1 Pollution Control Agency

Adopted Permanent Rules Relating to Air Quality Monitoring and Testing

7007.1130 REGISTRATION PERMIT OPTION D.

[For text of subps 1 to 3, see M.R.]

Subp. 4. Calculation of actual emissions. The owner or operator of a stationary source may use a calculation worksheet provided by the commissioner for calculating actual emissions under this part, or may use the calculation methods under items A to E. The owner or operator must calculate actual emissions for each emissions unit, except that similar emissions units may be aggregated for emission calculation purposes. The owner or operator of a stationary source shall use the calculation method in item B instead of the calculation method in item A if the data described in item B are available for the stationary source. The alternative methods described in items C, D, and E may be used by the owner or operator without advance notification to the commissioner. The commissioner shall reject data submitted using the methods described in items B to E if the conditions set forth for the method are not fully met. To prevent double counting of emissions, the owner or operator must select one calculation method under this subpart for each emissions unit at the stationary source. Fugitive dust emissions must be included in the calculations under this subpart, if the stationary source is a category listed in part 7007.0200, subpart 2, item B, subitems (1) to (27).

[For text of item A, see M.R.]

B. If the owner or operator of the stationary source has collected emissions data through use of a continuous emission monitor (CEM) in compliance with the preconditions in subitems (1) and (2), the owner or operator shall use the CEM data to calculate actual emissions, the calculation shall be based on all of the CEM data, and the following requirements shall be met:

(1) the CEM has been certified by the commissioner;

1	(2) the CEM data have not been rejected by the commissioner due to failure by
2	the owner or operator to comply with all requirements of parts 7017.1002 to 7017.1220;
3	all applicable permit conditions; and any other applicable state or federal laws
4	pertaining to CEM operation;
5	[For text of subitems (3) and (4), see M.R.]
6	[For text of items C to E, see M.R.]
7	[For text of subps 5 and 6, see M.R.]
8	7011.0120 OPACITY STANDARD ADJUSTMENT.
9	Subpart 1. Application for permit modification. An owner or operator of an
10	emission facility may file an application for a permit modification under parts 7005.0200
11	to 7005.0280 for adjustment of the opacity standard applicable to an emissions unit. In
12	addition to the items required under parts 7005.0200 to 7005.0280, the application must
13	contain data that demonstrates that:
14	A. based on tests conducted under parts 7017.1002 to 7017.2060, the emissions unit
15	is in compliance with the applicable standard of performance for particulate matter and
16	all other standards of performance, except the opacity standard;
17	[For text of items B and C, see M.R.]
18	[For text of subps 2 and 3, see M.R.]
19	7011.1260 CONTINUOUS MONITORING.
20	[For text of subps 1 to 3, see M.R.]
21	Subp. 4. Averaging periods. Except as provided in this subpart and subparts 4a and
22	5, the requirements of parts 7017.1002 to 7017.1220 apply to continuous monitoring data
23	collection, reduction, and averaging periods.
24	[For text of items A to G, see M.R.]
25	[For text of subp 4a, see M.R.]

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1	Subp. 5. Installation and operation of continuous monitors. The owner or operator
2	of a waste combustor with continuous monitors shall comply with the requirements of
3	parts 7017.1002 to 7017.1220, except as provided in items A to I.
4	[For text of items A to I, see M.R.]
5	[For text of subps 6 and 7, see M.R.]
6	7011.1285 OPERATING RECORDS AND REPORTS.
7	[For text of subps 1 to 4, see M.R.]
8	Subp. 5. Initial compliance report. Following the initial compliance test as required
9	under part 7011.1270, the owner or operator of a waste combustor shall submit the
10	initial compliance test data, the performance evaluation of the CEMS using the
11	applicable performance specifications in part 7017.1070, subpart 1, and the maximum
12	demonstrated capacity and particulate matter control device temperature established
13	during the PCDD/PCDF testing.
14	[For text of subp 6, see M.R.]
15	7011.1420 EMISSION MONITORING.
16	[For text of subpart 1, see M.R.]
17	Subp. 2. Fuel gas combustion devices. Fuel gas combustion devices:
18	A. Sulfur dioxide.
19	[For text of subitems (1) to (4), see M.R.]
20	(5) For the purpose of reports under part 7017.1110, subpart 2, periods of excess
21	emissions that shall be reported are defined as any six-hour period during which the
22	average emissions (arithmetic average of six continuous one-hour periods) of sulfur
23	dioxide as measured by a continuous monitoring system exceed the applicable
24	standards of performance in part 7011.1410.
25	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 7017.1006.

[For text of subp 3, see M.R.]

7011.1615 CONTINUOUS EMISSION MONITORING.

[For text of subps 1 to 7, see M.R.]

Subp. 8. **Periods of excess emissions.** For the purpose of reports under part 7017.1110, subpart 2, 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.

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 **7011.1715**

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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 7017.1110, subpart 2, 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.

CONTINUOUS MONITORING SYSTEMS

7017.1002 DEFINITIONS.

Subpart 1. **Scope.** For the purposes of parts 7017.1004 to 7017.1220, the definitions given in parts 7005.0100, 7007.0100, and 7017.2005, and the definitions given in Code of Federal Regulation Regulations, title 40, part 60.2, and in the federal rules incorporated by reference in part 7017.1010, apply unless otherwise defined in this part.

- Subp. 2. Calendar quarter. "Calendar quarter" means any of the following four time periods during each year: January 1 to March 31; April 1 to June 30; July 1 to September 30; and October 1 to December 31.
- Subp. 3. **Certification test.** "Certification test" means a test that includes all of the procedures listed in the appropriate performance specifications in Code of Federal Regulations, title 40, part 60, appendix B.

7017.1002

1	Subp. 4. Continuous emission monitoring system or CEMS. "Continuous emission
2	monitoring system" or "CEMS" has the meaning given in Code of Federal Regulations,
3	title 40, part 60, appendix B, Performance Specification No. 2, section 2.1.
4	Subp. 5. Continuous opacity monitoring system or COMS. "Continuous opacity
5	monitoring system" or "COMS" has the meaning given in Code of Federal Regulations,
6	title 40, part 60, appendix B, Performance Specification No. 1, section 2.1.
7	Subp. 6. Data point. "Data point" means the output recorded by a monitoring system
8	after one cycle of sampling and analyzing.
9	Subp. 7. Excess emissions. "Excess emissions" means emissions that are greater than
10	the numerical emission limit during both the period when the limit applies and any
11	applicable periods of exemption, such as periods of startup, shutdown, and
12	malfunction. Excess emissions do not include emissions during startup and shutdown
13	that are based on values calculated using correction factors which, when applied outside
14	the normal operating range, produce invalid values.
15	Subp. 8. Linearity check. "Linearity check" means a monitor audit procedure
16	required by the Acid Rain Program at Code of Federal Regulations, title 40, part 75,
17	appendix A, section 6.2.
. 18	Subp. 9. Monitor bypass or bypass. "Monitor bypass" or "bypass" means the
19	diversion of emissions from their normal route such that the required CEMS or COMS is
20	not able to sample the complete emissions stream.
21	Subp. 10. Monitor downtime. "Monitor downtime" means time periods when one or
22	more of the following are true, excluding periods of monitor bypass:
23	A. the CEMS is not meeting the minimum data availability requirements of part
24	7017.1160, subpart 2;
25	B. the COMS is not meeting the data availability requirements of part 7017.1200,
26	subpart 2; <u>or</u>
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C. the CEMS or COMS is out of control; or

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D. the CEMS or COMS is not collecting the recording emissions data.

Subp. 11. Out of control. "Out of control" has the following meanings:

A. for CEMS subject to the federal Acid Rain Program monitoring requirements, the out of control definitions in Code of Federal Regulations, title 40, part 75.24, apply;

B. for CEMS which are not subject to Code of Federal Regulations, title 40, part 75, the out of control definitions in Code of Federal Regulations, title 40, part 60, appendix F, sections 4.3.1 and 5.2. apply; and

C. for COMS, the beginning of the out of control period is the time corresponding to the completion of a calibration error audit in which the calibration error exceeds three percent of the average audit value. The end of the out of control period is the time corresponding to the completion of the next calibration error audit in which the calibration error is three percent or less of the average audit value.

Subp. 12. **Recertification test.** "Recertification test" means conducting a certification test on a CEMS or COMS which has been previously certified. Recertification tests shall be conducted according to the same procedures and are subject to the same requirements as certification tests, except as noted in parts 7017.1004 to 7017.1220.

7017.1004 APPLICABILITY.

Subpart 1. **Applicability.** Parts 7017.1002 to 7017.1220 apply to owners and operators of emission facilities that are required by a compliance document, applicable requirement, or order of the commissioner to operate a CEMS or COMS except as listed in items A to C.

A. If equivalent or more stringent requirements are mandated by a compliance document, applicable requirement, or order of the commissioner, those requirements supersede the corresponding requirements in parts 7017.1002 to 7017.1220.

B. CEMS or COMS required by Code of Federal Regulations, title 40, part 75,
which are only operated for the Acid Rain Program, Title IV of the Clean Air Act, are
not subject to parts 7017.1002 to 7017.1220, except for the incorporation by reference of
federal requirements in parts 7017.1010 to 7017.1020.

C. CEMS required by Code of Federal Regulations, title 40, part 75, which are also required by a compliance document, applicable requirement, or order of the commissioner are not subject to parts 7017.1050 to 7017.1070, 7017.1170, and 7017.1180, subpart 1.

Part 7017.1006 applies to any owner or operator of an emission facility. Parts 7017.1002 to 7017.1130 apply to both CEMS and COMS. Parts 7017.1135 to 7017.1180 apply to CEMS only. Parts 7017.1185 to 7017.1220 apply to COMS only.

Subp. 2. **Transition to new rule.** Parts 7017.1002 to 7017.1220 supersede the requirements of those parts of air emission permits issued by the agency, prior to the effective date of this part, entitled Exhibit B, "Continuous Emission Monitoring Systems (CEMS)," and Exhibit G, "Quality Assurance Program for Continuous Emission Monitors."

7017.1006 REQUIREMENT TO INSTALL MONITOR.

The owner or operator of any emission facility, whether or not a CEMS or COMS is required by another part, may be required to install and operate a CEMS or COMS, upon order of the commissioner, if the commissioner finds that other methods of measurement or calculation do not provide adequate information on the level or variation of emissions to assure compliance with a compliance document or applicable requirement or to reliably estimate whether the emissions may pose a threat to public health or the environment.

7017.1010 INCORPORATION OF FEDERAL MONITORING REQUIREMENTS BY REFERENCE.

1	Subpart 1. New Source Performance Standards. The following regulations are
2	adopted and incorporated by reference:
3	A. Code of Federal Regulations, title 40, part 60.13, as amended, entitled
4	"Monitoring Requirements";
5	B. Code of Federal Regulations, title 40, part 60, Appendix B, as amended, entitled
6	"Performance Specifications"; and
7	C. Code of Federal Regulations, title 40, part 60, Appendix F, as amended, entitled
8	"Quality Assurance Procedures."
9	Subp. 2. National Emissions Standards for Hazardous Air Pollutants. The following
10	regulations are adopted and incorporated by reference:
11	A. Code of Federal Regulations, title 40, section 61.14, as amended, entitled
12	"Monitoring Requirements"; and
13	B. National Emissions Standards for Hazardous Air Pollutants, Code of Federal
14	Regulations, title 40, section 63.8, as amended, entitled "Monitoring Requirements."
15	Subp. 3. Submission to commissioner. All requests, reports, applications, and other
16	communications to the administrator pursuant to subparts 1 and 2 must be submitted to
17	the commissioner.
18	7017.1030 AGENCY ACCESS TO WITNESS OR CONDUCT TESTS.
19	Upon request of the agency or the commissioner, the owner or operator of an
20	emission facility shall allow the agency or any authorized employee or agent of the
21	agency to enter upon the premises of the owner or operator for the purposes of
22	conducting or witnessing any of the following activities:
23.	A. certification tests;
24	B. relative accuracy test audits;
25	C. cylinder gas audits;
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- E. calibration error audits; and
- F. daily calibration drift checks.

7017.1035 TESTING REQUIRED.

The owner or operator of an emission facility shall arrange to conduct a relative accuracy test audit, cylinder gas audit, or calibration error audit as required to determine the accuracy of a continuous monitoring system at times requested by the commissioner.

7017.1040 INSTALLATION REQUIREMENTS.

Subpart 1. Notification of installation. The owner or operator of any facility that intends to install a CEMS or COMS shall notify the commissioner at least 60 days prior to installation of the monitoring system. The notification shall include plans and drawings of the proposed system which show the configuration of the monitoring system including any monitor bypass routes.

Subp. 2. Representative location. A CEMS or COMS shall be installed in a location that provides data which is representative of emissions and which is in accordance with the requirements listed in the appropriate performance specifications in Code of Federal Regulations, title 40, part 60, appendix B. If the monitoring system is required by the Acid Rain Program, Title IV of the Clean Air Act, it must be installed according to the installation requirements of Code of Federal Regulations, title 40, part 75.

Subp. 3. Combined or separated emissions. When the emissions from two or more emission units are subject to the same emission limit and are combined before being released to the atmosphere, the owner or operator may install a CEMS or COMS on each emission unit or may elect to monitor the combined emission stream of the emission units. When two or more emission units required to be monitored with a CEMS or COMS are not subject to the same emission limit, a separate CEMS or COMS shall be

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1 installed on each emission unit, except in cases where an extractive CEMS or COMS is 2 time-shared between the emission units. When the effluent from one emission unit can 3 be released to the atmosphere through more than one point, the owner or operator shall 4 install a CEMS or COMS on each separate emission stream unless the installation of 5 fewer systems is approved in writing by the commissioner.

7017.1050 MONITOR CERTIFICATION AND RECERTIFICATION TEST.

- Subpart 1. Certification time frame. The owner or operator must conduct and complete certification testing within 90 days after the due date of the first excess emissions report required for the CEMS or COMS. This subpart does not require a recertification test of a previously certified continuous monitoring system, unless the monitor has undergone a change which invalidates its certification.
- Subp. 2. Changes to a CEMS or COMS which invalidate certification. Any of the following changes to a certified CEMS or COMS invalidates the certification status of the monitoring system:
 - A. replacement of the analyzer;
 - B. change in location or orientation of the sampling probe or site;
- C. replacement of or modification to the flue gas handling system which changes its flow characteristics; or
- D. a change that in the commissioner's judgment significantly affects the ability of the system to measure or record the pollutant concentration, volumetric gas flow, or opacity.
- Subp. 3. Changes to a CEMS or COMS which do not invalidate certification. The following changes to a monitoring system do not invalidate certification and do not require a recertification test:
 - A. routine or normal corrective maintenance;

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B. replacement of parts on the manufacturer's recommended spare parts list; or C. software modifications in the automated data acquisition and handling system,

where the modification is only for the purpose of generating additional or modified

reports.

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Subp. 4. Notification of changes requiring recertification. The owner or operator shall notify the commissioner in writing prior to making any planned changes which may invalidate the certification status of a CEMS or COMS. If the change was unforeseen, the owner or operator shall notify the commissioner in writing within two working days after making the change.

Subp. 5. **Deadline for recertification.** The owner or operator of a CEMS or COMS shall conduct a recertification test on a monitoring system within 90 days of completion of any change which invalidates the monitor's certification status.

7017.1060 PRECERTIFICATION TEST REQUIREMENTS.

Subpart 1. Certification test plan required. Prior to a certification test, the owner or operator of the emission facility shall develop and submit to the commissioner a test plan which contains all of the information required in subpart 2. The certification test plan must be postmarked or received at least 30 days before the certification test date. No certification test may be conducted until a test plan has been submitted and approved by the commissioner.

Subp. 2. **Certification test plan contents.** The test plan must be submitted in the following format and include the elements in items A and B:

A. General requirements:

- (1) name and address of emission facility;
- (2) name, title, and telephone number of contact person at facility;
- (3) permit number or name and data of applicable compliance document requiring test;

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1	(4) statement of whether the test is an initial certification or a recertification;
2	(5) drawing of the monitoring system which indicates the location of the
3	reference method ports and monitoring system probe location in relation to the nearest
4	flow disturbances both upstream and downstream of the monitoring system as well as
5	any monitor bypass routes;
6	(6) make, model, and serial number of the monitor and data recording system;
7	(7) name and telephone number of testing company; and
8	(8) planned certification test date.
9	B. Testing procedures and operating conditions:
10	(1) a list of the performance specifications from Code of Federal Regulations,
11	title 40, part 60, appendix B, which will be followed during the test;
12	(2) any fuel F-factors to be used;
13	(3) a list of the reference methods from Code of Federal Regulations, title 40,
14	part 60, appendix A, which will be followed during the test;
15	(4) the units of measurement under which the monitor will be certified, for
16	example, lb/hr, ppm, lb/MMBtu;
17	(5) the monitoring system's span, range, and calibration levels; and
18	(6) the planned emission unit operating range, for example, heat input, steam
19	output, during the certification test.
20	Subp. 3. Certification pretest meeting. The owner or operator of the emission facility
21	shall schedule a meeting with the agency to discuss the details of the proposed
22	certification test. The meeting may be conducted in person or by a telephone conference
23	call. When requested by the commissioner or the owner or operator, an in-person
24	pretest meeting, held at the agency office between authorized employees of the agency

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and the owner is required. The pretest meeting shall be held at least seven days prior to

- 1 the certification test date except that a shorter time shall be allowed upon commissioner
- approval. The commissioner may reject the results of a certification test if the owner or
- 3 operator of the emission facility refused to participate in a pretest meeting.

7017.1070 CERTIFICATION TEST PROCEDURES.

- Subpart 1. **Certification test procedure.** A CEMS or COMS must be certified according to the appropriate performance specifications listed in Code of Federal Regulations, title 40, part 60, appendix B. The certification test shall also be conducted in accordance with the certification test plan approved by the commissioner.
- Subp. 2. **Determination of certification acceptance**. A CEMS or COMS is considered certified only after the complete certification test report has been submitted to the commissioner and the commissioner gives written determination of certification. The commissioner shall provide a determination of certification acceptance if the commissioner finds that the requirements of parts 7017.1060 to 7017.1080 have been met. Upon the commissioner's determination of certification acceptance, the duration of the CEMS or COMS certification status retroactively begins with the completion date of the successful certification test.

7017.1080 CERTIFICATION TEST REPORT REQUIREMENTS.

- Subpart 1. Report required. The owner or operator of the emission facility shall prepare and submit a certification test report to the commissioner. A report must be submitted for any certification test that was required, whether or not the test data indicate compliance with the appropriate performance specifications, and whether or not the test was completed according to the approved test plan.
- Subp. 2. **Report submittal deadline.** The certification test report must be postmarked or received within 45 days following completion of the certification test unless an alternate schedule is given in the applicable compliance document.
- Subp. 3. Microfiche submittal deadline. The owner or operator of the emission 7017.1080

1	facility shall submit a microfiche copy of the certification test report to be postmarked or
2	received within 105 days following completion of the certification test. A cover letter
3	which certifies that the microfiche is an exact and complete copy of the original test
4	report must be submitted with the microfiche copy of the test report.
5	Subp. 4. Report contents. Each certification test report shall contain the following
6	information and be in the format shown in items A to D:
7	A. Introduction:
8	(1) name and address of the emission facility;
9	(2) facility permit identification number and the date and title of the compliance
10	document which required the certification test;
11	(3) date or dates of the test;
12	(4) name and address of the independent testing company; and
13	(5) signed and dated certification statement as listed in part 7017.2040, subparts
14	1 to 5.
15	B. General information:
16	(1) identification of emissions units and pollutants being monitored;
17	(2) make, model, and serial number of monitoring system;
18	(3) indication of whether certification is initial certification or recertification
19	(4) names and titles of testing and facility personnel who conducted or assisted
20	with the test; and
21	(5) drawing of monitoring system probe location for extractive systems, or
22	monitor location for in situ systems, showing its relationship to the nearest flow
23	disturbances both up and downstream of the probe.
24	C. Test results: a summary table which compares the certification test results to the

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1	standards in the applicable performance specifications of Code of Federal Regulations,
2	title 40, part 60, appendix B.
3	D. Testing procedures:
4	(1) list of test methods and performance specifications followed during the
5	certification test;
6	(2) list of mathematical equations used to calculate values in the report;
7	(3) copies of field data; and
8	(4) description of any departures from the approved reference test methods of
9	performance specifications requirements.
10	7017.1090 MONITOR OPERATIONAL REQUIREMENTS.
11	Subpart 1. Continuous operation. A CEMS or COMS must be operated and data
12	recorded during all periods of emission unit operation including periods of emission
13	unit start-up, shutdown, or malfunction. This requirement to operate the monitor
14	applies whether or not a numerical emission limit applies during these periods. A
15	CEMS or COMS must not be bypassed except in emergencies where failure to bypass
16	the CEMS or COMS would endanger human health, safety, or plant equipment.
17	Subp. 2. Acceptable monitor downtime. Monitor downtime is a violation of subpart
18	1, except for reasonable periods of monitor downtime due to the following causes:
19	A. damage to the monitoring system due to acts of God such as lightning strikes,
20	tornadoes, or floods which render the monitor inoperative;
21	B. sudden and not reasonably preventable monitor breakdowns which make it
22	necessary to return monitoring system components to the manufacturer for repair or to
23	order-monitor parts not included in the facility's quality assurance plan list of spare
24	monitor parts;
25	C. scheduled monitor maintenance based on equipment manufacturer's

recommended maintenance schedule which cannot reasonably be conducted when the emission unit is not operating; or

D. unavoidable monitor downtime in order to conduct daily drift checks; calibration error audits, relative accuracy test audits, linearity checks, and cylinder gas audits which are required by a compliance document, applicable requirement, or by request of the commissioner.

7017.1100 EVIDENCE OF NONCOMPLIANCE.

Data collected from a CEMS or COMS that is not in compliance with parts 7017.1002 to 7017.1220 may still be used in establishing violations under part 7017.0100 if the data represent credible evidence of such violations.

7017.1110 EXCESS EMISSIONS REPORTS.

Subpart 1. Excess emissions report required. The owner or operator of a facility subject to parts 7017.1002 to 7017.1220 shall submit an excess emissions report each calendar quarter. The report must be submitted even if there were no excess emissions, monitor downtime, or monitor bypasses during the quarter. The report shall be submitted on a form approved by the commissioner within 30 days of the end of each calendar year quarter. Any such form provided by the commissioner shall only seek information relevant to the excess emissions report.

Subp. 2. **Contents of excess emissions report.** The excess emissions report shall contain at least the information in items A to C.

A. Excess emissions:

(1) the date and time of commencement and completion of each period of excess emissions recorded by the CEMS, COMS, or approved alternative monitoring system including excess emissions even if they occurred during periods when the numerical emission limit was not in effect; for example, periods of excess emissions during periods of start-up, shutdown, and malfunction which are allowed by the applicable regulation;

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1	(2) the cause of the excess emissions;
2	(3) the magnitude of the excess emissions and any conversion factor used to
3	calculate the excess emissions; and
4	(4) the corrective action taken or preventive measures taken by the facility in
5	response to the excess emissions.
6	B. Monitor downtime:
7	(1) the date and time of commencement and completion of each period of
8	monitor downtime;
9	(2) identification of the cause of each period of monitor downtime, including
10	periods of acceptable monitor downtime; and
11	(3) the corrective action taken or preventive measures adopted to stop or reduce
12	monitor downtime.
13	C. Monitor bypass periods:
14	(1) the dates and times of commencement and completion of each period where
15	emissions are generated but the monitor was bypassed;
16	(2) identification of the cause of each period of monitor bypass; and
17	(3) the corrective action taken or preventive measures adopted to stop or reduce
18	monitor bypasses.
19	7017.1120 SUBMITTALS.
20	Subpart 1. Address. All submittals required under parts 7017.1002 to 7017.1220 shall
21	be sent to: Continuous Emissions Monitoring System Specialist, Minnesota Pollution
22	Control Agency, 520 Lafayette Road, St. Paul, Minnesota 55155-4194.
23	Subp. 2. Alternate format. The commissioner shall accept paper, hard copy
24	submittals. Submittals shall also be accepted in an alternate format such as electronic
25	mail, computer disk, facsimile, or CD-ROM, provided that the commissioner has given
26	prior approval for the use of the alternate delivery method or medium.

Subp. 3. **Date.** Submittals must be postmarked or received by the date specified in the applicable compliance document.

Subp. 4. Certification. All submittals, except for certification test-plans and relative accuracy test audits notifications, must be accompanied by a certification statement signed by a responsible official, pursuant to part 7007.0500, subpart 3. When a submittal required to be certified has been made by electronic mail or facsimile, a signed certification clearly indicating the submittal to which it applies shall be mailed or delivered to the agency, postmarked, or received within five days of the electronic mail or facsimile. When a submittal required to be certified is made by CD-ROM or computer disk, it shall be accompanied by a signed certification clearly indicating the submittal to which it applies.

7017.1130 RECORDKEEPING.

The owner or operator of a facility subject to parts 7017.1002 to 7017.1220 shall maintain a file of all of the following CEMS or COMS information at the emission facility in a permanent form suitable for inspection for at least five years from the date of each record: each one-hour emission average recorded by the CEMS; each six-minute opacity average recorded by the COMS; monitor certification test reports; excess emissions reports; cylinder gas audit reports; calibration error audit reports; relative accuracy test audits; linearity check reports; results of daily calibration drift checks; log of adjustments made to the CEMS or COMS and maintenance performed on the CEMS or COMS; and all other monitoring system information required by an applicable compliance document. The owner or operator shall also keep an updated copy of the facility's CEMS or COMS quality assurance plan on site.

7017.1135 APPLICABILITY.

Parts 7017.1140 to 7017.1180 apply only to CEMS.

7017.1140 CEMS DESIGN REQUIREMENTS.

7017.1170

1	A CEMS shall be designed to complete a minimum of one cycle of sampling,
2	analyzing, and data recording in each 15-minute period.
3	7017.1150 CEMS TESTING COMPANY REQUIREMENT.
4	The following CEMS tests shall be conducted by an independent testing company:
5	A. relative accuracy test audits; and
6	B. the relative accuracy testing portion of any certification test.
7	7017.1160 CEMS MONITORING DATA.
8	Subpart 1. Data points. All data points collected by a CEMS shall be used to calculate
9	individual hourly emission averages unless another applicable requirement or
10	compliance document requires more frequent averaging. Each hourly average starts at
11	the beginning of the hour and ends at the beginning of the following hour.
12	Subp. 2. Minimum data points. In order for an hour of data to be considered valid, it
13	must contain the following minimum number of data points during the hour:
14	A. four data points, equally spaced, if the emission unit operated during the entire
15	hour;
16	B. two data points, at least 15 minutes apart, during periods of monitor calibration,
17	and periods of time to conduct quality control audits or routine maintenance; and
18	C. one data point if the emission unit operated for 15 minutes or less during the
19	hour.
20	Subp. 3. Data reduction procedures. Monitoring data shall be recorded in the same
21	units of measurement and averaging period as the facility's emission standard.
22	7017.1170 QUALITY ASSURANCE AND CONTROL REQUIREMENTS FOR CEMS.
23	Subpart 1. Exclusion from applicability. The owner or operator of a CEMS may
24	submit to the commissioner a request for a determination notification of exclusion from
25	the applicability of the requirements of subparts 4 and 5 if the actual emissions of the

emission unit or units being monitored by the CEMS are less than ten tons per year or if the emission unit or units being monitored by the CEMS operates less than 120 hours per quarter. The commissioner shall grant such a request if the commissioner finds that the owner or operator has provided an alternative quality assurance plan that will reasonably ensure that the data generated by the CEMS is representative of emissions. The owner or operator of a CEMS that has received a determination of exclusion shall notify the commissioner immediately in the event that the conditions that made the CEMS eligible for the exclusion no longer apply. No determination made under this part affects the owner's or operator's obligation to comply with similar quality assurance provisions that may be imposed under other applicable requirements or compliance documents. Facilities with CEMS utilizing this exclusion shall comply with the following alternative quality assurance and control audit procedure:

A. conduct a minimum of one cylinder gas audit annually, except that during calendar years in which a relative accuracy test audit (RATA) is performed on the CEMS no CGA is required; and

B. conduct a minimum of one RATA every five calendar years.

The owner or operator of a CEMS that has utilized an exclusion under this subpart shall submit notification with the following quarterly excess emissions report, in the event that the conditions which made the CEMS eligible for the exclusion no longer apply. No exclusion under this subpart affects the owner's or operator's obligation to comply with similar quality assurance provisions that may be imposed under other applicable requirements or compliance documents.

Subp. 2. Quality assurance plan required. The owner or operator of the facility shall develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 60 days after the effective date of this part or within 30 days after monitor certification, whichever is later. The plan

shall be revised as needed in order to keep it up to date with the facility's current policies and procedures. The plan shall contain all of the information required by Code of Federal Regulations, title 40, part 60, appendix F, section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the commissioner gives written approval to exclude specific spare parts from the list. The commissioner may approve requested exclusions if the commissioner determines that it is not reasonable to keep a specific part on site after consideration of the consequences of a malfunction of the part, the likelihood of a malfunction, the time required to obtain the part, and other pertinent factors.

Subp. 3. Daily calibration drift assessment and adjustment. The facility owner or operator shall conduct daily calibration drift assessments and make adjustments as needed according to the procedure listed in items A and B and Code of Federal Regulations, title 40, section 60.13(d)(1), for each pollutant concentration and diluent monitor. The calibration drift assessment shall be conducted on each monitor range. The span value specified in the applicable requirement or compliance document shall be used to determine the zero and span calibration points. If no span value is specified in the applicable requirement or compliance document, the owner or operator shall use a span value equivalent to 1.5 times the emission limit.

A. For an extractive CEMS, minimum drift assessment procedures shall include introducing applicable zero and span gas mixtures into the measurement system as near the probe as is practical. Certified master Gases (i.e. within ± two percent of tag value) shall be used to perform the span (upscale) drift assessment. The span and zero gas mixtures shall be the same composition as specified in the applicable performance specification.

B. For a nonextractive, in situ CEMS, minimum drift assessment procedures shall include upscale checks using a certified calibration gas cell or test cell which is

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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.

Subp. 4. Semiannual cylinder gas audit (CGA). The facility owner or operator shall conduct a CGA on each concentration and diluent monitor on each CEMS. The CGA must be conducted on each monitor range. A CGA is required at least once every calendar half year, except that a CGA is not required during any calendar half year in which a RATA was performed on the CEMS. The initial CGA must be completed within 180 days following the effective date of this part for CEMS which were certified prior to that date or within 180 days following certification of the CEMS for CEMS which are certified on or after that date. The CGAs shall be conducted at least three months apart but no more than eight months apart. A CGA shall be conducted according to the procedures in Code of Federal Regulations, title 40, part 60, appendix F, section 5.1.2. If the monitored emission unit was operated for less than 24 hours during the calendar half year, a CGA is not required on that CEMS during that calendar half year.

Subp. 5. **Relative accuracy test audits (RATA).** An initial relative accuracy test audit (RATA) shall be completed on each CEMS within 365 days following the effective date of this part for CEMS which are certified prior to that date or within 365 days following certification of the CEMS for CEMS which are certified on or after that date. An additional RATA is required on each CEMS periodically according to items A and B.

A. A RATA is required on each monitor range, every calendar year, with the following exceptions:

- (1) a RATA is not required in any calendar year if a RATA conducted in the previous year, for that CEMS, demonstrated a relative accuracy value of less than 15 percent; and
- (2) a RATA is not required on any monitor whose associated emission unit operated less than 48 hours during the calendar year.

1	If the facility uses either of the exceptions in subitem (1) or (2), the next RATA shall be					
2	conducted during the first half of the following calendar year.					
3	B. RATAs shall be conducted at least three months apart and according to the					
4	procedures in Code of Federal Regulations, title 40, part 60, appendix F, section 5.1.1.					
5	Subp. 6. Criteria for excessive CEMS audit inaccuracy. The criteria for excessive					
6	inaccuracy are:					
7	A. for RATAs, the relative accuracy value specified in the appropriate Performance					
8	Specification of Code of Federal Regulations, title 40, part 60, appendix B; and					
9	B. for CGAs, the average audit value must be within 15 percent of the cylinder gas					
10	value or five ppm, whichever is greater.					
11	Subp. 7. Calibration gases. Gas mixtures must not be used after the manufacturer's					
12	certification expiration data. The expiration date must be clearly labeled on the					
13	container of each gas.					
14	7017.1180 QUALITY CONTROL REPORTING AND NOTIFICATION					
15	REQUIREMENTS FOR CEMS.					
16	Subpart 1. Cylinder gas audit summary. A cylinder gas audit summary must be					
17	submitted on a form approved by the commissioner within 30 days following the end of					
18	the calendar quarter in which the audit was completed. Any such form provided by the					
19	commissioner shall only seek information relevant to the cylinder gas audit.					
20	Subp. 2. Relative accuracy test audit notification. The owner or operator shall notify					
21	the commissioner in writing at least 30 days prior to conducting any relative accuracy					
22	test audit. The notification may be made by facsimile, mail, electronic mail, or					
23	hand-delivered document.					
24	Subp. 3. Relative accuracy test audit summary. A relative accuracy test audit					

summary report must be submitted on a form approved by the commissioner within 30

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1 days following the end of the calendar quarter in which the relative accuracy test audit was conducted. Any such form provided by the commissioner shall only seek information relevant to the relative accuracy test audit.

Subp. 4. Linearity check results summary. Facilities subject to Code of Federal Regulations, title 40, part 75, shall submit a linearity check summary report shall be submitted within 30 days following the end of the calendar quarter in which the linearity check was conducted on a form approved by the commissioner. Any such form provided by the commissioner shall only seek information relevant to the linearity check.

7017.1185 APPLICABILITY.

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Parts 7017.1190 to 7017.1220 apply only to COMS.

7017.1190 COMS DESIGN REQUIREMENTS.

A COMS must be designed to complete a minimum of one cycle of sampling and analyzing in each successive ten-second period and one cycle of data recording each one-minute period.

7017.1200 COMS MONITORING DATA.

- Subpart 1. Averaging periods. All COMS data must be reduced to six-minute averages.
- Subp. 2. Data points. Compliance must be calculated from all data points collected in the averaging period by the COMS. A six-minute average is valid only if it contains data from at least five of the minutes within the averaging period.
- Subp. 3. Opacity data reduction procedures. Six-minute opacity averages must be calculated as follows: each one-minute period, the one-minute average opacity value must be determined by summing the opacity values of the individual data points collected by the COMS and dividing that sum by the number of data points collected. This is the one-minute average opacity value. Next, the sum of the individual 7017.1200

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one-minute averages in the applicable averaging period must be determined and divided by the number of one-minute averages taken. The resulting average must be rounded to the nearest one percent opacity. The resulting value is the six-minute opacity average that shall be recorded by the monitoring system. There are ten individual six-minute averaging periods in each hour. The first six-minute period starts at the beginning of the clock hour and ends at the beginning of minute six of the clock hour. The second six-minute period immediately follows the first, and the pattern continues through the last of the ten six-minute periods in a clock hour.

Subp. 4. **Opacity exceedance.** An opacity exceedance has occurred if, having taken any allowable excursions into account, any six-minute average exceeds the applicable opacity standard. Exceedances must be expressed as the number of nonoverlapping six-minute averages that exceeded the standard.

7017.1210 QUALITY ASSURANCE AND CONTROL REQUIREMENTS FOR COMS.

Subpart 1. Quality assurance plan requirement. The owner or operator of the facility shall develop and implement a written quality assurance plan which covers each COMS. The plan shall be on site and available for inspection within 60 days after the effective date of this part or within 30 days after monitor certification, whichever is later. The plan shall be revised as needed in order to keep it up to date with the facility's current policies and procedures. The plan shall contain written procedures which should describe in detail complete, step-by-step procedures and operations for each of the following activities:

- A. calibration of a COMS;
- B. drift determination and adjustment of a COMS;
- C. preventative maintenance of the COMS, including the manufacturer's spare parts list for each COMS, and require that these parts be kept at the facility unless the commissioner gives written approval to exclude specific spare parts from the list. The

commissioner may approve requested exclusions if the commissioner determines that it is not reasonable to keep a specific part on site after consideration of the consequences of a malfunction of the part, the likelihood of a malfunction, the time required to obtain the part, and other pertinent factors;

- D. data recording, calculations, and reporting;
- E. accuracy audit procedures; and

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F. program for corrective actions for a malfunctioning COMS.

Subp. 2. Daily calibration drift assessments and monitor adjustments. The owner or operator of a COMS shall conduct a daily zero and upscale calibration drift assessment and adjustments according to the requirements of Code of Federal Regulations, title 40, part 60.13(d)(2). The zero and upscale calibration levels must be determined by using the span value specified in the applicable requirement. If the applicable requirement does not specify a span value, a span value of 60, 70, or 80 percent opacity must be used unless an alternative span value is approved by the commissioner.

Subp. 3. **Semiannual calibration error audit.** An initial calibration error audit must be completed on each COMS within 180 days following the effective date of this part for a COMS which is certified prior to that date, or within 180 days following certification of the COMS for a COMS which is certified on or after that date. An additional calibration error audit is required on each COMS semiannually, and at least three months apart, but no more than eight months apart, except that a calibration error audit need not be conducted during any semiannual period in which the emission unit operated less than 24 hours. The calibration error audit shall be conducted according to the procedures in Code of Federal Regulations, title 40, part 60, appendix B, Performance Specification No. 1, section 7.1.4. The calibration error audit shall be conducted with neutral density filters with an optical density of 0.05, 0.10, and 0.20 attenuators (i.e. neutral density filters) shall be selected according to the procedure in

section 7.1.2. of Performance Specification No. 1 unless the commissioner determines that other attenuator values are needed to properly measure the accuracy of the monitor because the pertinent opacity limit is unusually high or low. In that case, the commissioner shall specify the appropriate neutral density filter values. The equations contained in Code of Federal Regulations, title 40, part 60, appendix B, Performance Specification No. 1, section 8, shall be used to calculate a COMS audit result. A COMS calibration error audit result shall not exceed three percent opacity.

Subp. 4. Attenuator calibration. The owner or operator shall have an independent testing company conduct calibrations of each of the neutral density filters used in the calibration error audit according to the procedure in Code of Federal Regulations, title 40, part 60, appendix B, section 7.1.3., within the time frame of opacity stability guaranteed by the attenuator manufacturer. The manufacturer's guarantee of stability shall be on site available for inspection.

7017.1220 QUALITY ASSURANCE AND CONTROL REPORTING REQUIREMENTS FOR COMS.

A summary of the results of each COMS calibration error audit must be submitted on a form approved by the commissioner within 30 days following the end of the calendar quarter in which the audit was completed. Any such form provided by the commissioner shall only seek information relevant to the COMS calibration error audit.

7017.2005 DEFINITIONS.

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[For text of subps 1 to 3, see M.R.]

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.

[For text of subps 5 to 8, see M.R.]

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:

[For text of items A to C, see M.R.]

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; or

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.

EPA may request a performance test under this part for the reasons listed in items A to E. 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.

[For text of subps 2 to 5, see M.R.]

7017.2025 OPERATIONAL REQUIREMENTS AND LIMITATIONS.

[For text of subpart 1, see M.R.]

- 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

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conditions shall be assumed to be the maximum achievable process or operating rate of the emissions unit; or

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

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:

[For text of items A to C, see M.R.]

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.

[For text of subps 4 to 6, see M.R.]

7017.2030 PERFORMANCE TEST PRETEST REQUIREMENTS.

[For text of subps 1 and 2, see M.R.]

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:

[For text of items A to D, see M.R.]

[For text of subp 4, see M.R.]

7019.3040 CONTINUOUS EMISSION MONITOR (CEM) DATA.

A. If an emission reporting facility or a facility issued an option B registration permit under part 7007.1120 that chooses to be assessed a fee under part 7002.0025,

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subpart 1, item C, subitem (1), has collected emissions data through use of a CEM in compliance with the preconditions in subitems (1) and (2), the facility shall report that data to the agency in its emission inventory. The emission inventory submitted shall be based on all of the CEM data. The requirements in subitems (1) and (2) must be met:

(1) the CEM has been certified by the commissioner; and

(2) the CEM data have not been rejected by the commissioner due to failure by the owner or operator to comply with parts 7017.1002 to 7017.1220; all applicable permit conditions; and any other applicable state or federal laws pertaining to CEM operation.

[For text of item B, see M.R.]

7021.0050 ACID DEPOSITION CONTROL REQUIREMENTS IN MINNESOTA.

Subpart 1. Emission limitations. Any electric utility whose electric generating facilities located in Minnesota have a total combined net generating capacity greater than 1,000 megawatts may not emit from the emission facilities which it owns, operates, maintains, or controls in Minnesota total emissions of sulfur dioxide in excess of 130 percent of the number of tons of sulfur dioxide emitted from the electric utility's emissions facilities in 1984. This limitation shall apply beginning January 1, 1990. The determination as to the number of tons emitted by an electric utility's emission facilities shall be made by the commissioner based on emission information obtained from the electric utility pursuant to part 7017.1110.

[For text of subps 2 to 6, see M.R.]

REPEALER. Minnesota Rules, parts 7017.1000; and 7019.2000, are repealed.