "Monitoring Requirements," is adopted and incorporated by reference.

Subp. 3. **Submission to commissioner.** All requests, reports, applications, and other communications to the administrator pursuant to subparts 1 and 2 must be submitted to the commissioner.

Statutory Authority: *MS s 116.07*

History: *18 SR 580; 20 SR 2254(NO. 42)*

7017.1020 CONTINUOUS EMISSION MONITORING BY AFFECTED SOURCES.

Affected sources, as defined in part 7007.0100, subpart 4, shall comply with Code of Federal Regulations, title 40, part 75, as amended, entitled "Continuous Emission Monitoring," which is adopted and incorporated by reference.

Statutory Authority: *MS s 116.07*

History: *19 SR 1666*

7017.2000 [Repealed, 18 SR 1412]

PERFORMANCE TESTS

7017.2001 APPLICABILITY.

Subpart 1. **Applicability.** For the purpose of conducting performance tests as required by a compliance document, federal regulation, or Minnesota rule or statute, parts 7017.2001 to 7017.2060 apply unless more stringent requirements or equivalent procedures are mandated by a compliance document, federal regulation, or Minnesota rule or statute applicable to the emission facility.

Subp. 2. **Transition to new rule.** Parts 7017.2001 to 7017.2060 supersede the requirements of Exhibit C, entitled "Performance Test Procedures" as attached to air emission per-

mits issued by the agency prior to November 1, 1993. For performance tests required by permits issued prior to November 1, 1993, if the commissioner cannot establish worst case operating conditions under part 7017.2025, subpart 2, operating conditions for the performance test shall be defined in the test plan. In this situation, if the performance test demonstrates compliance, then part 7017.2025, subpart 3, item B, applies.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2005 DEFINITIONS.

Subpart 1. **Scope.** For the purposes of parts 7017.2001 to 7017.2060, the definitions given in part 7005.0100 shall apply unless otherwise defined in this part.

Subp. 2. **Compliance document.** "Compliance document" means a permit, stipulation agreement, administrative penalty order, administrative order, compliance agreement, schedule of compliance, consent order, consent decree, or variance issued by the agency to control air pollution.

Subp. 3. **Federal regulation.** "Federal regulation" means any regulation promulgated by EPA under the Clean Air Act, United States Code, title 42, section 7401, et seq.

Subp. 4. **Performance test.** "Performance test" means the quantification of emissions or determination of the physical, chemical, or aesthetic properties of those emissions from an emissions unit by means of conducting one or more test runs at an emission facility. This includes conducting test runs for a relative accuracy test on a continuous emissions monitoring system.

Subp. 5. **Test plan.** "Test plan" means the document which describes the objectives of a performance test, how the emissions unit will be operated during the performance test, how operating conditions will be monitored and recorded, which test methods will be used, and any other specific requirements of the applicable compliance document, federal regulation, or Minnesota rule or statute.

Subp. 6. **Test run.** "Test run" means the procedure for sampling or analyzing emissions at or before the emission point of an emissions unit over a defined length of time at specified operating conditions.

Subp. 7. **Testing company.** "Testing company" means a corporation, partnership, or sole proprietorship that conducts performance tests as a normal part of its business activities and that is not the owner or operator of the emission facility or a subsidiary, division, or subdivision of the owner or operator of the emission facility.

Subp. 8. **Worst case conditions.** "Worst case conditions" means the mode of operation of an emissions unit, including the air pollution control equipment, that is allowed under the applicable compliance document, federal regulation, or Minnesota rule or statute and which is known, through performance test data or mass balance calculation, to give the highest emission rate for an air pollutant within the allowed range of operating conditions. The type of operating conditions included in this definition shall be limited to the process or operating rate and any operational parameters that are regulated by the applicable compliance document, federal regulation, or Minnesota rule or statute.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2010 INCORPORATION OF TEST METHODS BY REFERENCE.

For the purpose of parts 7017.2020 to 7017.2060, the documents in items A to D are incorporated by reference. These documents are subject to frequent change.

A. Code of Federal Regulations, title 40, part 60, Appendix A, as amended, entitled "Appendix A – Test Methods."

B. Code of Federal Regulations, title 40, part 63, Appendix A, as amended, entitled "Appendix A to Part 63 – Test Methods."

C. Code of Federal Regulations, title 40, part 61, Appendix B, as amended, entitled "Appendix B – Test Methods."

D. Code of Federal Regulations, title 40, part 51, Appendix M, as amended, entitled "Appendix M to Part 51 – Recommended Test Methods for State Implementation Plans."

Statutory Authority: *MS s 116.07*

History: *18 SR 1412; 20 SR 2254(NO. 42)*

7017.2015 INCORPORATION OF FEDERAL TESTING REQUIREMENTS BY REFERENCE.

Subpart 1. **Applicability.** Subparts 1 to 4 apply to the owner or operator of an emission facility, emissions unit, or stationary source subject to New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants.

Subp. 2. **New Source Performance Standards.** The following are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, section 60.8, as amended, entitled "Performance Tests," except that decisions made by the administrator under Code of Federal Regulations, title 40, sections 60.8(b)(2) and 60.8(b)(3), are not delegated to the commissioner and must be made by the administrator.

B. Code of Federal Regulations, title 40, section 60.11, as amended, entitled "Compliance with Standards and Maintenance Requirements," except that decisions made under Code of Federal Regulations, title 40, section 60.11(e), are not delegated to the commissioner and must be made by the administrator.

Subp. 3. **National Emission Standards for Hazardous Air Pollutants.** The following are adopted and incorporated by reference:

A. Code of Federal Regulations, title 40, section 63.7, as amended, entitled "Performance Testing Requirements."

B. Code of Federal Regulations, title 40, section 61.13, as amended, entitled "Emission Tests and Waiver of Emission Tests," except that decisions made by the administrator under Code of Federal Regulations, title 40, section 61.13(h)(1)(ii), are not delegated to the commissioner and must be made by the administrator.

Subp. 4. **Document submission.** All requests, reports, applications, submittals, and other communications to the administrator pursuant to subparts 2 and 3 must be submitted to the commissioner.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412; 20 SR 2254(NO. 42)*

7017.2018 SUBMITTALS.

All notifications, applications, or submittals required under parts 7017.2020 to 7017.2060 shall be sent to the Supervisor, Compliance Determination Unit, Compliance and Enforcement Section, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road, St. Paul, Minnesota 55155–3898.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2020 PERFORMANCE TESTS GENERAL REQUIREMENTS.

Subpart 1. **Testing required.** The owner or operator of an emission facility shall arrange to conduct a performance test to determine the characteristics and amount of emissions of air pollutants from any emission facility at the times required by an applicable compliance document, federal regulation, or Minnesota rule or statute and at additional times if the commissioner requests a performance test in order to:

A. evaluate a permit application;

B. determine compliance with a compliance document, federal regulation, or Minnesota rule or statute;

C. determine compliance subsequent to a performance test that indicated noncompliance or where compliance could not be determined due to errors in following a test method, lack of or inaccurate documentation, or because the requirements of parts 7017.2001 to 7017.2060 were not met;

D. determine the compliance status of an emission facility following an inspection of the facility by agency staff during which indicators of noncompliance were found;

E. determine the compliance status of an emission facility following a modification to the emission facility that the commissioner determines could cause an increase in the amount of emissions of any air pollutant from that facility; or

F. determine the relative accuracy of a continuous emissions monitoring system.

EPA may request a performance test under this part for the reasons listed in items A to F. When EPA requires a performance test under this subpart, and EPA directly administers the performance test, EPA will make the decisions that the commissioner makes under parts 7017.2001 to 7017.2060 for that performance test.

Subp. 2. **Testing company.** The performance test shall be conducted by a testing company unless a compliance document allows the owner or operator to conduct the performance test or to contract with an alternative entity that does not meet the criteria of the definition, or unless the agency, EPA, or any authorized employee or agent of the agency or EPA is conducting the performance test.

Subp. 3. **Safety and access.** The owner or operator of the emission facility shall provide a safe working platform and safe access to the platform at the sampling site.

Subp. 4. **Verification of test results.** The results of a performance test are not final until a complete report, as defined in part 7017.2035, subpart 3, is submitted and the commissioner gives written verification of the compliance status of the emission facility. Upon verification of the test results, the duration of the compliance status that the performance test determines for the emission facility begins with the date of the performance test.

Subp. 5. **Test runs.** Each performance test shall consist of at least three separate test runs using the applicable test method, with the exception of opacity determinations and performance tests conducted for the purpose of completing a relative accuracy test on a continuous emissions monitoring system. One test run shall be required for opacity determinations. Relative accuracy tests shall be conducted in accordance with the applicable compliance document, federal regulation, or Minnesota rule or statute. However, the commissioner shall require more test runs to be conducted if the applicable compliance document, federal regulation, or Minnesota rule or statute requires additional test runs or determination of emissions at more than one process or operating condition.

The arithmetic mean of the test runs is the result of the performance test, with the exception of opacity readings which are subject to part 7017.2060, subparts 5 and 6. In the event that a sample is accidentally lost or conditions occur in which one of three test runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the control of the owner or operator and the testing company, compliance may, upon the commissioner's approval, be determined using the arithmetic mean of the two remaining test runs.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412; 21 SR 693*

7017.2025 OPERATIONAL REQUIREMENTS AND LIMITATIONS.

Subpart 1. **Scope.** This part specifies criteria that the commissioner will use to determine which operating parameters, if any, will be subject to limitations based upon the mode of operation during a performance test. Operations during periods of start–up, shutdown, and malfunction shall not constitute representative conditions of performance tests unless otherwise specified in an applicable compliance document, federal regulation, or Minnesota rule or statute.

Subp. 2. **Operating conditions for performance testing.** The performance test shall be conducted at worst case conditions for each air pollutant that is required to be tested unless:

A. the applicable compliance document, federal regulation, or Minnesota rule or statute specifies alternative operating conditions for performance testing;

B. the worst case condition is not known or calculable. In this case, worst case conditions shall be assumed to be the maximum achievable process or operating rate of the emissions unit;

C. the owner or operator of the emission facility elects to conduct the performance test at conditions that are not worst case conditions; or

D. the performance test is conducted solely for the purpose of completing a relative accuracy test on a continuous emission monitoring system, in which case the emissions unit shall be operated at or above 50 percent of rated capacity.

Subp. 3. **Compliance demonstrated at tested conditions.** Upon the commissioner's written notice that the emission facility has demonstrated compliance under the conditions of the performance test, the owner or operator of the emission facility shall operate the affected emissions unit as specified in item A, B, C, or D, unless another performance test is conducted at alternative conditions and the commissioner gives written notification that the performance test demonstrated compliance at those conditions:

A. if the owner or operator did not conduct the performance test at worst case conditions as required, or elected to conduct the performance test under alternative conditions under subpart 2, item C, the affected emissions unit shall not be operated at a process rate, operating rate, or regulated operating condition that is closer to the worst case conditions than the actual conditions of the performance test;

B. if the owner or operator conducted the performance test under the conditions specified in subpart 2, item A, the owner or operator shall comply with any operational limitations imposed by the applicable compliance document, federal regulation, or Minnesota rule or statute;

C. if the owner or operator conducted the performance test at the maximum achievable process or operating rate under subpart 2, item B, the emissions unit may not be operated at a higher process or operating rate than was recorded during the performance test; or

D. if the owner or operator conducted the performance test at worst case conditions, the owner or operator shall comply with any applicable compliance document, federal regulation, or Minnesota rule or statute.

If the owner or operator conducted the performance test under subpart 2, item D, no operational limitations will be imposed. However, if the performance test was conducted at less than 50 percent of rated capacity, the commissioner will reject the results of the performance test.

Subp. 4. **Failure to demonstrate compliance.** Upon the commissioner's written notice that the emission facility has failed to demonstrate compliance with an applicable emission limit, the owner or operator of the emission facility, unless an alternative schedule is given in an applicable compliance document, federal regulation, or Minnesota rule or statute, shall:

A. conduct a retest within 30 days of receipt of the commissioner's written notice;

B. submit to the commissioner written notice of testing, submit a test plan for the retest, and schedule a pretest meeting at least 21 days in advance of the date of the retest. The pretest meeting shall be held at least seven working days prior to the date of the retest;

C. submit a complete report of the results of the retest to the commissioner according to the requirements of part 7017.2035; and

D. the owner or operator may receive an extension to the schedule in items A to C if one of the following special circumstances apply:

(1) seasonal or temporary shutdown of the affected emissions units;

(2) malfunction or breakdown of the affected emissions units;

(3) weather conditions that prevent using the applicable test methods or prevent operation of the affected emission units at the required operating conditions;

(4) any other conditions beyond the control of the owner or operator that prevent using the applicable test methods or prevent operation of the affected emissions units at the required operating conditions; or

(5) any other condition beyond the control of the owner or operator that prevents completion of a retest within the required schedule.

Any request for an extension of the time schedule shall be submitted to the commissioner in writing by the owner or operator prior to the date by which retesting is required. The

request shall specify the reason why the extension is needed, include an alternative retest schedule, and include a detailed summary of the measures the owner or operator will take to bring the affected emission unit into compliance. The commissioner shall grant the request for extension if the commissioner finds that one or more of the special conditions in item D apply. If the commissioner grants an extension, the owner or operator shall implement the alternative retest schedule and compliance measures. The compliance plan may also include a detailed summary of additional measures the owner or operator will implement if the owner or operator fails the retest. A requested extension shall not be effective unless the commissioner has given written approval of the extension. The commissioner shall not extend a retest date more than 30 days after the start–up, completion of maintenance, seasonal weather change, or other improvement in conditions occurs under item D, subitems (1) to (4). The commissioner shall not extend a retest date under item D, subitem (5), for more than 30 days.

Subp. 5. **Failure of retest.** If a retest has been conducted under subpart 4 and the commissioner provides written notice to the owner or operator of the emission facility that the retest provides a second demonstration of noncompliance with an applicable emission limit, the owner or operator shall shut down the affected emissions units. The owner or operator may not operate the emissions units unless items A to C apply.

A. The owner or operator is able to demonstrate to the commissioner that corrective actions or procedural changes have been made which will be applied consistently and which will, when properly executed, ensure that the emission units will demonstrate compliance at all times with all applicable emission limits and capture, removal, or destruction efficiency requirements.

B. The owner or operator has received the commissioner's written acceptance of demonstrating the conditions in item A. This written acceptance may be given at the same time as the notification of noncompliance if a compliance plan has already been submitted under subpart 4 or otherwise and it satisfies the requirements of item A.

C. Upon receipt of the commissioner's approval to operate the affected emissions units, the owner or operator complies with any new operating limits arising from the demonstration in item A.

Subp. 6. **Agency tests.** Upon request of the agency or the commissioner, the owner or operator of an emission facility shall allow the agency or EPA, or any authorized employee or agent of the agency or EPA, to enter upon the premises of the owner or operator for the purposes of conducting performance tests. The owner or operator shall provide performance testing facilities that enable the agency or its employees or agents to conduct performance tests, including:

A. sampling ports adequate for the applicable test methods;

B. safe sampling platforms;

C. safe access to sampling platforms; and

D. utilities for sampling and testing equipment.

The agency or EPA, or authorized employee or agent of the agency or EPA shall provide all other equipment and personnel necessary to conduct the performance test methods.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2030 PERFORMANCE TEST PRETEST REQUIREMENTS.

Subpart 1. **Notification of testing.** Written notification of the planned test date shall be postmarked or received at least 30 days before the planned test date. The commissioner shall reject the results of a test if less than 30 days' notice was given unless written authorization of a shorter notice was given by the commissioner.

Subp. 2. **Submittal and approval of test plan.** The owner or operator of the emission facility shall submit to the commissioner a test plan with or in advance of the test notification required under subpart 1 or in response to the commissioner's request for supplemental permit application information. If the proposed test plan does not contain sufficient or accurate enough detail to ensure that the performance test meets the requirements of the applicable compliance document, federal regulation, or Minnesota rule or statute, the commissioner shall ask for an updated test plan to be submitted or shall write a test plan in place of the submitted document.

The commissioner shall give written approval of the test plan when the commissioner determines that it meets the requirements of parts 7017.2001 to 7017.2060. Written approval means any signed letter, note, or facsimile transmission which states that a given test plan may be used during a specific performance test. The commissioner shall reject the results of a performance test if it was conducted without written approval of the test plan.

Subp. 3. **Format and content of test plan.** The test plan shall be submitted in the following format and include, as a minimum, the following elements:

A. Part I. General information:

(1) name and address of emission facility;

(2) name, title, and telephone number of contact person at emission facility;

(3) permit number or name of other applicable compliance document;

(4) reason for testing;

(5) schematic drawing of stack and sample ports;

(6) location of plant; and

(7) name, contact person, and telephone number for testing company contracted to conduct the test.

B. Part II. Testing requirements:

(1) list of the pollutants to be tested, the emission limit for each pollutant, and the applicable rule or regulation for each emission limit; and

(2) description of procedure for fuel sampling and analysis, where applicable.

C. Part III. Operating conditions:

(1) list of the process or operating rate and conditions of the process equipment and air pollution control equipment for the test;

(2) explanation of why the proposed conditions are considered to be in accordance with part 7017.2025, subpart 2, for required testing conditions;

(3) list of the range of process or operating rates for each emissions unit; and

(4) description of how air pollution control and process equipment will be monitored.

D. Part IV. Test methods:

(1) list of the methods to be used to determine the emission rate of each pollutant;

(2) number of test runs, length of test run, and sampling rate for each method;

(3) reference to any compliance document, federal regulation, or Minnesota rule or statute requiring use of specific methods or procedures;

(4) summary of reasons for proposing to use any alternative or equivalent method; and

(5) for test methods other than reference methods, statement of the detection limit and the degree of accuracy of that method at the expected emission rate and under the conditions of the performance test.

E. Part V. CEMS relative accuracy. For performance tests scheduled for the purpose of determining the relative accuracy of a continuous emissions monitoring system, provide:

(1) unit basis under which the continuous emissions monitoring system will be certified, for example, pounds per hour or parts per million;

(2) span value of the continuous emissions monitor; and

(3) identification of recording systems, for example, strip chart recorder or data acquisition system, that will be certified.

Subp. 4. **Pretest meeting.** The owner or operator of the emission facility shall contact the supervisor of the compliance determination unit to schedule a pretest meeting to be held at the MPCA office in St. Paul between authorized employees of the agency and the owner or operator of the emission facility, with optional representation by the testing company. The pretest meeting shall be held at least seven working days prior to the performance test date

except that a shorter period shall be allowed if the commissioner has approved a test notification of less than 30 days. If the commissioner determines that an in–person meeting is not necessary, the pretest meeting will be conducted by telephone conference call unless the owner or operator of the emission facility requests an in–person meeting. The commissioner will reject a test if the owner or operator of the emission facility refused to participate in a pretest meeting.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2035 PERFORMANCE TEST REPORTING REQUIREMENTS.

Subpart 1. **Submittal of performance test results.** The owner or operator of the emission facility shall submit a test report and any additional information required by the compliance document, test plan, federal regulation, or Minnesota rule or statute. A report shall be submitted for any performance test that was required pursuant to part 7017.2020, subpart 1, whether or not the test data indicates compliance with the applicable emission limits or operating conditions and whether or not the test was completed according to the approved test plan.

Subp. 2. **Submittal schedule.** The performance test report shall be postmarked or received within 45 days following completion of the performance test unless an alternate schedule is given in the applicable compliance document.

The owner or operator of the emission facility shall provide to the commissioner a microfiche copy of the performance test report to be postmarked or received within 60 days of the deadline for submittal of the test report. The complete permit file number, complete emission facility name, and exact date of testing shall be provided. A cover letter which certifies that the microfiche is an exact and complete copy of the original test report shall be submitted with the microfiche copy.

Subp. 3. **Complete report.** The report shall include the following elements:

A. Cover:

(1) name and location of the emission facility;

(2) identification of emissions unit tested;

(3) date of the performance test; and

(4) name and address of testing company or agency.

B. Certification: signed and dated certification statements in the format required by part 7017.2040.

C. Introduction:

(1) reason for testing, for example, required by permit or notice of violation, including permit number or name of other applicable compliance document;

(2) test location, type of process;

(3) test dates;

(4) pollutants tested;

(5) observers' names including industry and agency observers; and

(6) any other important background information.

D. Summary of results:

(1) emission results, expressed in the same units as the emission limits;

(2) process data, as related to determination of compliance;

(3) emission limits and applicable regulations;

(4) description of collected samples;

(5) visible emissions summary if applicable; and

(6) discussion of errors, both real and apparent.

E. Operating parameters: readings of discrete data from monitoring instruments must be recorded at least every 15 minutes during the test and strip charts from continuous monitors must be included in the test report.

(1) description of process and air pollution control devices;

(2) process and control equipment flow diagram;

(3) process data and results, with example calculations; and

(4) any specially required operation demonstrations.

F. Maintenance: description, including dates, of all maintenance and operational inspections, including major cleaning operations and replacement of functional components of process or control equipment done in the month prior to the test.

G. Sampling and analysis procedures:

(1) sampling port location and dimensioned cross section, showing all flow disturbances including elbows, dampers, fans, constrictions, and collection equipment;

(2) description of sampling point;

(3) description of sampling train;

(4) brief description of sampling procedures and analytical methods, with discussion of deviations from standard methods, including a statement of source methods used, but not including complete copies of reference methods in the report; and

(5) if a method other than a United States EPA reference method was used, statement of the detection limit and the level of accuracy of the method under the conditions of the test and at the concentration of air pollutant that is reported.

H. Appendix:

(1) complete results, including any fuel analysis, with example calculations, showing equations used and actual results in equation form on same or adjacent pages, using applicable equations shown in the reference method;

(2) copies of raw field data;

(3) laboratory report, with record of chain of custody;

(4) raw production data, signed by plant official who can interpret the data and can be held accountable for the data;

(5) test log;

(6) calibration procedures and results, including Pitot tube, nozzle, meter box, thermometer, and barometer calibrations; and

(7) project participants and titles.

I. Any other special requirement of the test method, test plan, compliance document, federal regulation, or Minnesota rule or statute.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2040 CERTIFICATION OF PERFORMANCE TEST RESULTS.

Subpart 1. **Certification required.** The test report shall contain a certification by the responsible parties that the test results have been reported accurately, that the field data are a true representation of the sampling procedures, and that the process data are a true indicator of the operating parameters of the emissions unit at the time of the performance test. The commissioner shall reject the results of a performance test if the test report does not contain the certifications required by subparts 2 to 5 or if any of the certifications in subparts 2 to 5 are determined to be false.

Subp. 2. **Certification of sampling procedures.** The team leader of the personnel conducting the sampling procedures shall certify that the data presented in the test report is true, accurate, and complete. The following statement shall be signed and dated by that person:

"I certify under penalty of law that the sampling procedures were performed in accordance with the approved test plan and that the data presented in this test report are, to the best of my knowledge and belief, true, accurate, and complete. All exceptions are listed and explained below."

Subp. 3. **Certification of analytical procedures.** The person responsible for the laboratory analysis of field samples from a performance test shall certify that the data presented for use in the test report is true, accurate, and complete. The following statement shall be signed and dated by that person:

"I certify under penalty of law that the analytical procedures were performed in accordance with the requirements of the test methods and that the data presented

for use in the test report were, to the best of my knowledge and belief, true, accurate, and complete. All exceptions are listed and explained below."

Subp. 4. **Certification of test report by testing company.** The senior staff person at the testing company who is responsible for compiling and checking the test report shall certify that the information contained within the test report is true, accurate, and complete. The following statement shall be signed and dated by that person:

"I certify under penalty of law that this test report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the test information submitted. Based on my inquiry of the person or persons who performed sampling and analysis relating to the performance test, the information submitted in this test report is, to the best of my knowledge and belief, true, accurate, and complete. All exceptions are listed and explained below."

Subp. 5. **Certification of test report by owner or operator of emission facility.** The owner or operator of the emission facility shall certify that the report accurately reflects the operating conditions at the emission facility during the performance test and that the required operational and maintenance data for the month prior to the performance test has been reported in a true, accurate, and complete manner. The following statement shall be signed and dated by that person:

"I certify under penalty of law that the information submitted in this test report accurately reflects the operating conditions at the emission facility during this performance test and describes the date and nature of all operational and maintenance activities that were performed on process and control equipment during the month prior to the performance test. Based on my inquiry of the person or persons who performed the operational and maintenance activities, the information submitted in this test report is, to the best of my knowledge and belief, true, accurate, and complete. All exceptions are listed and explained below."

Statutory Authority: *MS s 116.07*

History: *18 SR 1412; 20 SR 2316*

7017.2045 QUALITY ASSURANCE REQUIREMENTS.

Subpart 1. **Witnessing.** A performance test may be witnessed by either the commissioner or an authorized employee or agent of the commissioner or by EPA staff.

Subp. 2. **EPA audit samples.** The owner or operator of the emission facility shall have the testing company conducting the performance test analyze any EPA audit sample issued by EPA or the commissioner in accordance with EPA protocol. If the audit sample is a reusable sample that EPA requires to be returned, the owner or operator of the emission facility shall return the sample as directed by EPA, in good condition and within the time allowed by EPA. The results of the audit shall be included in the test report.

Subp. 3. **Quality assurance.** Any performance test shall meet the minimum requirements for quality assurance, performance standards, and specifications as stated in the reference method or in the alternative or equivalent method. The provisions in items A and B also apply.

A. All test runs for a given air pollutant shall be completed within a single 24–hour period unless process variables make this impractical or the method requires test runs of three hours or greater, in which case the runs may be conducted on consecutive days provided that the test is conducted according to the provisions of the approved test plan on each day.

B. Only employees of the testing company may operate source sampling equipment or otherwise be a part of the sampling or analysis of air pollutants from the emission facility during a performance test. The owner or operator or employees of the emission facility may not assist in any sampling or any analysis of samples unless authorized within an approved test plan.

Any request to deviate from the requirements of this subpart shall be submitted at least seven working days before the performance test. The commissioner shall reject the results of all test runs where deviations from quality assurance or methodology or test plan requirements exceeded those allowed under subpart 4.

Subp. 4. **Deviation from quality assurance, test method, or test plan.** The commissioner shall reject the results of a performance test if there was a deviation from the quality assurance requirements of this part, from the test method, or from the approved test plan unless:

A. the deviation was approved in writing by the commissioner prior to the test;

B. the deviation was from the test method and did not adversely affect the precision or scope of the test method under the conditions of the performance test, and the test requirement was not subject to federal regulation;

C. the deviation was from the test method and was within the guidelines of that method and was necessitated by field conditions; or

D. the deviation was from the operating conditions required of the emissions unit and was within the range of operating conditions allowed by the applicable compliance document, federal regulation, or Minnesota rule or statute such that the compliance status of the emission facility can be determined under the test conditions. In this case, the conditions of part 7017.2025 apply.

Subp. 5. **Precision of test methods.** The inherent precision, level of confidence, and bias of any test method approved by the commissioner for use during a performance test shall not be a factor in determining the compliance status of an emission facility. However, the commissioner shall reject any test runs that were not conducted with acceptable accuracy within the limits of the test method and the sampling conditions or if the detection limit of the test method was higher than the applicable emission standard.

If the commissioner determines that the test results are valid under the quality assurance requirements of the method and that the performance test was conducted in accordance with parts 7017.2001 to 7017.7060 and the applicable compliance document, federal regulation, Minnesota rule or statute, and the test result exceeds the applicable emission limit by any amount, the owner or operator is in violation of that emission limit.

Subp. 6. **Adjustments for detection limit.** The commissioner shall require that the sample volume to be collected be increased above the minimum amount specified in a compliance document, federal regulation, or Minnesota rule or statute, if necessary to ensure that the amount or concentration of the pollutant collected is greater than the detection limit given by the analytical procedure employed upon the field samples. If the commissioner requires this, the minimum sample volume shall be determined by the following equation:

$$V = A \times \frac{100}{B} \times \frac{100}{C} \times \frac{1}{D}$$

Where: V = minimum sample volume to be collected (dscm)
A = the analytical detection limit in g
B = percent of the sample required per analytical run
C = sample recovery (%)
D = stack emission limit or expected emission rate (g/dscm)

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2050 PERFORMANCE TEST METHODS.

Subpart 1. **Test methods.** Unless a different method is given in an applicable compliance document, federal regulation, or Minnesota rule or statute, the owner or operator of an emission facility shall conduct performance tests using the methods in Code of Federal Regulations, title 40, part 60, appendix A; part 61, appendix B; and part 51, appendix M, and following the requirements in part 7017.2060, unless an alternative or equivalent method is approved or required by the commissioner in accordance with subpart 2.

Subp. 2. **Alternative or equivalent test methods.** In lieu of the test method described in subpart 1, the commissioner may, if the performance test is not required for demonstration of compliance with a federal regulation:

A. specify or approve minor changes that will not adversely affect the precision or scope of the test method as applied to the conditions of the performance test;

B. approve the use of an equivalent method; or

C. approve the use of an alternative method.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*

7017.2060 PERFORMANCE TEST PROCEDURES.

Subpart 1. **Applicability.** For the purpose of using the methods referenced in part 7017.2050, the requirements in this part apply unless otherwise stated in the applicable compliance document, federal regulation, or Minnesota rule or statute.

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

Subp. 3. **Total particulate matter determination.**

A. For Method 5, the sampling time for each test run shall be at least 60 minutes and the minimum sampling volume will be 32 dscf (0.9 dscm).

B. For particulate matter determination where the applicable emission limit includes organic condensibles, results for particulate matter emissions shall include organic condensible particulate matter emissions as determined by the amendment to Method 5 given in part 7011.0725. The results shall be reported as both total particulate matter including organic condensibles and as particulate matter excluding organic condensibles.

C. The determination of condensible particulate matter may be waived if it can be demonstrated to the commissioner through mass balance calculations or previous performance test results that the emissions unit is not a source of organic condensible particulate matter emissions.

Subp. 4. **PM–10 determination.**

A. For Method 201 or 201A, the sampling time for each run shall be at least 60 minutes and the minimum sampling volume will be 32 dscf (0.9 dscm).

B. Results for PM–10 emissions shall include condensible particulate matter emissions as determined by Method 202. The results shall be reported as both total PM–10 including condensibles and as PM–10 excluding condensibles.

C. The compliance status of the emission facility shall be based on the result for total PM–10 including condensible particulate matter.

D. Condensibles may be determined, with approval of the commissioner, by the procedure given in part 7011.0725 if technical limitations make Method 202 impractical or if it can be demonstrated to the commissioner through mass balance calculations or previous performance test results that inorganic condensibles account for less than five percent of the total particulate matter.

E. The determination of condensible particulate matter may be waived if it can be demonstrated to the commissioner through mass balance calculations or previous performance test results that the emissions unit is not a source of condensible particulate matter emissions.

Subp. 5. **Opacity determination by Method 9.** Opacity observations shall be performed by a certified observer and in accordance with the requirements of Method 9. In addition, the requirements of subpart 6 and the following items shall apply:

A. The commissioner may reject the opacity results if the commissioner cannot determine the compliance status of the emission facility due to error, bias, or insufficient documentation during the performance test. The quality assurance recommendations of Method 9 and EPA document EPA–600/4–77–027b, Addition Section 3.12 (Feb. 1984), as amended, entitled "Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III. Stationary Source Specific Methods," which is incorporated by reference, shall be the criteria for acceptability of opacity results. This document is available at the state law library and is not subject to frequent change.

B. One series of readings is required for each condition where opacity is required to be tested. Each test run shall comprise 240 consecutive readings at 15–second intervals and shall be obtained concurrently with a test run for particulate matter, where applicable. Copies of the opacity form showing all readings and required notation shall be included in the performance test report.

C. The results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the owner or operator shall meet the burden of proving that the instrument used met, at the time of the alleged violation, Performance Specification 1, had been properly maintained and, at the time of the alleged violation, calibrated, and that the resulting data have not been tampered with in any way. The data shall be subject to the reduction processes in subpart 6.

D. The opacity standards set forth in a regulation shall apply at all times except during periods of start–up, shutdown, malfunction, and as otherwise provided in the applicable compliance document, federal regulation, or Minnesota rule or statute.

E. Data reduction shall be performed in accordance with the process in Paragraph 2.5 of Method 9. A violation of the standard will be recorded if a six–minute average, which means the arithmetic mean of any set of 24 consecutive observations at 15–second intervals, exceeds the applicable standard, unless the standard is contained in a Minnesota rule or statute that allows an excursion above the standard for a specified number of minutes within a specified time period and the excursion opacity limit is not exceeded. A violation of the standard will be expressed as the number of nonoverlapping six–minute averages exceeding the standard within a one–hour time period and the amount that each six–minute average exceeds that standard.

Subp. 6. **Additional opacity data reduction procedures.** The following items describe data reduction procedures that are not included in Method 9. Item A applies only to reduction of data from continuous emission monitoring systems. Item B applies and shall be used for reduction of data for Method 9, an equivalent or alternative method, or a continuous emission monitoring system, when an applicable Minnesota rule or statute allows an excursion above the opacity standard for a specified number of minutes within a specified time.

A. For continuous emission monitoring systems, compliance shall be determined on the basis of a six–minute average. A six–minute average is the arithmetic mean of six consecutive one–minute averages and a one–minute average is the arithmetic mean of the number of readings required to be taken in each minute. A violation of the standard shall be recorded if any six–minute average exceeds the standard, unless item B is applied and the applicable excursion opacity limit is not exceeded. The violation shall be recorded as the number of nonoverlapping six–minute averages exceeding the standard and the amount by which each six–minute average exceeds the standard.

B. Excursion opacity limits apply only if an exceedance of the standard is recorded when the applicable data reduction process is used. In determining compliance with the excursion limits, the data shall be reduced to one–minute averages. A one–minute average is the arithmetic mean of the number of readings required to be taken in one minute. Each data point may be used only once in calculating the one–minute averages but the data points used to determine exceedance of the standard may be used in calculating one–minute averages.

(1) If only one excursion limitation is specified, count the number of nonoverlapping one–minute averages above the applicable standard. Compare the total number of minutes above the opacity limit to the time allowed in the excursion. A violation will be recorded if any one–minute average is greater than the excursion opacity limit or if the number of minutes above the standard exceeds the time allowed.

(2) If two excursions above a standard are allowed, count, starting with the one–minute average with the highest numerical value and continuing in descending order, the number of nonoverlapping one–minute averages whose value exceeds the lower excursion opacity limit. If this number of minutes is less than the time period of the higher excursion limit, include the highest of the one–minute averages that are below the lower excursion opacity limit until the number of minutes counted is equal to the time period of the higher excursion opacity limit. Finally, count the number of remaining one–minute averages that are above the opacity standard. A violation will be recorded if any one–minute average is

greater than the higher excursion opacity limit, if the number of one–minute averages greater than the lower excursion opacity limit exceeds the time period of the higher excursion opacity limit, or if the total number of one–minute averages above the applicable standard exceeds the total time period of the excursion opacity limits.

(3) Violation of an opacity standard with excursion limits shall be expressed as the exceedance of the opacity standard according to the applicable six–minute average data reduction process plus the total number of nonoverlapping minutes that are independent of the six–minute average and which exceed the opacity excursion limit during a period of consecutive readings in the applicable time period.

Subp. 7. **Polychlorinated dibenzo–p–dioxins and polychlorinated dibenzofurans determination.** For Method 23, each sample run shall be at least three hours in duration at an average sampling rate of 0.5 dscf/minute or higher. The minimum sample volume shall be 90 dscf. Longer test runs may be required by the commissioner in order to collect a greater sample volume if low resolution mass spectroscopy is to be used for analysis of the field samples or as otherwise required by part 7017.2045, subpart 6.

Statutory Authority: *MS s 116.07*

History: *18 SR 1412*