

1 15A NCAC 02D .2601 is proposed for readoption with substantive changes as follows:  
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3 **SECTION .2600 - SOURCE TESTING**  
4

5 **15A NCAC 02D .2601 PURPOSE AND SCOPE**

6 (a) The purpose of this Section is to assure consistent application of testing methods and methodologies to demonstrate  
7 compliance with emission standards.

8 (b) This Section shall apply to all air pollution sources.

9 ~~(c)~~ (c) Emission compliance testing shall be by the procedures of this Section, except as may be otherwise required in  
10 ~~Rules .0524, .0912, .1110, .1111, or .1415 of this Subchapter Sections:~~

11 (1) 40 CFR Part 60, New Source Performance Standards in 15A NCAC 02D .0524;

12 (2) 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants in 15A NCAC 02D  
13 .1110; or

14 (3) 40 CFR Part 63, Maximum Achievable Control Technology requirements in 15A NCAC 02D .1111.

15 ~~(d)~~ (d) Applicable source test audit requirements shall be by the procedures specified in 40 CFR 60.8, 40 CFR 61.13, or  
16 40 CFR 63.7.

17 ~~(e)~~ (e) The Director may approve using the use of test methods other than those specified in this Section underin  
18 accordance with Paragraph (i) of Rule .2602 of this Section. 15A NCAC 02D .2602(h)(3). Requests for the use of  
19 alternative test methods shall be submitted to the Director at least 45 days prior to testing.

20  
21 *History Note:* Authority *G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);*  
22 *Eff. June 1, 2008; 2008;*  
23 *Readopted Eff. \_\_\_\_\_.*  
24  
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**Commented [NBW1]:** The DAQ is proposing to add a list to identify EPA testing requirements.

**Commented [NBW2]:** The DAQ is proposing to add the citation for QA/QC requirements for audit samples.

**Commented [NBW3]:** The DAQ is proposing to revise the paragraph to include a 45-day review of new or alternate test methods.

1 15A NCAC 02D .2602 is proposed for readoption with substantive changes as follows:

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3 **15A NCAC 02D .2602 GENERAL PROVISIONS ON TEST METHODS AND PROCEDURES**

4 (a) The owner or operator of a source shall perform any required test at ~~his~~their own expense.

5 ~~(b) The final test report shall describe the training and air testing experience of the person directing the air test.~~

**Commented [NBW4]:** The DAQ is proposing to move paragraph to Subparagraph (f)(3).

6 ~~(e)(b)~~ The owner or operator of the source shall arrange for air emission testing protocols to be provided to the  
7 Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to  
8 air pollution testing. ~~The~~If requested by the owner or operator at least 45 days before conducting the test, the Director  
9 shall review air emission testing protocols for pre-approval prior to testing ~~if requested by the owner or operator at~~  
10 ~~least 45 days before conducting the test testing.~~

11 ~~(d)(c)~~ Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall  
12 notify the Director at least 15 days before beginning the test so that the Director may at ~~his~~their option observe the  
13 test.

14 ~~(e)(d)~~ For compliance determination, the owner and operator of the source shall provide:

- 15 (1) sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the
- 16 test procedure;
- 17 (2) scaffolding and safe access to the sample and data collection locations; and
- 18 (3) light, electricity, and other utilities required for sample and data collection.

19 ~~(f) Unless otherwise specified in the applicable permit or during the course of the protocol review, the results of the~~  
20 ~~tests shall be expressed in the same units as the emission limits given in the rule for which compliance is being~~  
21 ~~determined.~~

**Commented [NBW5]:** The DAQ is proposing to move paragraph to Subparagraph (f)(2).

22 ~~(g)(e)~~ The owner or operator of the source shall arrange for controlling and measuring the production rates during the  
23 period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is  
24 operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test  
25 shall describe the procedures used to obtain accurate process data and include in the test report the average production  
26 rates determined during each testing period.

27 ~~(h)(f)~~ The final air emission test report shall be submitted to the Director not later than 30 days after sample collection.  
28 ~~The owner or operator may request an extension to submit the final test report. The Director shall approve an extension~~  
29 ~~request if he finds that the extension request is a result of actions beyond the control of the owner or operator.~~

**Commented [NBW6]:** The DAQ is accepting comment on the 30-day requirement for submittal of the test report.

**Commented [NBW7]:** The DAQ is proposing to move paragraph to Subparagraph (f)(4).

30 (1) The final test report shall include a signed statement by the responsible official signifying the  
31 compliance or noncompliance of the stack test results with the applicable emission standards.

**Commented [NBW8]:** The DAQ is proposing to add a new requirement for submitting a signed compliance statement with the test report.

32 (2) The results of the tests shall be expressed in the same units as the emission limits given in the rule  
33 for the compliance that is being determined, unless otherwise specified in the applicable permit or  
34 revised during the course of the protocol review.

35 (3) The final test report shall describe the training and air testing experience of the person directing the  
36 test.

1 (4) The owner or operator may request an extension to submit the final test report. The Director shall  
2 approve an extension request if he finds that the extension request is a result of actions beyond the  
3 control of the owner or operator.

4 (g) Within 15 days of submission of a test report signifying noncompliance, the owner, operator, or responsible  
5 official shall submit to the Director a written plan which includes:

- 6 (1) interim actions being taken to minimize emissions pending demonstration of compliance;
- 7 (2) corrective actions that have been taken or that are proposed to return the source to compliance;
- 8 (3) proposed date for the compliance retest; and
- 9 (4) necessary changes to update the site-specific test plan prior to a retest.

10 (h) The Director shall make the final determination regarding any testing procedure deviation and the validity of  
11 the compliance test. The Director may:

- 12 (1) Allow deviations from a method specified under a rule in this Section if the owner or operator of  
13 the source being tested demonstrates to the satisfaction of the Director that the specified method is  
14 inappropriate for the source being tested and that the deviation is appropriate.
- 15 (2) Prescribe alternate test procedures on an individual basis when the Director finds that the  
16 alternative method is necessary to secure more reliable test data.
- 17 (3) Prescribe or approve methods on an individual basis for sources or pollutants for which no test  
18 method is specified in this Section if the methods can be demonstrated to determine compliance of  
19 permitted emission sources or pollutants.

20 (i) The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a  
21 rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating  
22 to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described  
23 in this Section has precedence over all other tests.

24  
25 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);  
26 Eff. July 1, 2008-2008;  
27 Readopted Eff. \_\_\_\_\_.

**Commented [NBW9]:** The DAQ is proposing to add a new paragraph for noncompliance test reports and the information that needs to be submitted.

**Commented [NBW10]:** The DAQ is proposing to remove vague language.

1 15A NCAC 02D .2603 is proposed for readoption with substantive changes as follows:  
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3 **15A NCAC 02D .2603** **TESTING PROTOCOL**

4 (a) Testing protocols shall include:

- 5 (1) facility and testing company contact information (mailing address, email, phone number);
  - 6 (2) air permit number and revision including permitted source name and ID number;
  - 7 ~~(4)~~(3) an introduction explaining the purpose of the proposed test, including identification of the  
8 regulations and permit requirements for which compliance is being demonstrated and the allowable  
9 emission limits;
  - 10 ~~(2)~~(4) a description of the facility and the source to be tested;
  - 11 ~~(3)~~(5) a description of the test procedures (sampling equipment, analytical procedures, sampling locations,  
12 reporting and data reduction requirements, and internal quality assurance and quality control  
13 activities);
  - 14 (6) source test audit requirements applicable to the proposed test methods;
  - 15 ~~(4)~~(7) any modifications made to the test methods referenced in the protocol; and
  - 16 (8) the permitted maximum process rate, maximum normal operation process rate and the proposed  
17 target process rate during testing;
  - 18 ~~(5)~~(9) a description of how production or process data will be documented during ~~testing-testing;~~ and  
19 (10) the proposed test schedule.
- 20 (b) The tester shall not deviate from the protocol or test plan unless the ~~tester~~owner or operator documents the  
21 ~~deviation.~~deviation in the test report.  
22

23 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);  
24 Eff. July 1, 2008; 2008;  
25 Readopted Eff. \_\_\_\_\_.  
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**Commented [NBW11]:** The DAQ is proposing to modify the rule to include additional requested information in the Protocol Submittal Form

1 15A NCAC 02D .2604 is proposed for readoption without substantive changes as follows:

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3 **15A NCAC 02D .2604** **NUMBER OF TEST POINTS**

**Commented [NBW12]:** The DAQ is proposing to add general formatting changes.

4 (a) Method 1 of Appendix A of 40 CFR Part 60 shall be used to select a suitable site and the appropriate number of  
5 test points for the following situations:

- 6 (1) particulate ~~testing, testing;~~
- 7 (2) volatile organic ~~compounds, compounds;~~
- 8 (3) velocity and volume flow rate ~~measurements, measurements;~~
- 9 (4) testing for acid mist or other pollutants that occur in liquid droplet ~~form, form;~~
- 10 (5) any sampling for which velocity and volume flow rate measurements are necessary for computing  
11 final test ~~results, results;~~ or
- 12 (6) any sampling that specifies isokinetic sampling.

13 (b) Method 1 of Appendix A of 40 CFR Part 60 shall be used as written with the following clarifications:

- 14 (1) Testing installations with multiple ~~breeching ducts~~ may be accomplished by testing the discharge  
15 stack(s) to which the ~~multiple breeching ducts~~ exhaust. If the multiple ~~breeching ducts~~ are  
16 individually tested, then Method 1 shall be applied to each ~~breeching duct~~ individually.
- 17 (2) If test ports in a duct are less than two diameters downstream from any disturbance (fan, elbow,  
18 change in diameter, or any other physical feature that may disturb the gas flow) or less than one-half  
19 diameter upstream from any disturbance, the acceptability of the test location shall be determined  
20 by the Director before the test and after ~~his~~their review of technical and economic factors.

**Commented [NBW13]:** The DAQ is proposing to replace the term "breeching" with "duct."

21  
22 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);  
23 Eff. June 1, ~~2008; 2008;~~  
24 Readopted Eff. \_\_\_\_\_.

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1 15A NCAC 02D .2605 is proposed for readoption without substantive changes as follows:

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3 **15A NCAC 02D .2605 VELOCITY AND VOLUME FLOW RATE**

4 Method 2 of Appendix A of 40 CFR Part 60 shall be applied as written and used concurrently with any test method  
5 in which velocity and volume flow rate measurements are required.

6

7 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

8

*Eff. June 1, 2008, 2008;*

9

*Readopted Eff.* \_\_\_\_\_.

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**Commented [NBW14]:** The DAQ is proposing general formatting changes.

1 15A NCAC 02D .2606 is proposed for readoption without substantive changes as follows:  
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3 **15A NCAC 02D .2606 MOLECULAR WEIGHT**

4 (a) With the exceptions allowed under Paragraph ~~(b)~~(b) of this Rule, Method 3 of Appendix A of 40 CFR Part 60  
5 shall be applied as written and used concurrently with any test method ~~when~~if necessary to determine the molecular  
6 weight of the gas being sampled by determining the fraction of carbon dioxide, oxygen, carbon monoxide, and  
7 nitrogen.

8 (b) The grab sample technique may be substituted using instruments such as Bacharach Fyrite™ with the following  
9 restrictions:

- 10 (1) Instruments such as the Bacharach Fyrite™ may only be used for the measurement of carbon  
11 dioxide.
- 12 (2) Repeated samples shall be taken during the emission test run to account for variations in the carbon  
13 dioxide concentration. At least four samples shall be taken during a one-hour test run, but as many  
14 as necessary shall be taken to produce a reliable average.
- 15 (3) The total concentration of gases other than carbon dioxide, oxygen, and nitrogen shall be less than  
16 one percent.

17  
18 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);  
19 Eff. June 1, ~~2008~~2008;  
20 Readopted Eff. \_\_\_\_\_.

**Commented [NBW15]:** The DAQ is proposing general formatting changes.

1 15A NCAC 02D .2607 is proposed for readoption without substantive changes as follows:

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3 **15A NCAC 02D .2607 DETERMINATION OF MOISTURE CONTENT**

4 Method 4 of Appendix A of 40 CFR Part 60 shall be applied as written and used concurrently with any test method  
5 requiring determination of gas moisture content.

6

7 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

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*Eff. June 1, 2008, 2008;*

9

*Readopted Eff.* \_\_\_\_\_.

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**Commented [NBW16]:** The DAQ is proposing general formatting changes.



1 15A NCAC 02D .2608 is proposed for readoption with substantive changes as follows:

2

3 **15A NCAC 02D .2608** **NUMBER OF RUNS AND COMPLIANCE DETERMINATION**

4 Each ~~test~~, ~~(excluding~~ ~~fuel samples)~~ ~~samples~~, shall consist of three ~~consecutive~~ ~~repetitions or~~ ~~runs~~ of the  
5 applicable test ~~method~~ ~~method~~ at the same operating condition. ~~If other operating conditions or scenarios are to be~~  
6 ~~tested, then three consecutive runs shall be performed for each of these operating conditions or scenarios.~~ For  
7 determining compliance with an applicable emission standard, the average of ~~the~~ results of all repetitions applies. On  
8 a case-by-case basis, compliance may be determined using the arithmetic average of two run results if the Director  
9 determines that an unavoidable and unforeseeable event happened beyond the owner's or operator's or tester's control  
10 and that a third run could be not be completed.

11

12 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

13 *Eff. June 1, , 2008-2008;*

14 *Readopted Eff. \_\_\_\_\_.*

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**Commented [NBW17]:** The DAQ is proposing to clarify that tests must be done at each operating condition and be three consecutive tests.

1 15A NCAC 02D .2609 is proposed for readoption with substantive changes as follows:

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3 **15A NCAC 02D .2609 PARTICULATE TESTING METHODS**

4 (a) With the exception allowed ~~under~~ Paragraph (b) of this Rule, Method 5 of Appendix A ~~of~~ 40 CFR Part 60 and  
5 Method 202 of Appendix M ~~of~~ 40 CFR Part 51 shall be used to demonstrate compliance with particulate emission  
6 standards. The owner or operator may request an exemption from using Method 202 and the Director shall approve  
7 the exemption if the Director determines that the demonstration of compliance with an applicable emission standard  
8 is unlikely to change with or without the Method 202 results included.

9 (b) Method 17 of Appendix A ~~of~~ 40 CFR Part 60 may be used instead of Method 5 if:

- 10 (1) The stack gas temperature does not exceed 320° ~~F~~<sub>F</sub>;
- 11 (2) Particulate matter concentrations are known to be independent of temperature over the normal range  
12 of temperatures characteristic of emissions from a specified source ~~category~~<sub>category</sub>; and
- 13 (3) The stack does not contain liquid droplets or is not saturated with water vapor.

14 (c) Particulate testing on steam generators that use soot blowing as a routine means for cleaning heat transfer surfaces  
15 shall be conducted so that the contribution of the soot blowing is represented as follows:

- 16 (1) If the soot blowing periods are expected to represent less than 50 percent of the total particulate  
17 emissions, only one of the test runs shall include a soot blowing cycle.
- 18 (2) If the soot blowing periods are expected to represent more than 50 percent of the total particulate  
19 emissions then two of the test runs shall each include a soot blowing cycle. Under no circumstances  
20 shall all three test runs include soot blowing. ~~The average emission rate of particulate matter is~~  
21 ~~calculated by the equation:~~

$$22 \text{EAVG} = S(ES)\{(A+B)/AR\} + EN\{((R-S)/R) - (BS/AR)\}$$

23 ~~(3) The average emission rate of particulate matter for steam generators that use soot blowing is~~  
24 ~~calculated by the equation:~~

$$25 \text{E}_{AVG} = (S * E_S)[(A + B)/(A * R)] + E_N[((R - S)/R) - (B * S)/(A * R)]$$

26 where:

27 (A) ~~— EAVG equals~~  $E_{AVG}$  ~~≡~~ the average emission rate in pounds per million Btu for daily  
28 operating ~~time~~<sub>time</sub>;

29 (B) ~~— ES equals~~  $E_S$  ~~≡~~ the average emission rate in pounds per million Btu ~~of sample(s) containing~~  
30 ~~soot blowing during soot blowing runs;~~

31 (C) ~~— EN equals~~  $E_N$  ~~≡~~ the average emission rate in pounds per million Btu ~~of sample(s) with no~~  
32 ~~soot blowing during non-soot blowing runs;~~

33 (D) ~~— A equals~~  $A$  ~~≡~~ number of hours of soot blowing during ~~sample(s)~~<sub>soot blowing runs</sub>;

34 (E) ~~— B equals~~  $B$  ~~≡~~ number of hours without soot blowing during ~~sample(s) containing soot~~  
35 ~~blowing~~<sub>soot blowing runs</sub>;

36 (F) ~~— R equals~~  $R$  ~~≡~~ average number of hours of operation per 24 ~~hours~~<sub>hours</sub>; and

37 (G) ~~— S equals~~  $S$  ~~≡~~ average number of hours of soot blowing per 24 hours.

**Commented [NBW18]:** The DAQ is proposing to create a new subparagraph for equation, revise equation to add subscripts and multiplication signs, add subscripts to variables and clarify definitions.

1 The Director may approve an alternate method of prorating the emission rate during soot blowing if the owner or  
2 operator of the source demonstrates that changes in boiler load or stack flow occur during soot blowing that are not  
3 representative of normal soot blowing operations.

4 ~~(4) The Director may approve an alternate method of prorating the emission rate during soot blowing~~  
5 ~~if the owner or operator of the source demonstrates that changes in boiler load or stack flow occur~~  
6 ~~during soot blowing that are not representative of normal soot blowing operations.~~

**Commented [NBW19]:** The DAQ is proposing to delete rule language above and add to new Subparagraph (c)(4).

7 (d) Unless otherwise specified by an applicable rule or federal subpart, the minimum time per test point for particulate  
8 testing shall be two minutes, and the minimum time per test run shall be one hour.

9 (e) Unless otherwise specified by an applicable rule or federal subpart, the sample gas drawn during each test run  
10 shall be at least 30 dry standard cubic feet.

11 (f) Method 201 ~~in combination with Method 202 of Appendix M to 40 CFR Part 51~~ or Method 201A in combination  
12 with Method 202 of Appendix M ~~to~~ 40 CFR Part 51 shall be used to determine compliance with PM<sub>2.5</sub> or PM<sub>10</sub>  
13 emission standards. If the exhaust gas contains entrained moisture droplets, Method 5 of Appendix A of 40 CFR Part  
14 60 in combination with Method 202 of Appendix M ~~to~~ 40 CFR Part 51 shall be used to determine PM<sub>2.5</sub> or PM<sub>10</sub>  
15 emission compliance.

**Commented [NBW20]:** The DAQ is proposing to add Method 202 to be used with Method 201.

16  
17 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

18 *Eff. June 1, , ~~2008~~ 2008;*

19 *Readopted Eff. \_\_\_\_\_.*

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1 15A NCAC 02D .2610 is proposed for readoption with substantive changes as follows:

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3 **15A NCAC 02D .2610 OPACITY**

4 (a) Method 9 of Appendix A ~~of~~ 40 CFR Part 60 shall be used to show compliance with opacity standards ~~when~~  
5 opacity is determined by visual observation.

6 (b) Method 22 ~~of~~ Appendix A ~~of~~ 40 CFR Part 60 shall be used to determine compliance with opacity standards  
7 ~~when~~ such these standards are based upon the ~~frequency of fugitive emissions from stationary sources as time that~~  
8 emissions are visible during the observation period specified in the applicable rule or by permit condition.

**Commented [NBW21]:** The DAQ is proposing to clarify that Method 22 is based on time that emissions are visible.

9  
10 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

11 *Eff. June 1, ~~2008~~ 2008;*

12 *Readopted Eff. \_\_\_\_\_.*

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1 15A NCAC 02D .2611 is proposed for reoption with substantive changes as follows:

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3 **15A NCAC 02D .2611 SULFUR DIOXIDE TESTING METHODS**

4 (a) If compliance with a sulfur dioxide emission standard is to be demonstrated for a combustion source through stack  
5 samplingsampling, the procedures described in Method 6 or Method 6C ~~of~~ Appendix A of 40 CFR Part 60 shall be  
6 used. ~~When Method 6 of Appendix A of 40 CFR Part 60 is used to determine compliance, compliance shall be~~  
7 ~~determined by averaging six 20-minute samples taken over such a period of time that no more than 20 minutes elapses~~  
8 ~~between any two consecutive samples. The 20-minute run requirement only applies to Method 6 not to Method 6C.~~  
9 ~~Method 6C is an instrumental method and the sampling is done continuously used as follows:~~

10 (1) If Method 6 of Appendix A to 40 CFR Part 60 is used to determine compliance, compliance shall  
11 be determined by averaging six 20-minute runs taken over such a period of time that no more than  
12 20 minutes elapse between any two consecutive runs.

**Commented [NBW22]:** The DAQ is proposing to convert some of the paragraph language above to subparagraphs.

13 (2) If Method 6C of Appendix A to 40 CFR Part 60 is used to determine compliance, the sampling shall  
14 be performed continuously during each run.

15 (b) Method 8 of Appendix A to 40 CFR Part 60 shall be used to determine compliance with emission standards for  
16 sulfuric acid manufacturing plants complying with 15A NCAC 02D .0517 and spodumene ore roasting plants  
17 complying with 15A NCAC 02D .0527. Compliance shall be determined by averaging emissions measured from three  
18 one-hour test runs, unless otherwise specified in the applicable rule or federal subpart.

19 (c) For stationary gas turbines, Method 20 of Appendix A to 40 CFR Part 60 shall be used to demonstrate compliance  
20 with applicable sulfur dioxide emissions standards.

21 ~~(b)(d)~~ Fuel burning sources not required to use continuous emissions monitoring to demonstrate compliance with  
22 sulfur dioxide emission standards, may determine compliance with sulfur dioxide emission standards by stack  
23 sampling or by analyzing sulfur content of the fuel.

24 ~~(e)~~ For stationary gas turbines, Method 20 of 40 CFR Part 60 shall be used to demonstrate compliance with applicable  
25 sulfur dioxide emissions standards.

**Commented [NBW23]:** The DAQ is proposing to move to after Paragraph (b).

26 ~~(d)(e)~~ When compliance is to be demonstrated for a combustion sourceFor a combustion source demonstrating  
27 compliance with the sulfur dioxide emission standards by analysis of sulfur in fuel, the sampling, preparation, and  
28 analysis of fuels shall be according to the following American Society of Testing and Materials (ASTM) methods.  
29 The Director may approve ASTM methods different from those described in this ParagraphParagraph, if they will  
30 provide equivalent or more reliable results. The Director may prescribe alternate ASTM methods on an individual  
31 basisbasis, if that action is necessary to secure reliable test data.

**Commented [NBW24]:** The DAQ is proposing to change to Paragraph (e) and reworded intro.

32 (1) Coal Sampling:

**Commented [NBW25]:** The DAQ is proposing to update the ASTM Method numbers and remove retired ASTM methods.

33 (A) Sampling Location. Coal shall be collected from a location in the handling or processing  
34 system that provides a sample representative of the fuel bunkered or burned during a boiler  
35 operating day. For the purpose of this method, a fuel lot size is defined as the weight of  
36 coal bunkered or consumed during each boiler-operating day. For reporting and calculation  
37 purposes, the gross sample shall be identified with the calendar day on which sampling

1 began. The Director may approve alternate definitions of fuel lot sizes if the alternative  
2 will provide a more representative sample.

- 3 (B) Sample Increment Collection. A coal sampling procedure shall be used that meets the  
4 requirements of ASTM ~~D-2234~~D2234 Type I, condition A, B, and C, and systematic  
5 spacing for collection of sample increments. All requirements and restrictions regarding  
6 increment distribution and sampling device constraints shall be observed.
- 7 (C) Gross Samples. ASTM ~~D-2234, D2234~~ 7.1.2.8.1.1.2 Table 2 shall be used except as  
8 provided in ~~7.1.5.28.1.1.5~~ to determine the number and weight of increments  
9 ~~(composite from a composite or gross samples)-sample.~~
- 10 (D) Preparation. ASTM ~~D-2013~~D2013 shall be used for sample preparation from a composite  
11 or gross sample.
- 12 (E) Gross Caloric Value (GCV). ASTM ~~D-2015 or D-3286~~D5865 shall be used to determine  
13 GCV on a dry basis from a composite or gross sample.
- 14 (F) Moisture Content. ASTM ~~D-3473~~D3173 shall be used to determine moisture from a  
15 composite or gross sample.
- 16 (G) Sulfur Content. ASTM ~~D-3177 or D-4239~~D4239 shall be used to determine the percent  
17 sulfur on a dry basis from a composite or gross sample.

18 (2) Oil Sampling

- 19 (A) Sample Collection. A sample shall be collected at the pipeline inlet to the fuel-burning unit  
20 after sufficient fuel has been drained from the line to remove all fuel that may have been  
21 standing in the line.
- 22 (B) Heat of Combustion. ASTM Method ~~D-240~~D240 or ~~D-2015~~D4809 shall be used to  
23 determine the heat of combustion.
- 24 (C) Sulfur Content. ASTM Method ~~D-129~~D129 or ~~D-1552~~D1552 shall be used to determine  
25 the sulfur content.

26 The sulfur content and BTU content of the fuel shall be reported on a dry basis. ~~When the test methods described in~~  
27 ~~Subparagraph (d)(1) or (d)(2) of this Rule are used to demonstrate that the ambient air quality standards for sulfur~~  
28 ~~dioxide are being protected, the sulfur content shall be determined at least once per year from a composite of at least~~  
29 ~~three or 24 samples taken at equal time intervals from the fuel being burned over a three hour or 24 hour period,~~  
30 ~~respectively, whichever is the time period for which the ambient standard is most likely to be exceeded; this~~  
31 ~~requirement shall not apply to sources that are only using fuel analysis in place of continuous monitoring to meet the~~  
32 ~~requirements of Section .0600 of this Subchapter.~~

33 ~~(e) When compliance is shown for sulfuric acid manufacturing plants or spodumene ore roasting plants with Rules~~  
34 ~~.0517 and .0527, respectively, of this Section through stack sampling, the procedures described in Method 8 of~~  
35 ~~Appendix A of 40 CFR Part 60 shall be used. When Method 8 of Appendix A of 40 CFR Part 60 is used to determine~~  
36 ~~compliance, compliance shall be determined by averaging emissions measured by three one-hour test runs unless~~  
37 ~~otherwise specified in the applicable rule or federal subpart.~~

**Commented [NBW26]:** The DAQ is proposing to move deleted text to Paragraph (f) below and created subparagraphs.

**Commented [NBW27]:** The DAQ is proposing to move to Paragraph (b).

1 ~~(f) When compliance is shown for a combustion source emitting sulfur dioxide not covered under Paragraph (a)~~  
2 ~~through (e) of this Rule through stack sampling, the procedures described in Method 6 or Method 6C of Appendix A~~  
3 ~~of 40 CFR Part 60 shall be used. When using Method 6 procedures to show compliance, compliance shall be~~  
4 ~~determined by averaging six 20 minute samples taken over such a period of time that no more than 20 minutes elapses~~  
5 ~~between any two consecutive samples. The 20 minute run requirement only applies to Method 6 not to Method 6C.~~  
6 ~~Method 6C is an instrumental method and the sampling is done continuously.~~

7 (f) If the test methods described in Subparagraph (d)(1) or (d)(2) of this Rule are used to demonstrate that the ambient  
8 air quality standards for sulfur dioxide in 15A NCAC 02D .0402 are being protected, the sulfur content shall be  
9 determined at least once per year from a composite of:

10 (1) at least three samples over a three-hour period for sources that are most likely to exceed the  
11 maximum three-hour ambient standard.

12 (2) at least 24 samples over a 24-hour period for sources that are most likely to exceed the maximum  
13 24-hour ambient standard.

14 This requirement shall not apply to sources that are only using fuel analysis in place of continuous monitoring to meet  
15 the requirements of Section .0600 of this Subchapter.

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17 *History Note: Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);*

18 *Eff. June 1, 2008; 2008;*

19 *Readopted Eff. \_\_\_\_\_.*  
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1 15A NCAC 02D .2612 is proposed for re adoption without substantive changes as follows:

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3 **15A NCAC 02D .2612 NITROGEN OXIDE TESTING METHODS**

4 (a) Combustion sources not required to use continuous emissions monitoring to demonstrate compliance with nitrogen  
5 oxide emission standards shall demonstrate compliance with nitrogen oxide emission standards using Method 7 or  
6 Method 7E of Appendix A of 40 CFR Part 60.

7 (b) Method 20 of Appendix A of 40 CFR Part 60 shall be used to demonstrate compliance with nitrogen oxide  
8 emissions standards for stationary gas turbines.

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10 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

11 *Eff. June 1, ~~2008~~2008;*

12 *Readopted Eff. \_\_\_\_\_.*

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**Commented [NBW28]:** The DAQ is proposing general formatting changes.



1 15A NCAC 02D .2613 is proposed for readoption without substantive changes as follows:  
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3 **15A NCAC 02D .2613 VOLATILE ORGANIC COMPOUND TESTING METHODS**

4 (a) For surface coating material, such as paint, varnish, stain, and lacquer, the volatile matter content, water content,  
5 density, volume of solids, and weight of solids shall be determined by Method 24 of Appendix A ~~of~~ 40 CFR Part  
6 60.

7 (b) For printing inks and related coatings, the volatile matter and density shall be determined by Method 24A of  
8 Appendix A ~~of~~ 40 CFR Part 60.

9 (c) For solvent metal cleaning equipment, the following procedure shall be followed to perform a material balance  
10 test:

- 11 (1) clean the degreaser sump before testing;
- 12 (2) record the amount of solvent added to the tank with a flow meter;
- 13 (3) record the weight and type of workload degreased each day;
- 14 (4) at the end of the test run, pump out the used solvent and measure the amount with a flow meter;  
15 also, estimate the volume of metal chips and other material remaining in the emptied sump;
- 16 (5) bottle a sample of the used solvent and analyze it to find the percent that is ~~oil~~ and oil and other  
17 contaminants; the oil and solvent proportions may be estimated by weighing samples of used solvent  
18 before and after boiling off the solvent; and
- 19 (6) compute the volume of oils in the used solvent. The volume of solvent displaced by this oil along  
20 with the volume of makeup solvent added during operations is equal to the solvent emissions.

21 (d) For bulk gasoline terminals, emissions of volatile organic compounds shall be determined by the procedures set  
22 forth in 40 CFR 60.503.

23 (e) For organic process equipment, leaks of volatile organic compounds shall be determined by Method 21 of  
24 Appendix A ~~of~~ 40 CFR Part 60. Organic process equipment includes valves, flanges and other connections, pumps  
25 and compressors, pressure relief devices, process drains, open-ended valves, pump and compressor seal system  
26 degassing vents, accumulator vessel vents, access door seals, and agitator seals.

27 (f) For determination of solvent in filter waste (muck and distillation waste) in accordance with ~~Rule .0912 of this~~  
28 ~~Section, 15A NCAC 02D .0912~~, the tester shall derive the quantity of volatile organic compounds per quantity of  
29 discarded filter muck. The procedure to be used in making this determination is the test method ~~described by the~~  
30 ~~American National Standards Institute's "Standard Method of Test for Dilution of Gasoline-Engine Crankcase Oils"~~  
31 ~~(ASTM 322-67 or IP 23/68) D322~~, except that filter muck is to be used instead of crankcase oil.

32 (g) For sources of volatile organic compounds not covered ~~under~~ by the methods specified in Paragraphs (b) through  
33 (e) of this Rule, one of the applicable test methods in Appendix M ~~in~~ 40 CFR Part 51 or Appendix A ~~in~~ 40 CFR  
34 Part 60 shall be used to determine compliance with volatile organic compound emission standards.

35 (h) Compounds excluded from the definition of volatile organic compound ~~under Rule .0901 of this Subchapter in~~  
36 15A NCAC 02D .0901 shall be treated as water.

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**Commented [NBW29]:** The DAQ is proposing to remove ANSI reference to ASTM method.

**Commented [NBW30]:** The DAQ is proposing to update ASTM method number and remove retired method.

1 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);  
2 *Eff. June 1, 2008; 2008;*  
3 *Readopted Eff. \_\_\_\_\_.*  
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1 15A NCAC 02D .2614 is proposed for readoption with substantive changes as follows:

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**15A NCAC 02D .2614 DETERMINATION OF VOC EMISSION CONTROL SYSTEM EFFICIENCY**

(a) The provisions of this Rule are applicable to any test method employed to determine the ~~collection~~capture or control efficiency of any device or system designed, installed, and operated for the purpose of reducing volatile organic compound emissions.

(b) The control efficiency of volatile organic compound emission control systems shall be determined using the following procedures: ~~procedures shall be used to determine efficiency; procedures:~~

- (1) The volatile organic compound containing material shall be sampled and analyzed using the procedures contained in this Section.
- (2) Samples of the gas stream containing volatile organic compounds shall be taken simultaneously at the inlet and outlet of the emissions control device.
- (3) The efficiency of the control device shall be expressed as ~~the fraction~~ a percent of the total combustible carbon content reduction achieved.

~~(4) The volatile organic compound mass emission rate shall be the sum of emissions from the control device and emissions not collected by the capture system.~~

(c) The volatile organic compound mass emission rate shall be the sum of emissions from the control device and the emissions not collected by the capture system.

~~(e)(d) Capture efficiency performance of volatile organic compound emission control systems shall be determined using the EPA recommended capture efficiency protocols and test methods as described in the EPA document, EMTIC GD-035, "Guidelines for Determining Capture Efficiency." This document is hereby incorporated by reference including any subsequent amendments or editions. A copy of the referenced materials may be obtained free of charge via the Internet from the EPA TTN website at <http://www3.epa.gov/ttn/emc/guidlnd/gd-036.pdf>.~~

~~(d) The EPA document, EMTIC GD-035, "Guidelines for Determining Capture Efficiency" cited in this Rule is hereby incorporated by reference including any subsequent amendments or editions. A copy of the referenced materials may be obtained free of charge via the Internet from the EPA TTN website at <http://www.epa.gov/ttn/emc/guidlnd.html>.~~

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);  
Eff. June 1, 2008, 2008;  
Readopted Eff. \_\_\_\_\_.*

**Commented [NBW31]:** The DAQ is proposing to move subparagraph to Paragraph (c).

**Commented [NBW32]:** The DAQ is proposing to incorporate paragraph into new Paragraph (d).

1 15A NCAC 02D .2615 is proposed for reoption with substantive changes as follows:

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**15A NCAC 02D .2615 DETERMINATION OF LEAK TIGHTNESS AND VAPOR LEAKS**

(a) Leak ~~Testing~~Detection Procedures. One of the following test methods from the EPA document "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection System," EPA-450/2-78-051, published by the U.S. ~~Environmental Protection~~Environmental Protection Agency, December 1978, shall be used to determine compliance with ~~Rule .0932~~15A NCAC 02D .0932 Gasoline Truck Tanks And Vapor Collector ~~Systems of this Section~~Systems:

- (1) The gasoline vapor leak detection procedure by combustible gas detector described in Appendix B ~~of~~to EPA-450/2-78-051 shall be used to determine leakage from gasoline truck tanks and vapor control systems.
- (2) The leak detection procedure for bottom-loaded truck tanks by bag capture method described in Appendix C ~~of~~to EPA-450/2-78-051 shall be used to determine the leak tightness of truck tanks during bottom loading.

(b) Annual Certification. The pressure-vacuum test procedures for leak tightness of truck tanks described in Method 27 of Appendix A ~~of~~to 40 CFR Part 60 ~~or~~49 CFR Part 180.407 shall be used to determine the leak tightness of gasoline truck tanks in use and equipped with vapor collection equipment. ~~Method 27 of Appendix A of 40 CFR Part 60 is changed to read:~~

- ~~(1) Method 27 of Appendix A to 40 CFR Part 60 is changed to read as follows:~~
- ~~(1) 8.2.1.2 "Connect static electrical ground connections to tank."~~
- ~~(2) 8.2.1.3 "Attach test coupling to vapor return line."~~
- ~~(3) 16.0 No alternative procedure is applicable:~~
  - (A) 8.2.1.2 "Connect static electrical ground connections to tank."
  - (B) 8.2.1.3 "Attach test coupling to vapor return line."
  - (C) 16.0 No alternative procedure is applicable.

(c) Copies of Appendix B and C of the EPA document, "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection System," EPA-450/2-78-051, cited in this Rule, are hereby incorporated with subsequent amendments and editions by reference and are available on the Division's Website ~~http://daq.state.nc.us/enf/sourcetest~~http://deq.nc.gov/about/divisions/air-quality/air-quality-enforcement/emission-measurement.

*History Note: Authority G.S. 143-215.3(a)(1), 143-215.107(a)(5);  
Eff. June 1, 2008;2008;  
Readopted Eff. \_\_\_\_\_.*

**Commented [NBW33]:** The DAQ is proposing to change introduction to clarify that this is not an emission test.

**Commented [NBW34]:** The DAQ is proposing to create new subparagraph and list.

**Commented [NBW35]:** The DAQ is proposing to update the internet address.

1 15A NCAC 02D .2616 is proposed for reoption with substantive changes as follows:

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3 **15A NCAC 02D .2616 FLUORIDES**

4 The procedures for determining compliance with fluoride emissions standards shall be by using:

- 5 (1) Method 13A or 13B of Appendix A ~~to~~ 40 CFR Part 60 for ~~sampling~~determining total fluoride  
6 emissions from stacks; or
- 7 (2) Method 14 of Appendix A ~~to~~ 40 CFR Part 60 for ~~sampling~~determining total fluoride emissions  
8 from roof monitors not employing stacks or pollutant collection ~~systems~~.~~systems~~; or
- 9 (3) Method 26 or Method 26A of Appendix A to 40 CFR Part 60 for determining hydrogen halide and  
10 halogen emissions.

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12 *History Note:* Authority *G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);*  
13 *Eff. June 1, 2008; 2008;*  
14 *Readopted Eff. \_\_\_\_\_.*  
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**Commented [NBW36]:** The DAQ is proposing to add Methods 26 and 26A for measuring fluoride emissions.

1 15A NCAC 02D .2617 is proposed for re adoption without substantive changes as follows:

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3 **15A NCAC 02D .2617** **TOTAL REDUCED SULFUR**

4 (a) Method 16 of Appendix A of 40 CFR Part 60 or Method 16A of Appendix A of 40 CFR Part 60 shall be used  
5 to ~~show~~determine emission rates and compliance with total reduced sulfur emission standards.

6 (b) Method 15 of Appendix A of 40 CFR Part 60 may be used as an alternative method to determine total reduced  
7 sulfur emissions from tail gas control units of sulfur recovery plants, hydrogen sulfide in fuel gas for fuel gas  
8 combustion devices, and where specified in other applicable federal subparts.

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10 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

11 *Eff. June 1, ~~2008~~2008;*

12 *Readopted Eff. \_\_\_\_\_.*

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**Commented [NBW37]:** The DAQ is proposing to add general formatting and clarifications.

1 15A NCAC 02D .2618 is proposed for readoption with substantive changes as follows:

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3 **15A NCAC 02D .2618** **MERCURY**

4 ~~Method 101 or 102 of Appendix b of 40 CFR Part 61 shall be used to show compliance with mercury emission~~  
5 ~~standards.~~

6 The procedures for determining compliance with mercury emission standards shall be performed using one of the  
7 following methods:

- 8 (1) Method 29 of Appendix A to 40 CFR Part 60;  
9 (2) Method 30A of Appendix A to 40 CFR Part 60;  
10 (3) Method 30B of Appendix A to 40 CFR 60;  
11 (4) Method 101 of Appendix B to 40 CFR Part 61;  
12 (5) Method 101A of Appendix B to 40 CFR Part 61; or  
13 (6) Method 102 of Appendix B to 40 CFR Part 61.

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15 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

16 *Eff. June 1, 2008; 2008;*

17 *Readopted Eff. \_\_\_\_\_.*

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**Commented [NBW38]:** The DAQ is proposing to add new test methods and create a list of these methods.

1 15A NCAC 02D .2619 is proposed for reoption without substantive changes as follows:

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3 **15A NCAC 02D .2619 ARSENIC, BERYLLIUM, CADMIUM, HEXAVALENT CHROMIUM**

**Commented [NBW39]:** The DAQ is proposing to general formatting changes and an update of the internet address.

4 (a) Method 29 of ~~Appendix A to 40 CFR Part 60 of Appendix A~~ shall be used to show compliance for arsenic,  
5 beryllium, cadmium, and hexavalent chromium metals emission standards.

6 (b) ~~SW-846~~SW-846 Test Method 3060 shall be used for the analysis to differentiate hexavalent chromium from total  
7 chromium. The EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,"  
8 cited in this Rule is hereby incorporated by reference including any subsequent amendments or editions. A copy of  
9 chapters, methods, and supporting documents for the EPA publication SW-846, "Test Methods for Evaluating Solid  
10 Waste, Physical/Chemical Methods,"SW-846 may be obtained free of charge via the Internet from the EPA website  
11 at ~~http://www.epa.gov/epaoswer/hazwaste/test/sw846.htm~~. <http://www.epa.gov/hw-sw846/sw-846-compendium>.

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13 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

14 *Eff. June 1, 2008.2008;*

15 *Readopted Eff. \_\_\_\_\_.*

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1 15A NCAC 02D .2620 is proposed for readoption without substantive changes as follows:

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3 **15A NCAC 02D .2620 DIOXINS AND FURANS**

4 Method 23 of Appendix A of 40 CFR Part 60 shall be used to ~~show~~determine emission rates and compliance with  
5 polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans emission standards.

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7 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);

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*Eff. June 1, 2008, 2008;*

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*Readopted Eff.* \_\_\_\_\_.

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**Commented [NBW40]:** The DAQ is proposing general format changes and clarifications.

1 15A NCAC 02D .2621 is proposed for readoption with substantive changes as follows:

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3 **15A NCAC 02D .2621 ~~DETERMINATION OF FUEL HEAT CONTENT USING F FACTOR~~**  
4 **POLLUTANT EMISSIONS USING THE F FACTOR**

**Commented [NBW41]:** The DAQ is proposing to change the title to describe the calculation of pollutant emissions using the F Factor.

5 (a) ~~Emission rates~~Emissions for wood or fuel burning sources that are expressed in units of pounds per million  
6 ~~BTU~~Btu shall be determined by the "~~Oxygen-Based~~Oxygen-Based F Factor Procedure" described in Section ~~512.2.1~~  
7 of Method 19 of Appendix A ~~of~~to 40 CFR Part 60. Other procedures described in Method 19 may be used if  
8 appropriate. ~~To provide data of sufficient accuracy for use with the F factor methods, an integrated (bag) sample shall~~  
9 ~~be taken for the duration of each test run. For simultaneous testing of multiple ducts, there shall be a separate bag~~  
10 ~~sample for each sampling train. The bag sample shall be analyzed with an Orsat analyzer by Method 3 of Appendix~~  
11 ~~A of 40 CFR Part 60. (The number of analyses and the tolerance between analyses are specified in Method 3.) The~~  
12 ~~specifications stated in Method 3 for the construction and operation of the bag sampling apparatus shall be followed.~~

13 (b) A continuous oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) ~~monitor under~~analyzer meeting the requirements in Method  
14 ~~3E3A~~3A of Appendix A ~~of~~to 40 CFR Part 60 may be used if the average of all values during the run are used to  
15 ~~compute~~determine the average O<sub>2</sub> and/or CO<sub>2</sub> concentrations.

16 (c) If the continuous monitor method in Paragraph (b) of this Rule is not used, an integrated bag sample shall be taken  
17 for the duration of each test run. For simultaneous testing of multiple ducts, there shall be a separate bag sample for  
18 each sampling train. Each bag sample shall be analyzed with an Orsat analyzer by Method 3 of Appendix A to 40  
19 CFR Part 60. The specifications stated in Method 3 for the construction and operation of the bag sampling apparatus  
20 shall be followed.

**Commented [NBW42]:** The DAQ is proposing to remove text above and create new paragraph.

21 ~~(e)(d)~~ The Director ~~may approve~~shall review the use of alternative methods according to ~~Rule~~15A NCAC 02D  
22 ~~.2602.2601(e)~~ of this Section if provided they meet the requirements of Method 3 of Appendix A of 40 CFR Part 60.

**Commented [NBW43]:** The DAQ is proposing to add reference to .2601(e) which gives the Director 45 days to evaluate.

24 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5);  
25 Eff. June 1, 2008.~~2008~~;  
26 Readopted Eff. \_\_\_\_\_.

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