

## AGENDA ITEM 5

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**Agenda Item:** Request for Approval of Rule Revisions and Regulatory Impact Analysis to the PM<sub>2.5</sub> increment baseline for the Prevention of Significant Deterioration Rule (541) and Recommendation for Approval to Proceed to Public Hearing on Rule Revisions for the Prevention of Significant Deterioration Rule

**Explanation:** The Air Quality Committee (AQC) is requested to approve rule revisions and regulatory impact analysis, and recommendation for a 30 day waiver to request approval of the Environmental Management Commission (EMC) to proceed to public hearing on amendments to the prevention of significant deterioration (PSD) rule.

On October 20, 2010 (75 FR 64864), the United States Environmental Protection Agency (EPA) promulgated key components for making PSD permitting determinations for fine particle pollution (PM<sub>2.5</sub>) - increments, significant impact levels (SILs), and a significant monitoring concentration (SMC). The EMC approved the amended PSD and NSR rules on July 11, 2013. The EMC adopted in its State Implementation Plan (SIP) some provisions of this federal regulation, but not all. Specifically, through paragraphs (q) and (v) of Rule 15A NCAC 02D .0530, the EMC revised the rule to incorporate the federally required numerical PM<sub>2.5</sub> increments, but not include other federally required provisions needed to implement the PM<sub>2.5</sub> increments. The excluded provisions include definitions for major source baseline date, minor source baseline date, and baseline area.

On September 14, 2016 (81 FR 63107), EPA published its disapproval of North Carolina's SIP submittal. EPA concluded that North Carolina's PSD regulations do not require the PSD sources to conduct the appropriate analyses demonstrating that emissions from proposed construction of new major stationary sources or major modifications will not cause or contribute to air quality deterioration beyond the amount allowed by the PM<sub>2.5</sub> increments. Therefore, the EPA disapproved all of the PM<sub>2.5</sub> increment provisions set forth in NC's SIP submittal with respect to PM<sub>2.5</sub>-related changes to 15A NCAC 02D .0530 at Paragraphs (e), (q), and (v). This disapproval triggers the requirement for EPA to promulgate a Federal Implementation Plan (FIP) no later than two years from the date of the disapproval unless the State corrects the deficiencies through a SIP revision and EPA approves the SIP revision before EPA promulgates such a FIP.

Rule 15A NCAC 02D .0530, Prevention of Significant Deterioration, is proposed for amendment to incorporate by reference the revisions to §51.166 of the Clean Air Act as of July 1, 2014. Those revisions include the PM<sub>2.5</sub> increments in the October 20, 2010 final rule, the clarification that condensable particulate matter be included in the measurements of PM<sub>2.5</sub> and PM<sub>10</sub> in the October 25, 2012 final rule, and the removal of the vacated SIL and SMC provisions in the December 9, 2013 final rule.

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A regulatory impact analysis was submitted to the Office of State Budget and Management (OSBM). OSBM reviewed the Division of Air Quality's proposed change to rule 15A NCAC 02D .0530 in accordance with G.S. 150B-21.4. OSBM determined the rule changes have little to no impact on state or local governments and no substantial economic impact.

**Recommendation:** The Director recommends that the Committee approve the proposed rule and regulatory impact analysis for presentation to the EMC, and recommendation for a 30 day waiver to request approval of the EMC to proceed to public hearing on amendment to the prevention of significant deterioration rule and regulatory impact analysis.

1 **15A NCAC 02D .0530 PREVENTION OF SIGNIFICANT DETERIORATION**

2 (a) The purpose of the Rule is to implement a program for the prevention of significant deterioration of air quality as  
3 required by 40 CFR 51.166.

4 (b) For the purposes of this Rule, the definitions contained in 40 CFR 51.166(b) and 40 CFR 51.301 apply, except  
5 the definition of "baseline actual emissions." For the purposes of this Rule:

6 (1) "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated new source  
7 review (NSR) pollutant, as determined in accordance with Parts (A) through (C) of this  
8 Subparagraph:

9 (A) For an existing emissions unit, baseline actual emissions means the average rate, in tons  
10 per year, at which the emissions unit actually emitted the pollutant during any consecutive  
11 24-month period selected by the owner or operator within the five year period immediately  
12 preceding the date that a complete permit application is received by the Division for a  
13 permit required under this Rule. The Director shall allow a different time period, not to  
14 exceed 10 years immediately preceding the date that a complete permit application is  
15 received by the Division, if the owner or operator demonstrates that it is more  
16 representative of normal source operation. For the purpose of determining baseline actual  
17 emissions, the following apply:

18 (i) The average rate shall include fugitive emissions to the extent quantifiable, and  
19 emissions associated with startups, shutdowns, and malfunctions;

20 (ii) The average rate shall be adjusted downward to exclude any non-compliant  
21 emissions that occurred while the source was operating above any emission  
22 limitation that was legally enforceable during the consecutive 24-month period;

23 (iii) For an existing emission unit (other than an electric utility steam generating unit),  
24 the average rate shall be adjusted downward to exclude any emissions that would  
25 have exceeded an emission limitation with which the major stationary source must  
26 currently comply. However, if the State has taken credit in an attainment  
27 demonstration or maintenance plan consistent with the requirements of 40 CFR  
28 51.165(a)(3)(ii)(G) for an emission limitation that is part of a maximum  
29 achievable control technology standard that the Administrator proposed or  
30 promulgated under Part 63 in Title 40 of the Code of Federal Regulations, the  
31 baseline actual emissions shall be adjusted to account for such emission  
32 reductions;

33 (iv) For an electric utility steam generating unit, the average rate shall be adjusted  
34 downward to reflect any emissions reductions under G.S. 143-215.107D and for  
35 which cost recovery is sought pursuant to G.S. 62-133.6;

36 (v) For a regulated NSR pollutant, when a project involves multiple emissions units,  
37 only one consecutive 24-month period shall be used to determine the baseline

- 1 actual emissions for all the emissions units being changed. A different consecutive  
 2 24-month period for each regulated NSR pollutant can be used for each regulated  
 3 NSR pollutant; and
- 4 (vi) The average rate shall not be based on any consecutive 24-month period for which  
 5 there is inadequate information for determining annual emissions, in tons per year,  
 6 and for adjusting this amount if required by Subparts (ii) and (iii) of this Part;
- 7 (B) For a new emissions unit, the baseline actual emissions for purposes of determining the  
 8 emissions increase that will result from the initial construction and operation of such unit  
 9 shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to  
 10 emit; and
- 11 (C) For a plantwide applicability limit (PAL) for a stationary source, the baseline actual  
 12 emissions shall be calculated for existing emissions units in accordance with the procedures  
 13 contained in Part (A) of this Subparagraph, and for a new emissions unit in accordance  
 14 with the procedures contained in Part (B) of this Subparagraph;
- 15 (2) In the definition of "net emissions increase," the reasonable period specified in 40 CFR  
 16 51.166(b)(3)(ii) is seven years;
- 17 (3) The limitation specified in 40 CFR 51.166(b)(15)(ii) does not apply; and
- 18 (4) Particulate matter PM<sub>2.5</sub> significant levels in 40 CFR 51.166(b)(23)(i) are incorporated by reference  
 19 except as otherwise provided in this Rule. Sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) are  
 20 precursors to PM<sub>2.5</sub> in all attainment and unclassifiable areas. Volatile organic compounds and  
 21 ammonia are not significant precursors to PM<sub>2.5</sub>.
- 22 (c) All areas of the State are classified as Class II, except the following areas, which are designated as Class I:
- 23 (1) Great Smoky Mountains National Park;
- 24 (2) Joyce Kilmer Slickrock National Wilderness Area;
- 25 (3) Linville Gorge National Wilderness Area;
- 26 (4) Shining Rock National Wilderness Area; and
- 27 (5) Swanquarter National Wilderness Area.
- 28 (d) Redesignations of areas to Class I or II may be submitted as state proposals to the Administrator of the  
 29 Environmental Protection Agency (EPA), if the requirements of 40 CFR 51.166(g)(2) are met. Areas may be proposed  
 30 to be redesignated as Class III if the requirements of 40 CFR 51.166(g)(3) are met. Redesignations may not, however,  
 31 be proposed which would violate the restrictions of 40 CFR 51.166(e). Lands within the boundaries of Indian  
 32 Reservations may be redesignated only by the appropriate Indian Governing Body.
- 33 (e) In areas designated as Class I, II, or III, increases in pollutant concentration over the baseline concentration shall  
 34 be limited to the values set forth in 40 CFR ~~51.166(e) and Paragraph (v) of this Rule.~~ 51.166(c). However,  
 35 concentration of the pollutant shall not exceed standards set forth in 40 CFR 51.166(d).

1 (f) Concentrations attributable to the conditions described in 40 CFR 51.166(f)(1) shall be excluded in determining  
2 compliance with a maximum allowable increase. However, the exclusions referred to in 40 CFR 51.166(f)(1)(i) or (ii)  
3 shall be limited to five years as described in 40 CFR 51.166(f)(2).

4 (g) Major stationary sources and major modifications shall comply with the requirements contained in 40 CFR 51.166  
5 (a)(7) and (i) and by extension in 40 CFR 51.166(j) through (o) and (w). The transition provisions allowed by 40 CFR  
6 52.21(i)(11)(i) and (ii) and (m)(1)(vii) and (viii) are hereby adopted under this Rule. The minimum requirements  
7 described in the portions of 40 CFR 51.166 referenced in this Paragraph are hereby adopted as the requirements to be  
8 used under this Rule, except as otherwise provided in this Rule. Wherever the language of the portions of 40 CFR  
9 51.166 referenced in this Paragraph speaks of the "plan," the requirements described therein shall apply to the source  
10 to which they pertain, except as otherwise provided in this Rule. Whenever the portions of 40 CFR 51.166 referenced  
11 in this Paragraph provide that the State plan may exempt or not apply certain requirements in certain circumstances,  
12 those exemptions and provisions of nonapplicability are also hereby adopted under this Rule. However, this provision  
13 shall not be interpreted so as to limit information that may be requested from the owner or operator by the Director as  
14 specified in 40 CFR 51.166(n)(2).

15 (h) New natural gas-fired electrical utility generating units for which cost recovery is sought pursuant to G.S. 62-  
16 133.6 shall install best available control technology for NO<sub>x</sub> and SO<sub>2</sub>, regardless of applicability of the rest of this  
17 Rule.

18 (i) For the purposes of this Rule, 40 CFR 51.166(w)(10)(iv)(a) reads: "If the emissions level calculated in accordance  
19 with Paragraph (w)(6) of this Section is equal to or greater than 80 percent of the PAL level, the Director shall renew  
20 the PAL at the same level." 40 CFR 51.166(w)(10)(iv)(b) is not incorporated by reference.

21 (j) 15A NCAC 02Q .0102 ~~and .0302~~ ~~are~~ ~~is~~ not applicable to any source to which this Rule applies. The owner or  
22 operator of the sources to which this Rule applies shall apply for and receive a permit as required in 15A NCAC 02Q  
23 .0300 or .0500.

24 (k) When a particular source or modification becomes a major stationary source or major modification solely by  
25 virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the  
26 source or modification to emit a pollutant, such as a restriction on hours of operation, then the provisions of this Rule  
27 shall apply to the source or modification as though construction had not yet begun on the source or modification.

28 (l) For the purposes of this Rule, the provisions of 40 CFR 52.21(r)(2) regarding the period of validity of approval to  
29 construct are incorporated by reference except that the term "Administrator" is replaced with "Director".

30 (m) Volatile organic compounds exempted from coverage in 40 CFR 51.100(s) shall be exempted when calculating  
31 source applicability and control requirements under this Rule.

32 (n) The degree of emission limitation required for control of any air pollutant under this Rule shall not be affected  
33 by:

- 34 (1) that amount of a stack height, not in existence before December 31, 1970, that exceeds good  
35 engineering practice; or  
36 (2) any other dispersion technique not implemented before December 31, 1970.

1 (o) A substitution or modification of a model as provided for in 40 CFR 51.166(l) is subject to public comment  
2 procedures in accordance with the requirements of 40 CFR 51.102.

3 (p) Permits may be issued on the basis of innovative control technology as set forth in 40 CFR 51.166(s)(1) if the  
4 requirements of 40 CFR 51.166(s)(2) have been met, subject to the condition of 40 CFR 51.166(s)(3), and with the  
5 allowance set forth in 40 CFR 51.166(s)(4).

6 (q) If a source to which this Rule applies impacts an area designated Class I by requirements of 40 CFR 51.166(e),  
7 notice to EPA shall be provided as set forth in 40 CFR 51.166(p)(1). If the Federal Land Manager presents a  
8 demonstration described in 40 CFR 51.166(p)(3) during the public comment period or public hearing to the Director  
9 and if the Director concurs with this demonstration, the permit application shall be denied. Permits may be issued on  
10 the basis that the requirements for variances as set forth in 40 CFR 51.166(p)(4), (p)(5) and (p)(7), or (p)(6) and (p)(7)  
11 have been satisfied. Pursuant to 40 CFR 51.166(p)(4), Class I Variances, and this Paragraph, the maximum allowable  
12 increases in micrograms per cubic meter over minor source baseline concentration for particulate matter are as follows:  
13

Class I variances — Particulate Matter		
Indicator	Averaging Period	micrograms per cubic meter
PM <sub>2.5</sub>	Annual arithmetic mean	4
PM <sub>2.5</sub>	24 hour maximum	9
PM <sub>10</sub>	Annual arithmetic mean	17
PM <sub>10</sub>	24 hour maximum	30

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15 (r) A permit application subject to this Rule shall be processed in accordance with the procedures and requirements  
16 of 40 CFR 51.166(q). Within 30 days of receipt of the application, applicants shall be notified if the application is  
17 complete as to initial information submitted. Commencement of construction before full prevention of significant  
18 deterioration approval is obtained constitutes a violation of this Rule.

19 (s) Approval of an application with regard to the requirements of this Rule does not relieve the owner or operator of  
20 the responsibility to comply with applicable provisions of other rules of this Subchapter or Subchapter 02Q of this  
21 Title and any other requirements under local, state, or federal law.

22 (t) When a source or modification is subject to this Rule the following procedures apply:

23 (1) Notwithstanding any other provisions of this Paragraph, the Director shall, no later than 60 days  
24 after receipt of an application, notify the Federal Land Manager with the U.S. Department of Interior  
25 and U.S. Department of Agriculture of an application from a source or modification subject to this  
26 Rule;

27 (2) When a source or modification may affect visibility of a Class I area, the Director shall provide  
28 written notification to all affected Federal Land Managers within 30 days of receiving the permit  
29 application or within 30 days of receiving advance notification of an application. The notification  
30 shall be given at least 30 days prior to the publication of notice for public comment on the  
31 application. The notification shall include a copy of all information relevant to the permit

1 application, including an analysis provided by the source of the potential impact of the proposed  
 2 source on visibility;

3 (3) The Director shall consider any analysis concerning visibility impairment performed by the Federal  
 4 Land Manager if the analysis is received within 30 days of notification. If the Director finds that  
 5 the analysis of the Federal Land Manager fails to demonstrate to the Director's satisfaction that an  
 6 adverse impact on visibility will result in the Class I area, the Director shall follow the public hearing  
 7 process described in 40 CFR 51.307(a)(3) on the application and include an explanation of the  
 8 Director's decision or notice as to where the explanation can be obtained; and

9 (4) The Director may require monitoring of visibility in or around any Class I area by the proposed new  
 10 source or modification when the visibility impact analysis indicates possible visibility impairment.

11 (u) If the owner or operator of a source is using projected actual emissions to avoid applicability of prevention of  
 12 significant deterioration requirements, the owner or operator shall notify the Director of the modification before  
 13 beginning actual construction. The notification shall include:

- 14 (1) a description of the project;
- 15 (2) identification of sources whose emissions could be affected by the project;
- 16 (3) the calculated projected actual emissions and an explanation of how the projected actual emissions  
 17 were calculated, including identification of emissions excluded by 40 CFR 51.166(b)(40)(ii)(c);
- 18 (4) the calculated baseline actual emissions and an explanation of how the baseline actual emissions  
 19 were calculated; and
- 20 (5) any netting calculations, if applicable.

21 If upon reviewing the notification, the Director finds that the project will cause a prevention of significant deterioration  
 22 evaluation, the Director shall notify the owner or operator of his or her findings. The owner or operator shall not make  
 23 the modification until a permit has been issued pursuant to this Rule. If a permit revision is not required pursuant to  
 24 this Rule, the owner or operator shall maintain records of annual emissions in tons per year, on a calendar year basis  
 25 related to the modifications, for 10 years following resumption of regular operations after the change if the project  
 26 involves increasing the emissions unit's design capacity or its potential to emit the regulated NSR pollutant; otherwise,  
 27 these records shall be maintained for five years following resumption of regular operations after the change. The  
 28 owner or operator shall submit a report to the Director within 60 days after the end of each year during which these  
 29 records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c). The  
 30 owner or operator shall make the information documented and maintained under this Paragraph available to the  
 31 Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

32 ~~(v) Increments. For particulate matter, the maximum allowable increases in micrograms per cubic meter over the~~  
 33 ~~baseline concentration for areas classified as Class I, Class II and Class III shall be as follows:~~

Increments - Particulate Matter				
Indicator	Averaging Period	Class I	Class II	Class III
PM2.5	Annual arithmetic mean	±	4	8

PM <del>2.5</del>	<del>24 hour maximum</del>	<del>2</del>	<del>9</del>	<del>18</del>
PM10	Annual arithmetic mean	4	17	34
PM10	24 hour maximum	8	30	60

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2 ~~(w)~~(v) The references to the Code of Federal Regulations (CFR) in this Rule are incorporated by reference unless a  
3 specific reference states otherwise. The version of the CFR incorporated in this ~~Rule~~ Rule, with respect to 40 CFR  
4 ~~51.166~~, is that as of ~~May 16, 2008~~ July 1, 2014 at ~~http://www.gpo.gov/fdsys/pkg/FR-2008-05-16/pdf/E8-10768.pdf~~  
5 <https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol2/pdf/CFR-2014-title40-vol2-sec51-166.pdf> and does not  
6 include any subsequent amendments or editions to the referenced material. The publication may be accessed free of  
7 charge.

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9 *History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3); 143-215.107(a)(5); 143-215.107(a)(7); 143-  
10 215.108(b);  
11 Eff. June 1, 1981;  
12 Amended Eff. December 1, 1992; August 1, 1991; October 1, 1989; July 1, 1988; October 1, 1987;  
13 June 1, 1985; January 1, 1985; February 1, 1983;  
14 Temporary Amendment Eff. March 8, 1994, for a period of 180 days or until the permanent rule is  
15 effective, whichever is sooner;  
16 Amended Eff. \_\_\_\_\_; September 1, 2013; January 2, 2011; September 1, 2010; May 1, 2008;  
17 July 28, 2006; July 1, 1997; February 1, 1995; July 1, 1994.

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