Burgos, Alexander N

From: Everett, Jennifer
Sent: Thursday, June 1, 2023 1:56 PM
To: Duke, Lawrence; Rules, Oah
Cc: Burgos, Alexander N; Kountis, Elizabeth; Wojoski, Paul A; Higgins, Karen; Reynolds, Phillip T
Subject: EMC 15A NCAC 02B .0315 -tech changes
Attachments: 15a ncac 02b 0315 with technical changes 5-15-2023.doc; EMC - 05-3-2023 - 15A NCAC 02B 0315 - Change Requests.docx

Lawrence,

Attached is the EMC's re-written rule and responses to your technical change requests for 15A NCAC 02B .0315. for the June RRC agenda.

Jennifer

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

15A NCAC 02B .0315 has been amended with changes as published in 37:06 NCR 444-448 as follows:

15A NCAC 02B .0315 NEUSE RIVER BASIN

(a) Classifications assigned to the waters within the Neuse River Basin are set forth in the Neuse River Basin Classification Schedule, which may be inspected at the following places:

(1) the Internet at https://deq.nc.gov/about/divisions/water-resources/water-planning/classification-standards/river-basin-classification; and

(2) the following offices of the North Carolina Department of Environmental Quality:

(A) Raleigh Regional Office
3800 Barrett Drive
Raleigh, ~~North Carolina;~~NC 27609

(B) Washington Regional Office
943 Washington Square Mall
Washington, ~~North Carolina;~~NC 27889

(C) Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, ~~North Carolina;~~NC 28405; and

(D) Division of Water Resources
Central Office
512 North Salisbury Street
Raleigh, ~~North Carolina.~~NC 27604.

~~(b) The Neuse River Basin Classification Schedule was amended effective:~~

~~(1) March 1, 1977 see Paragraph (c) of this Rule;~~

~~(2) December 13, 1979 see Paragraph (d) of this Rule;~~

~~(3) September 14, 1980 see Paragraph (e) of this Rule;~~

~~(4) August 9, 1981 see Paragraph (f) of this Rule;~~

~~(5) January 1, 1982 see Paragraph (g) of this Rule;~~

~~(6) April 1, 1982 see Paragraph (h) of this Rule;~~

~~(7) December 1, 1983 see Paragraph (i) of this Rule;~~

~~(8) January 1, 1985 see Paragraph (j) of this Rule;~~

~~(9) August 1, 1985, see Paragraph (k) of this Rule;~~

~~(10) February 1, 1986 see Paragraph (l) of this Rule;~~

~~(11) May 1, 1988 see Paragraph (m) of this Rule;~~

~~(12) July 1, 1988 see Paragraph (n) of this Rule;~~

~~(13) October 1, 1988 see Paragraph (o) of this Rule;~~

~~(14) January 1, 1990 see Paragraph (p) of this Rule;~~

~~(15) August 1, 1990;~~

~~(16) December 1, 1990 see Paragraph (q) of this Rule;~~

~~(17) July 1, 1991 see Paragraph (r) of this Rule;~~

~~(18) August 3, 1992;~~

~~(19) April 1, 1994 see Paragraph (t) of this Rule;~~

~~(20) July 1, 1996 see Paragraph (u) of this Rule;~~

~~(21) September 1, 1996 see Paragraph (v) of this Rule;~~

~~(22) April 1, 1997 see Paragraph (w) of this Rule;~~

~~(23) August 1, 1998 see Paragraph (x) of this Rule;~~

~~(24) August 1, 2002 see Paragraph (y) of this Rule;~~

~~(25) July 1, 2004 see Paragraph (z) of this Rule;~~

~~(26) November 1, 2007 see Paragraph (aa) of this Rule;~~

~~(27) January 15, 2011 see Paragraph (bb) of this Rule;~~ ~~and~~

~~(28) July 1, 2012 see Paragraph (cc) of this~~ ~~Rule;~~ ~~[Rule; and~~]

~~[(29) May 1, 2023 see Paragraph (dd) of this Rule.~~]

~~(c)~~(b) The Neuse River Basin Classification Schedule was amended effective March 1, ~~1977~~1977, with ~~the~~ a total of 179 streams in the Neuse River Basin reclassified from Class D to Class C.

~~(d)~~(c) The Neuse River Basin Classification Schedule was amended effective December 13, ~~1979~~1979, as follows: Little River ~~[Index No. 27-57-(21.5)]~~Index No. 27-57-(21.5) from source to the dam at Wake Forest Reservoir ~~has been~~was reclassified from Class A-II to Class A-II and B.

~~(e)~~(d) The Neuse River Basin Classification Schedule was amended effective September 14, ~~1980~~1980, as follows: The Eno River from Durham County State Road 1003 to U.S Highway 501 ~~[Index No. 27-2-(16)]~~Index No. 27-2-(16) was reclassified from Class C and B to Class A-II and B.

~~(f)~~(e) The Neuse River Basin Classification Schedule was amended effective August 9, ~~1981~~1981, to remove the swamp water designation from ~~all~~ waters designated SA in the Neuse River Basin.

~~(g)~~(f) The Neuse River Basin Classification Schedule was amended effective January 1, ~~1982~~1982, as follows: The Trent River from the mouth of Brice Creek to the Neuse River ~~[Index No. 27-101-(39)]~~Index No. 27-101-(39) was reclassified from Class SC Sw to Class SB Sw.

~~(h)~~(g) The Neuse River Basin Classification Schedule was amended effective April 1, ~~1982~~1982, as follows:

(1) Longview Branch from source to Crabtree Creek ~~[Index No. 27-33-(21)]~~Index No. 27-33-(21) was reclassified from Class C1 to Class ~~C.~~C; and

(2) Watson Branch from source to Walnut Creek ~~[Index No. 27-34-(8)]~~Index No. 27-34-(8) was reclassified from Class C1 to Class C.

~~(i)~~(h) The Neuse River Basin Classification Schedule was amended effective December 1, ~~1983~~1983, to add the Nutrient Sensitive Waters classification to the entire river basin above Falls ~~dam.~~Lake Dam.

~~(j)~~(i) The Neuse River Basin Classification Schedule was amended effective January 1, ~~1985~~1985, as follows: Nobel Canal from source to Swift Creek ~~[Index No. 27-97-(2)]~~Index No. 27-97-(2) was reclassified from Class C1 to Class C.

~~(k)~~(j) The Neuse River Basin Classification Schedule was amended effective August 1, ~~1985~~1985, as follows:

(1) Southeast Prong Beaverdam Creek from source to Beaverdam Creek ~~[Index No. 27-33-15(2)]~~Index No. 27-33-15-(2) was reclassified from Class C1 to Class ~~C.~~ C;

(2) Pigeon House ~~branch~~Branch from source to Crabtree Creek ~~[Index No. 27-33-(18)]~~Index No. 27-33-(18) was reclassified from Class C1 to Class ~~C.~~ C;

(3) Rocky Branch from source to Pullen Road ~~[Index No. 27-34-6-(1)]~~Index No. 27-34-6-(1) was reclassified from Class C1 to Class ~~C.~~ C; and

(4) Chavis Branch from source to Watson Branch ~~[Index No. 27-37-8-1]~~Index No. 27-37-8-1 was reclassified from Class C1 to Class C.

~~(l)~~(k) The Neuse River Basin Classification Schedule was amended effective February 1, ~~1986~~1986, to reclassify ~~all Class A-I and~~ Class A-II streams in the Neuse River Basin to ~~Class WS-I and~~ Class WS-III.

~~(m)~~(l) The Neuse River Basin Classification Schedule was amended effective May 1, ~~1988~~1988, to add the Nutrient Sensitive Waters classification to the waters of the Neuse River Basin below the Falls Lake ~~dam.~~Dam.

~~(n)~~(m) The Neuse River Basin Classification Schedule was amended effective July 1, ~~1988~~1988, as follows:

(1) Smith Creek ~~[Index No. 27-23-(1)]~~Index No. 27-23-(1) from source to the dam at Wake Forest Reservoir ~~has been~~was reclassified from Class WS-III to ~~WS-I.~~WS-I;

(2) Little River ~~[Index No. 27-57-(1)]~~Index No. 27-57-(1) from source to the N.C. Hwy. 97 Bridge near Zebulon ~~including all~~ and tributaries to this portion of the Little River ~~has been~~were reclassified from Class WS-III to ~~WS-I.~~WS-I; and

(3) ~~An~~an unnamed tributary to Buffalo Creek just upstream of Robertson's Pond in Wake County from source to Buffalo Creek including Leo's Pond ~~has been~~was reclassified from Class C to B.

~~(o)~~(n) The Neuse River Basin Classification Schedule was amended effective October 1, ~~1988~~1988, as follows:

(1) ~~Walnut Creek (Lake Johnson, Lake Raleigh) [Index No. 27-34-(1)].~~ Lake Johnson and Lake ~~Raleigh~~Raleigh, which are a portion of Walnut Creek (Lake Johnson, Lake Raleigh) Index No. 27-34-(1), ~~have been~~were reclassified from Class WS-III to Class WS-III ~~B.~~B; and

(2) Haw Creek ~~(Camp Charles Lake)(Index No. 27-86-3-7)~~(Camp Charles Lake) Index No. 27-86-3-7 from the backwaters of Camp Charles Lake to dam at Camp Charles Lake ~~has been~~was reclassified from Class C to Class B.

~~(p)~~(o) The Neuse River Basin Classification Schedule was amended effective January 1, ~~1990~~1990, as follows:

(1) Neuse-Southeast Pamlico Sound ORW ~~Area~~Area, which includes ~~all~~ waters within a line beginning at the southwest tip of Ocracoke ~~Island,~~Island and extending ~~north west~~northwest along the Tar-Pamlico River Basin and Neuse River Basin boundary line to Lat. 35 degrees 06' 30", ~~thence~~then in a southwest direction to Ship ~~Point~~Point, and ~~all tributaries,~~tributaries to the Neuse-Southeast Pamlico Sound ORW Area, were reclassified from Class SA NSW to Class SA NSW ~~ORW.~~ORW; and

(2) Core Sound ~~(Index No. 27-149)~~Index No. 27-149 from northeastern limit of White Oak River ~~Basin (a~~Basin, which is a line from Hall Point to Drum ~~Inlet)~~Inlet, to Pamlico ~~Sound~~Sound, and

~~all tributaries,~~tributaries to Core Sound except ~~Thorofare,~~ Thorofare and John Day ~~Ditch~~Ditch, were reclassified from Class SA NSW to Class SA NSW ORW.

(p) The Neuse River Basin Classification Schedule was amended effective August 1, 1990, as follows:

(1) a portion of the Little River Index No. 27-2-21-(1) from source to Little River Reservoir Dam and tributaries to this portion of the South Fork Little River except Forrest Creek (Foster Creek) from source to NC Highway 57 were reclassified from Class WS-III NSW to Class WS-III NSW HQW and Forrest Creek (Foster Creek) Index No. 27-2-21-2-2-(1) from source to NC Highway 57 was reclassified from Class C NSW to Class C NSW HQW;

(2) a portion of Greens Creek (Oriental Restricted Area) Index No. 27-129, including tributaries to this portion of Greens Creek, from inside a line beginning at a point on the northwest side of the mouth of Whittaker Creek and running due southeast 100 yards to a stake in the Neuse River, then running in a southwesterly direction 100 yards from shore to a stake due south of Whorton's Point, then in a straight line to flash beacon #6, then in a straight line to Windmill Point, then in a northerly direction to a point on the southern shore directly across from the western edge of the mouth of Kershaw Creek, then to a point on the western edge of Kershaw Creek, then along the northern shore line to Dewey Point including a portion of Smith Creek from source to a point 0.1 miles downstream of Morris Creek, Shop Gut, Morris Creek, Unnamed Tributary #1 and #2 to Smith Creek, Kershaw Creek, Unnamed Tributary #1, #2, and #3 to Greens Creek, Camp Creek (Oriental Harbor), Raccoon Creek, and Oriental Seawall to the point of beginning were reclassified from Class SC NSW to Class SC NSW HQW;

(3) a portion of Chapel Creek Index No. 27-150-7 from source to a line 0.1 miles downstream of Bee Tree Creek and tributaries to this portion of Chapel Creek were reclassified from Class SC Sw NSW to Class SC Sw NSW HQW;

(4) a portion of Swindell Bay Index No. 27-150-8 from source to the narrows was reclassified from Class SC Sw NSW to Class SC Sw NSW HQW;

(5) Mason Creek Index No. 27-150-9 from source to the Bay River and the tributary to Mason Creek, which is Lewis Creek, were reclassified from Class SC Sw NSW to Class SC Sw NSW HQW;

(6) Harper Creek Index No. 27-150-10 from source to the Bay River was reclassified from Class SC Sw NSW to Class SC Sw NSW HQW;

(7) Moore Creek Index 27-150-12 from source to the Bay River and the tributary to Moore Creek, which is Chappel Creek, were reclassified from Class SC Sw NSW to Class SC Sw NSW HQW;

(8) Smith Creek Index No. 27-150-14 from source to the Bay River was reclassified from Class SC Sw NSW to Class SC Sw NSW HQW;;

(9) Little Vandemere Creek Index No. 27-150-15-1 from source to Vandemere Creek was reclassified from Class SC Sw NSW to Class SC Sw NSW HQW;;

(10) Long Creek Index No. 27-150-15-2 from source to Vandemere Creek was reclassified from Class SC Sw NSW to Class SC Sw NSW HQW; and

(11) Cedar Creek Index No. 27-150-3 from source to Vandemere Creek was reclassified from Class SC Sw NSW to Class SC Sw NSW HQW.

(q) The Neuse River Basin Classification Schedule was amended effective December 1, ~~1990~~1990, ~~with the reclassification of the following waters as described in (1) through (3) of this Paragraph~~as follows:

(1) Northwest Creek from its source to the Neuse River ~~(Index No. 27-105)~~Index No. 27-105 was reclassified from Class SC Sw NSW to Class SB Sw NSW;

(2) Upper Broad Creek ~~[Index No. 27-106-(7)]~~Index No. 27-106-(7) from Pamlico County SR 1103 at Lees Landing to the Neuse River was reclassified from Class SC Sw NSW to Class SB Sw NSW; and

(3) Goose Creek ~~[Index No. 27-107-(11)]~~Index No. 27-107-(11) from Wood Landing to the Neuse River was reclassified from Class SC Sw NSW to Class SB Sw NSW.

(r) The Neuse River Basin Classification Schedule was amended effective July 1, ~~1991~~1991, with the reclassification of the Bay River ~~[Index No. 27-150-(1)]~~Index No. 27-150-(1) within a line running from Flea Point to the Hammock, east to a line running from Bell Point to Darby Point, including Harper Creek, Tempe Gut, Moore Creek and Newton Creek, and excluding that portion of the Bay River landward of a line running from Poorhouse Point to Darby Point from Classes SC Sw NSW and SC Sw NSW HQW to Class SA NSW.

(s) The Neuse River Basin Classification Schedule was amended effective August 3, ~~1992~~1992, ~~with the reclassification of all water supply waters (waters with a primary classification of~~ as follows:

(1) Class WS-I, WS-II or ~~WS-III).~~WS-III~~These~~ waters were reclassified to WS-I, WS-II, WS-III, WS-IV or WS-V as defined in the revised water supply protection rules ~~(15A NCAC 02B .0100, .0200 and .0300),~~15A NCAC 02B .0100 - .0300, which became effective on August 3, 1992.

(2) ~~In some cases, streams with primary classifications other than WS~~ Additional waters classified as Class C were reclassified to a WS classification and additional waters classified as Class B were reclassified to a Class WS & B classification due to ~~their~~ proximity and linkage to water supply waters.

(3) ~~In other cases,~~Additional Class WS-I, WS-II, or WS-III waters were reclassified ~~from a WS classification~~ to ~~an alternate appropriate primary~~ remove the WS classification after being identified as downstream of a water supply intake or identified as not being used for water supply purposes.

(t) The Neuse River Basin Classification Schedule was amended effective April 1, ~~1994~~1994, as follows:

(1) Lake Crabtree ~~[Index No. 27-33-(1)]~~Index No. 27-33-(1) was reclassified from Class C NSW to Class B ~~NSW.~~NSW;

(2) ~~The~~ Eno River from Orange County State Road 1561 to Durham County State Road 1003 [Index No. 27-10-(16)]Index No. 27-10-(16) was reclassified from Class WS-IV NSW to Class WS-IV B ~~NSW.~~NSW; and

(3) Silver Lake ~~(Index No. 27-43-5)~~Index No. 27-43-5 was reclassified from Class WS-III NSW to Class WS-III B NSW.

(u) The Neuse River Basin Classification Schedule was amended effective July 1, ~~1996~~1996, with the reclassification of Austin Creek ~~[Index Nos. 27-23-3-(1) and 27-23-3-(2)]~~Index Nos. 27-23-3-(1) and 27-23-3-(2) from its source to Smith Creek from ~~classes~~Classes WS-III NSW and WS-III NSW CA to ~~class~~Class C NSW.

(v) The Neuse River Basin Classification Schedule was amended effective September 1, ~~1996~~1996, with the reclassification of an unnamed tributary to Hannah Creek (Tuckers Lake) ~~[Index No. 27-52-6-0.5]~~Index No. 27-52-6-0.5 from Class C NSW to Class B NSW.

(w) The Neuse River Basin Classification Schedule was amended effective April 1, ~~1997~~1997, with the reclassification of the Neuse River Index No. 27-(36) ~~(including tributaries)~~ from the mouth of Marks Creek to a point 1.3 miles downstream of Johnston County State Road 1908 and tributaries to this portion of the Neuse River to ~~class~~Class WS-IV NSW and the Neuse River Index No. 27-(38.5) from a point 1.3 miles downstream of Johnston County State Road 1908 to the Johnston County Water Supply ~~intake~~intake, which is ~~(located~~located 1.8 miles downstream of Johnston County State Road ~~1908)~~1908, and tributaries to this portion of the Neuse River to ~~class~~Class WS-IV CA ~~NSW [Index Nos. 27-(36) and 27-(38.5)].~~NSW.

(x) The Neuse River Basin Classification Schedule was amended effective August 1, ~~1998~~1998, with the revision of the Critical Area and Protected Area boundaries surrounding the Falls Lake water supply reservoir. The revisions to these boundaries are the result of the US Army Corps of Engineers raising the lake's normal pool elevation. The ~~result~~results of these revisions ~~is~~are the Critical and Protected Area boundaries (classifications) may extend further upstream than the current designations. The Critical Area for a WS-IV reservoir is defined as 0.5 miles and draining to the normal pool elevation. The Protected Area for a WS-IV reservoir is defined as 5 miles and draining to the normal pool elevation. The normal pool elevation of the Falls Lake reservoir ~~has~~ changed from 250.1 feet mean sea level (msl) to 251.5 feet msl.

(y) The Neuse River Basin Classification Schedule was amended effective August 1, ~~2002~~2002, with the reclassification of ~~the~~portions of Neuse River ~~[portions of Index No. 27-(56)],~~Index No. 27-(56), including tributaries to those portions of the Neuse River,~~portions of its tributaries,~~ from a point 0.7 mile downstream of the mouth of Coxes Creek to a point 0.6 mile upstream of Lenoir County proposed water supply intake from Class C NSW to Class WS-IV NSW and from a point 0.6 mile upstream of Lenoir County proposed water supply intake to Lenoir proposed water supply intake from Class C NSW to Class WS-IV CA NSW.

(z) The Neuse River Basin Classification Schedule was amended effective July 1, ~~2004~~2004, with the reclassification of the Neuse ~~River (including tributaries in Wake County) [Index Nos. 27-(20.7), 27-21, 27-21-1]~~ River Index Nos. 27-(20.7), 27-21, and 27-21-1 from the dam at Falls Lake to a point 0.5 mile upstream of the Town of Wake Forest Water Supply ~~Intake~~Intake, which is the ~~(former~~former water supply intake for Burlington Mills Wake Finishing ~~Plant)~~Plant, and tributaries to this portion of the Neuse River in Wake County from Class C NSW to Class WS-IV NSW and the Neuse River Index No. 27-(20.1) from a point 0.5 mile upstream of the Town of Wake Forest proposed water supply intake to Town of Wake Forest proposed water supply intake ~~[Index No. 27-(20.1)]~~ from Class C NSW to Class WS-IV NSW CA. Fantasy Lake ~~[Index No. 27-57-3-1-1],~~Index No. 27-57-3-1-1, a former rock quarry within a WS-II NSW water supply watershed, was reclassified from Class WS-II NSW to Class WS-II NSW CA.

(aa) The Neuse River Basin Classification Schedule was amended effective November 1, ~~2007~~2007, with the reclassification of the entire watershed of Deep Creek (Index No. 27-3-4) from source to Flat River from Class WS-III NSW to Class WS-III ORW NSW.

(bb) The Neuse River Basin Classification Schedule was amended effective January 15, ~~2011~~2011, with the reclassification of ~~all~~ Class C NSW waters upstream of the dam at Falls Reservoir to Class WS-V NSW and ~~all~~ Class B NSW waters upstream of the dam at Falls Reservoir ~~from Class C NSW and Class B NSW~~ to ~~Class WS-V NSW and~~ Class WS-V & B ~~NSW, respectively.~~NSW. ~~All waters~~Waters within the Falls Watershed are within a designated Critical Water Supply Watershed and are subject to a special management strategy specified in Rules .0275 through .0283 of this Subchapter.

(cc) The Neuse River Basin Classification Schedule was amended effective July 1, ~~2012~~2012, as follows:

(1) Johnston County owned quarry near Little River ~~[Index No. 27-57-(20.2)]~~Index No. 27-57-(20.2) was reclassified from Class C NSW to Class WS-IV NSW CA. The Division of Water Resources maintains a Geographic Information Systems data layer of this quarry;

(2) a portion of the Neuse River ~~[Index Number 27-(41.7)]~~Index Number 27-(41.7) from a point ~~approximately~~close to 1.4 miles downstream of Gar Gut to a point ~~approximately~~close to 1.7 miles upstream of Bawdy Creek was reclassified from Class WS-V NSW to Class WS-IV NSW; and

(3) a portion of the Neuse River ~~[Index No. 27-(49.5)]~~Index No. 27-(49.5) from a point ~~approximately~~close to 0.5 mile upstream of S.R. 1201 ~~(Johnston County intake)~~ to S.R. ~~1201 (Johnston County intake)~~1201, which is the location of a Johnston County intake, was reclassified from Class WS-IV NSW to Class WS-IV NSW CA.

(dd) The Neuse River Basin Classification Schedule was amended effective ~~[May 1, 2023]~~July 1, 2023, as follows:

(1) City of Durham owned Nello Teer [~~quarry~~]Quarry near Eno River [~~[Index No. 27-2-(19)]~~]Index No. 27-2-(19) was reclassified from Class WS-IV NSW to Class WS-IV NSW CA. The Division of Water Resources maintains a Geographic Information Systems data layer of this quarry; and

(2) a portion of the Eno River [~~[Index No. 27-2-(19)]~~]Index No. 27-2-(19) from a point [~~approximately~~]close to 0.7 miles downstream of U.S. Highway 501 to a City of Durham raw intake located about 1.1 miles downstream of U.S. Highway 501 was reclassified from Class WS-IV NSW to Class WS-IV NSW CA.

History Note: *Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. November 1, 2007; July 1, 2004 (see SL 2001-361); August 1, 2002; August 1, 1998; April 1, 1997; September 1, 1996; July 1, 1996; April 1, 1994; August 3, 1992; July 1, 1991;
Amended Eff. January 15, 2011 (this permanent rule replaces the temporary rule approved by the RRC on December 16, 2010);

Amended Eff. July 1, 2012;

Readopted Eff. November 1, ~~2019.~~2019;

Amended Eff. July 1, 2023.

Request for Changes Pursuant to N.C. Gen. Stat. § 150B-21.10

Staff reviewed these Rules to ensure that each Rule is within the agency's statutory authority, reasonably necessary, clear and unambiguous, and adopted in accordance with Part 2 of the North Carolina Administrative Procedure Act. Following review, staff has issued this document that may request changes pursuant to G.S. 150B-21.10 from your agency or ask clarifying questions.

The imposition of a question implies that the rule as written is unclear or there is some ambiguity. If the request includes questions and you do not understand the question, please contact the reviewing attorney to discuss. Failure to respond may result in a staff opinion recommending objection.

Staff may suggest the agency "consider" an idea or language in this document. This is in no way a formal request that the agency adopt the idea or language but rather is offered merely for consideration which the agency may find preferable and clarifying.

In order to properly submit rewritten rules, please refer to the following Rules in the NC Administrative Code:

- Rule 26 NCAC 02C .0108 – The Rule addresses general formatting.
- Rule 26 NCAC 02C .0404 – The Rule addresses changing the introductory statement.
- Rule 26 NCAC 02C .0405 – The Rule addresses properly formatting changes made after publication in the NC Register.

Note the following general instructions:

1. You must submit the revised rule via email to oah.rules@oah.nc.gov. The electronic copy must be saved as the official rule name (XX NCAC XXXX).
2. For rules longer than one page, insert a page number.
3. Use line numbers; if the rule spans more than one page, have the line numbers reset at one for each page.
4. Do not use track changes. Make all changes using manual strikethroughs, underlines and highlighting.
5. You cannot change just one part of a word. For example:
    - Wrong: "~~a~~Association"
    - Right: "~~association~~ Association"
6. Treat punctuation as part of a word. For example:
    - Wrong: "day~~,~~; and"
    - Right: "~~day,~~ day; and"
7. Formatting instructions and examples may be found at: www.ncoah.com/rules/examples.html

If you have any questions regarding proper formatting of edits after reviewing the rules and examples, please contact the reviewing attorney.

Lawrence R. Duke
Commission Counsel
Date submitted to agency: March 30, 2023

REQUEST FOR § 150B-21.10 CHANGES

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02B .0315

DEADLINE FOR RECEIPT: Thursday, April 6, 2023

***PLEASE NOTE:* This request may extend to several pages. Please be sure you have reached the end of the document.**

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may email the reviewing attorney to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following changes be made:

Throughout the Rule there are repetitive stylistic errors. They are:

- *All dates need to have a comma after the year if found within a sentence. For instance, this Rule amendment shall come before the RRC on April 20, 2023, for review. The numerous dates all need to be fixed.* **Requested changes made.**
- *"All" is used many times throughout and is unnecessary. Please remove from: Paragraphs, Subparagraphs, or Parts: (f), (l), (n)(2), (p)(1) & (2), (s), and (bb).* **Requested changes made.**
- *Each list should end with semicolons and "; and". Also, unless the item in the list is a proper noun, the first letter should not be capitalized. Please fix in: (b)(28), (h), (k), (n), (o), (p), and (t).* **Requested changes made.**
- *Parenthesis should be avoided. Commas can be used. Please fix in: (o)(2), (p)(2), (q)(1), (s), (t)(3), (v), (w), (z), (aa), and (cc)(3).* **Parentheses removed as requested except when part of an index number or waterbody name. The names as written in the rule are familiar to the regulated community and used by permit writers.**
- *The use of improper, unclear, ambiguous language should be avoided. Avoid words or phrases like "thence" in (p)(1); "in some cases" or "in other cases" in (s); "appropriate" in (s); "respectively" in (bb); and "approximately" in (cc)(2) and (3), and (dd)(2).* **Requested changes made.**

In Parts (a)(2)(A), (B), (C), and (D), addresses should use the "NC" abbreviation for North Carolina and should include the ZIP code. Also, in Part (B), should it be Washington Street, not Washington Square Mall (see Google Maps)? In Part (D), did DWR not move to the 217 Jones Street address along with the rest of DEQ? **Changes made. The mailing address for the Washington Regional Office is 943 Washington Square Mall. In addition, DWR did not move to the 217 Jones Street address.**

What is the purpose of Paragraph (b) if the information contained in the subparagraphs is also in the referenced paragraphs found later in the Rule? **Paragraph (b) serves as a reference guide that users can peruse in order to quickly find the classification of interest, assuming they know the approximate date that a reclassification became effective. It is not necessary and has been removed.**

Lawrence R. Duke
Commission Counsel
Date submitted to agency: March 30, 2023

In Paragraph (c), there is an extra article. It currently reads: "with the a total". **Requested changes made.**

In Paragraph (i), should the "d" in "Falls dam" be capitalized? Is this the same dam that is referenced in (m)? In (m), it uses "Falls Lake dam". Should that "d" be capitalized also? **Changes made to show "Falls Lake Dam" appearing in both locations.**

Subparagraphs (o)(1), (p)(2), (cc)(1)-(3), and (dd)(1)-(2) do not read like other similar items. Please change to keep the language consistent. **Requested changes made.**

In Paragraph (q), please change "with the reclassification of the following waters as described in (1) through (3) of this Paragraph" to "as follows:" so that it is like other paragraphs. Also, in the Subparagraphs of (q), insert "has been reclassified". **Requested changes made.**

In Paragraph (v), is there a better or more exact way to clearly and unambiguously describe "an unnamed tributary"? **No, as there are waters (including tributaries) that have not been named by US Geological Survey, which generally has the authority to name tributaries across the United States as part of its responsibility.**

Please retype the rule accordingly and resubmit it to our office electronically.

Lawrence R. Duke
Commission Counsel
Date submitted to agency: March 30, 2023

Burgos, Alexander N

From: Duke, Lawrence
Sent: Tuesday, May 16, 2023 5:30 PM
To: Everett, Jennifer
Cc: Quinlan, Katherine L; Nelson, Bradley W; Kountis, Elizabeth; Blum, Catherine; Lopazanski, Mike; Burgos, Alexander N; Reynolds, Phillip T
Subject: RE: May RRC Meeting - EMC, MFC, & CRC Rules

Thank you.

Lawrence Duke
Counsel, NC Rules Review Commission
Office of Administrative Hearings
(984) 236-1938

From: Everett, Jennifer <jennifer.everett@deq.nc.gov>
Sent: Tuesday, May 16, 2023 4:17 PM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Cc: Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@deq.nc.gov>; Kountis, Elizabeth <elizabeth.kountis@deq.nc.gov>; Blum, Catherine <catherine.blum@ncdenr.gov>; Lopazanski, Mike <mike.lopazanski@ncdenr.gov>; Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Reynolds, Phillip T <preynolds@ncdoj.gov>
Subject: RE: May RRC Meeting - EMC, MFC, & CRC Rules

Lawrence,

See my notes in red below.
Let me know if you have any questions.

Jennifer

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

---

From: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Sent: Tuesday, May 16, 2023 12:01 PM
To: Everett, Jennifer <jennifer.everett@deq.nc.gov>
Cc: Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@deq.nc.gov>; Kountis,

Elizabeth <elizabeth.kountis@deq.nc.gov>; Blum, Catherine <catherine.blum@ncdenr.gov>; Lopazanski, Mike <mike.lopazanski@ncdenr.gov>; Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Reynolds, Phillip T <preynolds@ncdoj.gov>
Subject: May RRC Meeting - EMC, MFC, & CRC Rules

Jennifer,

In preparation for the Rules Review Commission meeting on Thursday, May 18, I wanted to make sure we are on the same page for the rules you are shepherding through the process.

- Coastal Resources: 15A NCAC 07H .2305 has had no changes and no agency action. This Rule will remain a no action item. Correct.

- Environmental Management: 15A NCAC 02B .0315 has had no changes and will continue to be a no action item. The extension of time continues until the June meeting, at which time this rule must be reviewed. Got it.

  15A NCAC 02D .0516 has gone through the process and will be reviewed at this May meeting. Please make sure the final version has been submitted to oah.rules@oah.nc.gov and that this version is reflected correctly in the online agenda for the May meeting. The final version was submitted to oah.rules@oah.nc.gov on May 5, 2023 and is reflected in the online agenda correctly.

- Marine Fisheries: 15A NCAC 03M .0101 has outstanding issues related to jurisdiction overlap with Wildlife Resources. I have spoken with Phillip Reynolds about changes to the language that will hopefully resolve these issues. If we are unable to work this out before the meeting, this Rule will continue to be a no action item. The extension of time continues until the June meeting, at which time this rule must be reviewed. Got it.

  15A NCAC 18A .0911 has gone through the process and will be reviewed at this May meeting. Please make sure the final version has been submitted to oah.rules@oah.nc.gov and that this version is reflected correctly in the online agenda for the May meeting. The final version was submitted to oah.rules@oah.nc.gov on May 11, 2023 and is reflected in the online agenda correctly.

As always, if you have any questions, please feel free to reach out.

Thank you,
Lawrence Duke

Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
Lawrence.Duke@oah.nc.gov
(984) 236-1939

Burgos, Alexander N

From: Duke, Lawrence
Sent: Tuesday, May 16, 2023 12:01 PM
To: Everett, Jennifer
Cc: Quinlan, Katherine L; Nelson, Bradley W; Kountis, Elizabeth; Blum, Catherine; Lopazanski, Mike; Burgos, Alexander N; Reynolds, Phillip T
Subject: May RRC Meeting - EMC, MFC, & CRC Rules

Jennifer,

In preparation for the Rules Review Commission meeting on Thursday, May 18, I wanted to make sure we are on the same page for the rules you are shepherding through the process.

- Coastal Resources: 15A NCAC 07H .2305 has had no changes and no agency action. This Rule will remain a no action item.

- Environmental Management: 15A NCAC 02B .0315 has had no changes and will continue to be a no action item. The extension of time continues until the June meeting, at which time this rule must be reviewed. 15A NCAC 02D .0516 has gone through the process and will be reviewed at this May meeting. Please make sure the final version has been submitted to oah.rules@oah.nc.gov and that this version is reflected correctly in the online agenda for the May meeting.

- Marine Fisheries: 15A NCAC 03M .0101 has outstanding issues related to jurisdiction overlap with Wildlife Resources. I have spoken with Phillip Reynolds about changes to the language that will hopefully resolve these issues. If we are unable to work this out before the meeting, this Rule will continue to be a no action item. The extension of time continues until the June meeting, at which time this rule must be reviewed. 15A NCAC 18A .0911 has gone through the process and will be reviewed at this May meeting. Please make sure the final version has been submitted to oah.rules@oah.nc.gov and that this version is reflected correctly in the online agenda for the May meeting.

As always, if you have any questions, please feel free to reach out.

Thank you,
Lawrence Duke

Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
Lawrence.Duke@oah.nc.gov
(984) 236-1938

Request for Changes Pursuant to N.C. Gen. Stat. § 150B-21.10

Staff reviewed these Rules to ensure that each Rule is within the agency's statutory authority, reasonably necessary, clear and unambiguous, and adopted in accordance with Part 2 of the North Carolina Administrative Procedure Act. Following review, staff has issued this document that may request changes pursuant to G.S. 150B-21.10 from your agency or ask clarifying questions.

The imposition of a question implies that the rule as written is unclear or there is some ambiguity. If the request includes questions and you do not understand the question, please contact the reviewing attorney to discuss. Failure to respond may result in a staff opinion recommending objection.

Staff may suggest the agency "consider" an idea or language in this document. This is in no way a formal request that the agency adopt the idea or language but rather is offered merely for consideration which the agency may find preferable and clarifying.

In order to properly submit rewritten rules, please refer to the following Rules in the NC Administrative Code:

- Rule 26 NCAC 02C .0108 – The Rule addresses general formatting.
- Rule 26 NCAC 02C .0404 – The Rule addresses changing the introductory statement.
- Rule 26 NCAC 02C .0405 – The Rule addresses properly formatting changes made after publication in the NC Register.

Note the following general instructions:

1. You must submit the revised rule via email to oah.rules@oah.nc.gov. The electronic copy must be saved as the official rule name (XX NCAC XXXX).
2. For rules longer than one page, insert a page number.
3. Use line numbers; if the rule spans more than one page, have the line numbers reset at one for each page.
4. Do not use track changes. Make all changes using manual strikethroughs, underlines and highlighting.
5. You cannot change just one part of a word. For example:
    - Wrong: "~~a~~Association"
    - Right: "~~association~~ Association"
6. Treat punctuation as part of a word. For example:
    - Wrong: "day~~,~~; and"
    - Right: "~~day,~~ day; and"
7. Formatting instructions and examples may be found at: www.ncoah.com/rules/examples.html

If you have any questions regarding proper formatting of edits after reviewing the rules and examples, please contact the reviewing attorney.

Lawrence R. Duke
Commission Counsel
Date submitted to agency: April 3, 2023

REQUEST FOR § 150B-21.10 CHANGES

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02D .0516

DEADLINE FOR RECEIPT: Tuesday, April 11, 2023

***PLEASE NOTE:* This request may extend to several pages. Please be sure you have reached the end of the document.**

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may email the reviewing attorney to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following changes be made:

In Subparagraph (b)(2), the changed language is unclear. Would it be less ambiguous to state, "…shall be included in the computation of emissions; and"?

The EMC amended the rule language for clarity to include, "…shall be included in the computation of emissions; and".

Also, in Subparagraph (b)(3), is "the determination of" necessary? Would it be less ambiguous to state, "…shall not include heat generated by the combustion of fuels to inflate the heat input value…"

The rule is not intended to limit or restrict the type of fuels that can be combusted at the source, but rather, limit the heat content values used in the computation of the million Btu denominator value of the SO_2 standard in paragraph (a) of the Rule. The phrase "the determination of" was included to clarify that the prohibition speaks to the calculation of the heat input for compliance purposes, and the removal of the phrase would change the meaning of the rule such that it would create an inference that the prohibition applies to the type of fuel combusted, instead.

Both Subparagraphs listed above lack a clear method or procedure for "the determination of emissions" or "the determination of Btu input". Is there a way to clarify this if this language is to be included?

15 NCAC 02D .0501(f) requires compliance demonstration using procedures pursuant to 15A NCAC 02D .2600. There are methods and procedures for determining SO_2 emissions in 15A NCAC 02D .2611, *Sulfur Dioxide Testing Methods*. The methods for determining SO_2 emissions and Btu input outlined in Rule 02D .2611 are not exhaustive and apply to boilers, turbines, and other typical processes that have an exhaust stack and would be included in the permit for the source. Other SO_2 emissions sources, such as control devices (e.g., flares or thermal oxidizers), require non-traditional methods that are not covered by Rule 02D .2611. Pursuant to 15A NCAC 02D .2601(e), methods other than those specified in 15A NCAC 02D .2600 are agreed upon by the source and the DAQ and then included in the permit.

Lawrence R. Duke
Commission Counsel
Date submitted to agency: April 3, 2023

Please retype the rule accordingly and resubmit it to our office electronically.

Lawrence R. Duke
Commission Counsel
Date submitted to agency: April 3, 2023

Burgos, Alexander N

Subject: FW: EMC 15A NCAC 02D .0516 - Letter of Extension of the Period of Review
Attachments: 15A NCAC 02D .0516.docx; EMC - 04.2023 - 15A NCAC 02D .0516 - Change Requests_Responses.docx

---

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Friday, May 5, 2023 3:20 PM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>; Rules, Oah <oah.rules@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>
Subject: RE: EMC 15A NCAC 02D .0516 - Letter of Extension of the Period of Review

Lawrence,

Attached is the rewritten rule and responses for 15A NCAC 02D .0516.

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

15A NCAC 02D .0516 is amended as published with changes in 37:11 NCR 791 as follows:

15A NCAC 02D .0516 SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

(a) ~~Emission~~ Emissions of sulfur dioxide from any source of ~~combustion~~ combustion, including air pollution control devices, discharged from any vent, stack, ~~or chimney~~ chimney, or flare shall not exceed 2.3 pounds of sulfur dioxide per million ~~BTU~~ Btu input.

(b) When determining compliance with this standard:

(1) ~~Sulfur~~the sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be ~~included when determining compliance with this standard.~~ included;

(2) ~~Sulfur~~the sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall be included in the computation of emissions; and ~~also be accounted for when determining compliance with this standard.[for in the determination of emissions; and]~~

(3) the determination of Btu input shall not include~~[any fraction of heat input associated with the combustion of fuels whose purpose is to increase heat input beyond what is needed for normal or permitted operation and solely in order]~~ the contribution from any portion of fuels used exclusively to inflate the heat input value used to demonstrate compliance with~~[this standard.]~~ the emission standard in Paragraph (a) of this Rule.

~~(b)~~(c) The standard set forth in Paragraph (a) of this Rule shall not apply to sulfur dioxide emission sources already subject to an emission standard for sulfur dioxide in 15A NCAC 02D .0524, .0527, .1110, .1111, .1206, or .1210.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. February 1, 1976;
Amended Eff. July 1, 2007; April 1, 2003; July 1, 1996; February 1, 1995; October 1, 1989; January 1, 1985; April 1, 1977;
Readopted Eff. November 1, ~~2020.~~2020;
Amended Eff. June 1, 2023

Burgos, Alexander N

Subject: FW: EMC 15A NCAC 02B .0315 & 02D .0516 - Letter of Extension of the Period of Review

---

From: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Sent: Wednesday, April 26, 2023 4:42 PM
To: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>; Higgins, Karen <karen.higgins@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Kountis, Elizabeth <elizabeth.kountis@ncdenr.gov>; Reynolds, Phillip T <preynolds@ncdoj.gov>
Subject: RE: EMC 15A NCAC 02B .0315 & 02D .0516 - Letter of Extension of the Period of Review

For May, please have responses by Friday, May 5. For June, please have responses by Friday, June 2.

Lawrence Duke
Counsel, NC Rules Review Commission
Office of Administrative Hearings
(984) 236-1938

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Tuesday, April 25, 2023 4:34 PM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>; Higgins, Karen <karen.higgins@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Kountis, Elizabeth <elizabeth.kountis@ncdenr.gov>; Reynolds, Phillip T <preynolds@ncdoj.gov>
Subject: RE: EMC 15A NCAC 02B .0315 & 02D .0516 - Letter of Extension of the Period of Review

Lawrence,

When do you need responses to these EMC rules for the May and June meetings?

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

From: Everett, Jennifer
Sent: Thursday, April 20, 2023 11:20 AM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>; Kountis, Elizabeth <elizabeth.kountis@ncdenr.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>; Higgins, Karen <karen.higgins@ncdenr.gov>
Subject: RE: EMC 15A NCAC 02B .0315 & 02D .0516 - Letter of Extension of the Period of Review

Lawrence,

When do you need responses by for the May and June meetings?

Thanks.

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

Burgos, Alexander N

Subject: FW: EMC 15A NCAC 02B .0315 & 02D .0516 - Letter of Extension of the Period of Review

---

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Thursday, April 20, 2023 11:20 AM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>; Kountis, Elizabeth <elizabeth.kountis@ncdenr.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>; Higgins, Karen <karen.higgins@ncdenr.gov>
Subject: RE: EMC 15A NCAC 02B .0315 & 02D .0516 - Letter of Extension of the Period of Review

Lawrence,

When do you need responses by for the May and June meetings?

Thanks.

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

---

From: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Sent: Thursday, April 20, 2023 10:17 AM
To: Everett, Jennifer <jennifer.everett@ncdenr.gov>; Kountis, Elizabeth <elizabeth.kountis@ncdenr.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: EMC 15A NCAC 02B .0315 & 02D .0516 - Letter of Extension of the Period of Review

Jennifer,

Please see attached letter extending the period of review for 15A NCAC 02B .0315 and 02D .0516. As always, if you have any questions regarding the Commission's actions, please let me know.

Thank you,

Lawrence Duke

Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
Lawrence.Duke@oah.nc.gov
(984) 236-1938

Burgos, Alexander N

Subject: FW: 02D .0516

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Thursday, April 20, 2023 9:57 AM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>; Snyder, Ashley B <ashley.snyder@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Burleson, Joelle <joelle.burleson@ncdenr.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>
Subject: RE: 02D .0516

Great, thanks.

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

---

From: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Sent: Thursday, April 20, 2023 9:56 AM
To: Everett, Jennifer <jennifer.everett@ncdenr.gov>; Snyder, Ashley B <ashley.snyder@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>
Subject: RE: 02D .0516

I'm going to bring it up after the current discussion finishes. I apologize for the oversight. Thank you for bringing this to my attention.

Lawrence Duke
Counsel, NC Rules Review Commission
Office of Administrative Hearings
(984) 236-1938

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Thursday, April 20, 2023 9:48 AM
To: Snyder, Ashley B <ashley.snyder@oah.nc.gov>; Duke, Lawrence <lawrence.duke@oah.nc.gov>
Subject: 02D .0516

We asked for an extension on this EMC 15A NCAC 02D .0516 rule but didn't hear Lawrence include it in his recommendation.
Can we get clarification that it was included?

Thanks.

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

Burgos, Alexander N

Subject: FW: EMC - 15A NCAC 02B .0315

From: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Sent: Thursday, April 6, 2023 3:10 PM
To: Everett, Jennifer <jennifer.everett@ncdenr.gov>; Rules, Oah <oah.rules@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Kountis, Elizabeth <elizabeth.kountis@ncdenr.gov>; Higgins, Karen <karen.higgins@ncdenr.gov>; Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>
Subject: RE: EMC - 15A NCAC 02B .0315

Jennifer,

Thank you for letting me know. I will present that to the RRC and recommend the extension.

Lawrence Duke
Counsel, NC Rules Review Commission
Office of Administrative Hearings
(984) 236-1938

Burgos, Alexander N

Subject: FW: EMC - 15A NCAC 02D .0516

From: Duke, Lawrence <lawrence.duke@oah.nc.gov>
Sent: Thursday, April 6, 2023 3:10 PM
To: Everett, Jennifer <jennifer.everett@ncdenr.gov>; Rules, Oah <oah.rules@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>
Subject: RE: EMC - 15A NCAC 02D .0516

Jennifer,

Thank you for letting me know. I will present that to the RRC and recommend the extension.

Lawrence Duke
Counsel, NC Rules Review Commission
Office of Administrative Hearings
(984) 236-1938

Burgos, Alexander N

Subject: FW: EMC - 15A NCAC 02B .0315

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Wednesday, April 5, 2023 3:49 PM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>; Rules, Oah <oah.rules@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Kountis, Elizabeth <elizabeth.kountis@ncdenr.gov>; Higgins, Karen <karen.higgins@ncdenr.gov>; Wojoski, Paul A <Paul.Wojoski@ncdenr.gov>
Subject: RE: EMC - 15A NCAC 02B .0315

Lawrence,

The EMC is requesting an extension for the period of review for the above cited rule. This extension will allow staff additional time to address your technical change requests.

Jennifer

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

Burgos, Alexander N

Subject: FW: EMC - 15A NCAC 02D .0516

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Wednesday, April 5, 2023 4:46 PM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>; Rules, Oah <oah.rules@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>
Subject: RE: EMC - 15A NCAC 02D .0516

Lawrence,

The EMC is requesting an extension for the period of review for the above cited rule. This extension will allow staff additional time to address your technical change requests.

Jennifer

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

Burgos, Alexander N

From: Duke, Lawrence
Sent: Monday, April 3, 2023 9:56 AM
To: Everett, Jennifer; Quinlan, Katherine L
Cc: Burgos, Alexander N
Subject: EMC - 15A NCAC 02D .0516
Attachments: EMC - 04.2023 - 15A NCAC 02D .0516 - Change Requests.docx

Jennifer,

Please see attached change request for the EMC 02D Rule submitted for RRC review at the April 2023 meeting. Please let me know if you have any questions.

Lawrence Duke

Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
Lawrence.Duke@oah.nc.gov
(984) 236-1938

Burgos, Alexander N

Subject: FW: 15A NCAC 02D .0516
Attachments: DEQ_2022-08-03.pdf

From: Everett, Jennifer <jennifer.everett@ncdenr.gov>
Sent: Friday, March 31, 2023 12:00 PM
To: Duke, Lawrence <lawrence.duke@oah.nc.gov>; Quinlan, Katherine L <katherine.quinlan@ncdenr.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Nelson, Bradley W <bradley.nelson@ncdenr.gov>
Subject: RE: 15A NCAC 02D .0516

Attached is the fiscal note for 15A NCAC 02D .0516.

Jennifer Everett
DEQ Rulemaking Coordinator
N.C. Depart. Of Environmental Quality
Office of General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Tele: (919)-707-8614
https://deq.nc.gov/permits-rules/rules-regulations/deq-proposed-rules

Regulatory Impact Analysis for SO_2 Rule Revision

Rule Citation Number 15A NCAC 02D .0516

Rule Topic: SO_2 Rule Revision

DEQ Division: Division of Air Quality

Agency Contact: Patrick Knowlson, Rule Development Branch Supervisor
Division of Air Quality (DAQ)
(919) 707-8711
patrick.knowlson@ncdenr.gov

Analyst: Bradley Nelson, DAQ
(919) 707-8705
bradley.nelson@ncdenr.gov

Impact Summary:

State government:	Yes
Local government:	No
Substantial impact:	No
Private Sector:	Yes

Authority: G.S. 143-215.3(a)(1); 143-215.107(a)(5)

Necessity: To amend the rule to prohibit the use of excess supplemental fuel to achieve compliance with the SO_2 limit.

I. Executive Summary

The purpose of this document is to provide an analysis detailing the impacts associated with the proposed amendment to 15A NCAC 02D .0516, *Sulfur Dioxide Emissions from Combustion Sources*. This amendment is in response to a declaratory ruling by the Environmental Management Commission (EMC) on November 18, 2021. In that ruling, the EMC concluded that the plain language of the Rule does not prohibit the use of supplemental fuels to increase the heating value of flared waste gas to achieve compliance with the sulfur dioxide (SO_2) standard in the rule.

II. Background

The Clean Air Act required the EPA to set national ambient air quality standards (NAAQS) for sulfur dioxide and five other pollutants considered harmful to public health and the environment. North Carolina adopted these ambient standards on February 1, 1976, in 15A NCAC 02D .0400, *Ambient Air Quality Standards*. In addition, the State adopted on this date emission control standards for these pollutants,

including an SO_2 emission standard in 15A NCAC 02D .0516. The original SO_2 emission standard required new sources constructed after July 1, 1971, to limit SO_2 emissions to less than or equal to 1.6 pounds per million British thermal units (lb/MMBtu), and existing sources to limit SO_2 emissions to less than or equal to 2.3 lb/MMBtu. On April 1, 1977, the Rule was amended to the current standard of 2.3 lb/MMBtu for both new and existing sources. This standard was determined to be adequate to attain and maintain the Federal ambient air quality standards. Since then, the Rule has been amended six times to add or remove rule references or to provide clarity to the rule language and readopted once.

On November 18, 2021, a request for a declaratory ruling pursuant to NCGS § 150B-4 came before the EMC. The petition sought a ruling as to the interpretation of 15A NCAC 02D .0516 as it relates to the use of supplemental fuel. The petitioner argued that the Rule on its face does not prohibit the use of supplemental fuels, including natural gas to meet the 2.3 lb/MMBtu limit. The North Carolina Division of Air Quality (DAQ) asserted that authorization can be obtained "to combust supplemental fuels, including natural gas, to enhance combustion (or "oxidation") as needed for proper operation of its flare. What the petitioner may not do, however, is burn additional natural gas for no legitimate business or pollution control purpose but solely to appear in compliance with 02D .0516." The Commission concluded that the plain language of the Rule does not prohibit the use of supplemental fuels, including natural gas purchased from a utility, to increase the heating value of flared waste biogas to enhance oxidation and to endeavor compliance with 2D .0516.

III. Reason for Rule Change

The revisions proposed in this rulemaking are primarily to provide clarity and consistency with the DAQ's position that the use of supplemental fuel beyond what is needed for proper operation of the control device is not a means for compliance with 15A NCAC 02D .0516.

IV. Proposed Rule

The DAQ is proposing amendment to the following rule:

15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources, is proposed for amendment to clarify the use of supplemental fuel beyond what is needed for proper operation of the control device is prohibited.

V. Estimating the Fiscal Impacts

The sections below provide a summary of the costs associated with complying with the revised language in the rule.

Private Sector

Emissions of SO_2 are generated as a result of combusting a fuel or waste that contains sulfur. Sources complying with the SO_2 standard in 15A NCAC 02D .0516 may need to use sulfur or hydrogen sulfide removal technologies to reduce the amount of sulfur that is being combusted. These sources may also use scrubbers to remove SO_2 from the combustion exhaust gas if the combustion emission rate exceeds the

2.3 lb/MMBtu standard. Emissions of SO_2 may also result as a byproduct from a combustion control device used for controlling volatile organic compounds (VOC) or hazardous air pollutants emissions (HAP).

One facility in North Carolina, Optima TH, LLC, receives biogas produced by Smithfield Meats' wastewater treatment plant, which includes existing anaerobic digesters and associated biogas collection system. The facility processes the biogas, removes the impurities, and separates and sells methane as a renewable natural gas to Duke Energy by transporting it via the Piedmont Natural Gas Company's pipeline. The impurities or tail gas from the separation process is combusted in a flare. The tail gas is primarily composed of carbon dioxide, but also includes hydrogen sulfide. Hydrogen sulfide is generated from the wastewater treatment plant and is a flammable, colorless gas that smells like rotten eggs. This chemical is regulated by the State as a chronic (e.g., 24-hour averaging time) toxic air pollutant pursuant to 15A NCAC 02D .1104 with an acceptable ambient level of 0.12 milligrams per cubic meter (mg/m^3).

Based on the permit review for the facility, an estimated 325 standard cubic feet per minute (scfm) of waste gas is treated by the flare. The review for the permit application estimated that the corresponding emission rate would be 2.2 lb/MMBtu. Because the estimated emission rate was close to the emission standard of 2.3 lb/MMBtu, the DAQ requested monitoring of the SO_2 emissions from the flare to assure compliance. In reports submitted to the DAQ, the SO_2 was found to have exceeded the 2.3 lb/MMBtu emission standard in 15A NCAC 02D .0516. Rather than adding a control device to remove the sulfur from the tail gas, the facility added excess natural gas to the tail gas prior to the flare to increase the heat input of the tail gas beyond what was need for combustion in the flare. While this approach allows the facility to meet the 2.3 lb/MMBtu standard, it also unnecessarily increases emissions of carbon dioxide, nitrogen oxides, and other pollutants from the flare due to the combustion of excess natural gas. This approach is also a deviation from the DAQ's position that the use of supplemental fuel beyond what is needed for proper operation of the control device is not a means for compliance with 15A NCAC 02D .0516.

The facility uses a non-assisted flare which needs a gas with a heating value of at least 200 British thermal units per standard cubic feet (Btu/scf) to support 98 percent destruction of the waste gas. The tail gas from the separation process was estimated to have a heating value of 204 Btu/scf, however some supplemental natural gas is needed to ensure there is enough heat content in the tail gas for combustion in the flare. This approach results in the exceedance of the 2.3 lb/MMBtu standard, therefore, to address this issue, other approaches were evaluated.

A study was done on hydrogen sulfide scrubbing systems for anaerobic digesters[1]. In this study they evaluated two hydrogen sulfide scrubbing systems: biological desulfurization, which uses bacteria to oxidize hydrogen sulfide to elemental sulfur and sulfides; and an iron sponge which iron oxides to capture sulfur as iron sulfide. Another study[2] looked at other methods including in-situ hydrogen sulfide

[1] Evaluation of Hydrogen Sulfide Scrubbing Systems for Anaerobic Digestors on Two Dairy Farms, Abhinav Choudhury et al, MDPI, December 4, 2019. Energies | Free Full-Text | Evaluation of Hydrogen Sulfide Scrubbing Systems for Anaerobic Digesters on Two U.S. Dairy Farms (mdpi.com)

[2] Hydrogen Sulfide Removal from Biogas, Cornell University, Dairy Environmental Systems Program, September 2016. Part-1-H2S-Available-technologies.pdf (sare.org)

precipitation in which iron salts are added to the digester to react with hydrogen sulfide to form iron sulfide; and hydrogen sulfide adsorption which uses chemical reagents to adsorb the hydrogen sulfide. In addition, several companies offer adsorbent treatment options for removing hydrogen sulfide from biogas. The studies noted that the biological desulfurization unit costs ranged from $185,000 to $342,000 depending on the type of media used in the process, whereas the iron sponge technology unit cost less than $1,000. For the purpose of this analysis, the iron sponge adsorption method was selected to estimate the cost for removing hydrogen sulfide from biogas. This option was selected because it is the most likely option when considering efficacy and cost and has been demonstrated to be effective at removing sulfur from biogas at a similar facility in North Carolina, Align RNG.

The permit review of current operations estimated the hydrogen sulfide-controlled emissions to be 9.96 pounds per day after the flare. Assuming the flare has a 98 percent control efficiency, the uncontrolled hydrogen sulfide emissions would be 498 pounds per day (lb/day). Assuming that all the hydrogen sulfide that is combusted in the flare converts to SO_2, the SO_2 emission rate from the flare is 918.7 lb/day or 38.3 pounds per hour (lb/hr). The heat input to the flare from the permit review was estimated to be 17.73 million British thermal units per hour (MMBtu/hr), thus the calculated SO_2 emissions from the flare would be 2.2 lb/MMBtu.

Any increase in the sulfur content of the tail gas results in the SO_2 emission rate exceeding the 2.3 lb/MMBtu emission limit in 15A NCAC 02D .0516. To address this issue, different hydrogen sulfide reductions were calculated using an iron sponge. The iron sponge vessel was estimated to cost $896 dollars using capital cost information from the evaluation study[3] ($525), 30 percent installation cost from the EPA Control Cost Manual, and escalating to January 2022 dollars using the Chemical Engineering Control Cost Manual.

The cost of the ferric oxide (Fe_2O_3) media to capture the hydrogen sulfide was calculated using cost information from the Cornell study[4]. They estimated a cost of $12 per bushel for the Fe_2O_3 media, 15 pounds of Fe_2O_3 per bushel, and the ratio of one pound of Fe_2O_3 reacting with 0.56 pounds of hydrogen sulfide. This data, along with the Chemical Engineering Plant Cost Index was used to calculate the annual cost of reducing hydrogen sulfide in the tail gas. In addition, labor costs for operation and maintenance were included. The labor hours were assumed to be 4 hours per day for operation and maintenance of the iron sponge at a rate of $31.53 per hour[5]. The Fe_2O_3 media can be regenerated through aeration and used again in the adsorption process. A summary of different reduction percentages is provided in Table 1.

[3] See Footnote 1.
[4] See Footnote 2.
[5] May 2021 State Occupational Employment and Wage Estimates, North Carolina, U.S. Bureau of Labor Statistics. https://www.bls.gov/oes/current/oes_nc.htm

Table 1. Summary of Iron Sponge Control Costs and SO_2 Emission Rate

Hydrogen Sulfide Reduction Percent	Daily Cost of Fe_2O_3 Media ($/day)	Total Annual Control Cost ($/yr)	SO_2 Emission Rate from Flare (lb/MMBtu)	Additional SO_2 Reduction (Ton/yr)
5%	$50	$64,282	2.1	5.1
10%	$100	$82,530	2.0	13.7
25%	$250	$137,273	1.7	39.3
50%	$500	$228,519	1.1	82.1

As stated previously in this analysis, increases in sulfur content in the tail gas has created exceedances of the 2.3 lb/MMBtu emission limit from the flare. Reducing the sulfur content in the tail will eliminate this issue. Currently the facility is designed to emit 2.2 lb/MMBtu from the flare, but that does not provide any margin of compliance if there are fluctuations in the sulfur content of the tail gas. By removing some of the sulfur in the tail gas prior to being combusted in the flare, the facility can have assurance that their operations will meet the 2.3 lb/MMBtu emissions limit. As shown in Table 1, even reductions of sulfur of 10 percent can provide a better margin of compliance and can provide assurance that the facility is meeting the SO_2 emission limit. For the purposes of this analysis, it will be assumed that the facility will select the least expensive option of 5 percent reduction of hydrogen sulfide at an initial cost of $65,178 and an ongoing annual cost of $64,282.

In addition to the control device costs, the facility would also be required to do a Title V significant modification at a cost of $7,210. Note that the Title V significant modification fee is based on the current year cost. This fee will be adjusted for inflation for calendar year 2023 as specified in 15A NCAC 02Q .0204, but that adjustment is not known as this time.

Adding an iron sponge control system to the tail gas system prior to being sent to the flare would also reduce the amount of natural gas that is currently being used to increase the heating value of the waste gas for compliance with the 2.3 lb/MMBtu standard. The permit review data estimated the natural gas to the flare to be 0.65 scfm to ensure 98 percent combustion in the flare, and the corresponding SO_2 emission rate to be 2.2 lb/MMBtu. The actual natural gas usage that was reported to the DAQ ranged from a maximum of 3.61 scfm to a minimum of 0.31 scfm with an average of 2.94 scfm. At the average natural gas flow rate, this is roughly 4.5 times higher than the permitted rate or an average of 2.29 scfm excess natural gas that is burned in the flare. This calculates to an annual excess natural gas usage of 1,134,374 standard cubic feet or 1,180 million British thermal units beyond what is needed for combustion in the flare if an iron sponge control system was installed.

Emissions from the burning of this excess natural gas was estimated using the EPA AP-42: Compilation of Air Emissions Factors[6]. The emission factors for Industrial Flares (Chapter 13.5) and Natural Gas Combustion (Chapter 1.4) were used to estimate that annual emission from burning excess natural gas in the flare. A summary of the emissions is provided in Table 2.

Table 2. Emissions from Burning Excess Natural Gas to Achieve 2.1 lb/MMBtu SO_2 Emission Level

Pollutant	Annual Emission Rate (Tons/yr)	AP-42 Emission Factor Source
CO	0.18	Industrial Flares
NOx	0.040	Industrial Flares
VOC	0.39	Industrial Flares
CO_2	68	Natural Gas Combustion
PM	0.0043	Natural Gas Combustion

As shown in Table 2, emissions of criteria pollutants can be avoided by not allowing the use of excess natural gas beyond what is needed for proper operation of the combustion control device.

State Government Impacts

The DAQ anticipates minimal impact on state government as a result of this proposed rule. The proposed rule will not have any impact on any of the facilities except for the one discussed in the previous section. This facility will require a permit modification to include the control device that the facility selects. This is estimated to take 8 hours for a Permit Engineer to write and 4 hours for a Permit Supervisor to review at a cost of $1,360. A summary of the hours and costs are provided in Table 3.

Table 3. State Government Costs

State Government Costs	Permit Review Hours	Total Compensation ($/hr)*	Total DAQ Cost
Engineer II	16	47	$752
Supervisor	8	76	$608
Total	24	---	$1,360

* To estimate total compensation, the contributing reference rate from the career banding rates for 2018-2019 were used to calculate the annual salary for an Engineer II (16104 Engineer - $63,414) and Supervisor (16106 Engineering Manager - $101,747). See Career-Banding-Rates-2018-19.pdf (nc.gov). Total Compensation is estimated from https://oshr.nc.gov/state-employee-resources/classification-compensation/total-compensation-calculator assuming 10 years of service for the Engineer and 20 years of service for the Supervisor. An estimated 2080 works hours per years was used to calculate the hourly rate.

[6] EPA, AP-42: Compilation of Air Emission Factors.
https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors

The DAQ will also receive a benefit of $7,210 as a result of the Title V Permit Fee modification that will occur as a result of installing the iron sponge control technology at the facility. This Title V fee is used to fund the Title V program at the DAQ and includes the expenses for writing and approving the Title V permit for the facility, inspections of the facility, preparation of reports to the EPA, and review of documents associated with compliance of the facility.

Local Community Costs

It is expected that there will be no costs to the local community as the result of the proposed rule.

VI. Public Health and Environmental Impact

The State adopted the SO_2 emission standard in 15A NCAC 02D .0516 to support the State in being in attainment with the NAAQS for SO_2. Emissions of SO_2 affects both human health and the environment. Short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO_2. Emissions of SO_2 also lead to the formation of other sulfur oxides, which can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems. At high concentrations, sulfur oxides can harm trees and plants by damaging foliage and decreasing growth and can contribute to acid rain which can harm sensitive ecosystems.

The primary public health benefit for this proposed Rule is generated from lower air pollutant emissions associated with maintaining attainment of the NAAQS for SO_2 and lower natural gas combustion. These emissions are is difficult to quantify precisely without conducting extensive modeling for the facility. However, there are other resources that look at the public health benefits from reducing precursor pollutants associated with PM2.5, such as SO_2. One approach for determining health benefits is to use the EPA's CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA)[7]. This tool helps state and local governments explore how changes in air pollution emissions may affect human health at the county, state, regional, or national levels, and estimate the economic value of the health benefits associated with those changes. As noted by EPA, COBRA is a screening tool for comparing the relative impacts of emission reduction measures but should not be used to estimate the absolute impacts of specific control measures. Though simplified, the COBRA model provides useful approximations of the direction and magnitude of health effects from emission reductions.

Using the COBRA program, the estimated emission reductions were added to the input portion of the program. The emission reductions included 5.13 tons/yr of SO_2 from using the iron sponge, as well as the emission reductions of 0.0043 tons/yr (rounded to 0.01 tons/yr) for PM2.5, 0.04 tons/yr of nitrogen oxides (NOx), and 0.39 tons/yr of volatile organic compounds (VOC) from the reduction of natural gas used in the flare. The Other Industrial Processes category was used as the baseline for changes in emissions from Bladen County, where the facility is located.

[7] U.S. Environmental Protection Agency, CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA), https://www.epa.gov/cobra.

Air quality can impact health endpoints in multiple locations as air pollutants can travel great distances. While emissions cross county and state lines, the scope of this analysis is limited to North Carolina. The estimated range of health benefit results in 2021 dollars for North Carolina is $55,600 to $125,300 per year using a 3 percent discount rate and $49,600 to $111,700 per year using a 7 percent discount rate. These values were escalated from 2017 to 2021 dollars using implicit price deflators values for gross domestic product[8]. A table of the health benefits and the changes to various health outcomes is provided in Table 4.

Table 4. Summary of EPA's CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool for Proposed Rule in North Carolina

Annual Health Benefit	Change in Incidence		3% discount rate Monetary Value		7% discount rate Monetary Value	
	Low	High	Low	High	Low	High
Mortality	0.005	0.010	$49,694	$112,569	$44,262	$100,263
Nonfatal Heart Attacks	0.000	0.004	$72	$672	$68	$629
Infant Mortality	0.000	0.000	$362	$362	$362	$362
Hospital Admits, All Respiratory	0.001	0.001	$37	$37	$37	$37
Hospital Admits, Cardiovascular (except heart attacks)	0.001	0.001	$55	$55	$55	$55
Acute Bronchitis	0.005	0.005	$3	$3	$3	$3
Upper Respiratory Symptoms	0.099	0.099	$4	$4	$4	$4
Lower Respiratory Symptoms	0.070	0.070	$2	$2	$2	$2
Emergency Room Visits, Asthma	0.002	0.002	$1	$1	$1	$1
Asthma Exacerbation	0.104	0.104	$8	$8	$8	$8
Minor Restricted Activity Days	2.890	2.890	$253	$253	$253	$253
Work Loss Days	0.488	0.488	$98	$98	$98	$98
Total Health Benefits (2017$)			$50,590	$114,064	$45,153	$101,716
Total Health Benefits (2021$)*			**$55,578**	**$125,310**	**$49,605**	**$111,744**

* Values adjusted using the US Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, Table 1.1.9 Implicit Price Deflators for Gross Domestic Product

The estimated COBRA health benefit results are based on SO_2, PM2.5, NOx, and VOC reductions that occur in North Carolina where the emission reductions are taking place. This program provides potential order-of-magnitude estimates associated with use of the iron sponge to control SO_2 emissions at the facility. Because of this, this program introduces errors in modeled PM 2.5 contributions from SO_2 emissions due to the very small change in emissions relative to the national/regional model. Without true modeling of the emission reductions from the facility, the COBRA values should be considered approximations of the health benefits from the proposed Rule.

[8] U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, Table 1.1.9 Implicit Price Deflators for Gross Domestic Product. https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=3&isuri=1&1921=survey&1903=11#reqid=19&step=3&isuri=1&1921=survey&1903=11

In addition to the health benefits from SO2 and other PM2.5 precursor emission reductions, the proposed rule is expected to reduce carbon dioxide emissions by 68 tons per year. The avoided economic and public health damages from these emissions reductions are unquantified. Currently, the EPA's interim estimates of the cost per ton of carbon is set at $51 per ton in 2020 dollars at a 3% discount rate.[9] An interagency working group is developing updated estimates based on the latest empirical data and modeling. Litigation of the interim estimates is ongoing.[10]

VII. Cost and Benefit Analysis

The DAQ developed a cost and benefit analysis of the proposed amendment to 15A NCAC 02D .0516. The analysis is based on the compliance scenario that is most likely to be pursued by the affected facilities. This analysis uses the cost impacts developed in the previous sections for the private sector and state government and is provided in Table 5.

The fiscal analysis was performed over a 2-year period because all of state government costs occur in the first year and costs to the private sector are expected to remain constant after the second year of the fiscal analysis. These Year 2 costs will continue for the lifetime of the facility. The starting year for the costs is 2023 which would be the year that the proposed Rule would become effective.

Table 5. Total Impact Summary of Revisions to 15A NCAC 02D .0516

Cost/Benefits (2021 dollars)	***Initial Impacts Year 2023***	***Annual Impacts 2024+***
Private Sector Costs		
Iron Sponge Vessel	($896)	---
Cost of Media and Labor	($64,282)	($64,282)
Title V Significant Modification	($7,210)	---
Total Private Sector Costs	($72,388)	($64,282)
Private Sector Benefits		
Excess Natural Gas Savings	$6,239	$6,239
State Government Costs		
Permit Modification Review	($1,360)	---
State Government Benefits		
Title V Significant Permit Fee Benefit	$7,210	---
Net Impacts Before Health Benefits		
Private Sector/State Government (Costs-Benefits)	($60,299)	($58,043)
Net impacts in 2021 dollars @7% discount rate	**($52,667)**	**($47,380)**
Estimated Public Benefits (2021 dollars @ 7% discount rate)		
COBRA Estimate of Health Benefits for PM Precursors	**$49,600-$111,700**	**$49,600-$111,700**
Avoided damages from reduced CO2 emissions	Unquantified	Unquantified

[9] Ranging from $14 per ton at a 5% discount rate to $76 at a 2.5% discount rate.
Technical Support Document: Social Cost of Carbon, Methane, (whitehouse.gov)
[10] https://www.epa.gov/environmental-economics/scghg-tsd-peer-review

The DAQ then calculated the total financial impact for each year by adding the costs and subtracting savings or benefits. Over the first year, excluding health benefits, the proposed rule would cost the private sector and state government approximately $72,388, however there would a benefit of $12,089 for the private sector and state government. This provides a net impact of $52,667 in the first year in 2021 dollars. The costs for Year 2024 and subsequent years thereafter would be $64,282 with an associated annual benefit of $6,239. The health benefits of the proposed rule were estimated to be $49,600 to $111,700 per year in 2021 dollars at a 7% discount rate for North Carolina using the COBRA program. The avoided damages from reduced carbon dioxide emissions of 68 tons per year are unquantified.

VIII. Rule Alternatives

The DAQ is required to analyze alternative approaches under the proposed rulemaking if a substantial economic impact to the government and/or private sector entities is expected to result from the rulemaking. Substantial economic impact is defined in North Carolina's Administrative Procedures Act in NC General Statute 150B-21.4, Fiscal and Regulatory Impact Analysis on Rules as an aggregate financial impact on all persons affected of at least one million dollars in a 12-month period. Because the amendment to 15A NCAC 02D .0516 does not have a substantial economic impact, no rule alternatives were explored.

IX. Conclusion

The amendment to 15A NCAC 02D .0516 is intended to clarify the DAQ's position that the use of supplemental fuel beyond what is needed for proper operation of the control device is not a means for compliance with the 2.3 lb/MMBtu SO_2 emission standard. As noted in this analysis, this proposed amendment is only expected to affect one facility in North Carolina that is adding excess natural gas to their waste gas stream to meet the SO_2 emission standard in their flare. This analysis provides a control technology cost estimate that is currently being used by a similar biogas production facility in North Carolina.

The cost for operating an iron sponge sulfur adsorption unit that removes 5 percent of the sulfur from the waste gas stream was estimated to be $72,388 for the first year and $64,282 annually thereafter. This level of control should provide a compliance margin that addresses fluctuations in the sulfur content in the waste gas stream and will allow the facility to meet the 2.3 lb/MMBtu SO_2 standard from the flare. The facility will see an annual savings of $6,239 in natural gas usage as a result of using the iron sponge control technology. The facility will also have a cost of $7,210 for a Title V permit modification fee to add this technology to their permit.

The DAQ will spend approximately $1,360 in staff time the first year to complete a permit modification. The DAQ will also receive a payment of $7,210 that will be used to fund the Division's Title V program.

The public will see a health benefit ranging from $49,600 to $111,700 per year at a 7 percent discount rate. These benefits include the reductions in hospitalizations and the avoidance of premature deaths from PM2.5 exposure. The avoided damages from reduced carbon dioxide emissions of 68 tons per year are unquantified.

The DAQ expects the proposed rule change will ensure that North Carolina will continue to maintain compliance with the NAAQS for SO_2 for which it is in statewide compliance.

Attachment 1

Proposed Revisions to 15A NCAC 02D .0516

15A NCAC 02D .0516 is proposed for amendment as follows:

15A NCAC 02D .0516 SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

(a) ~~Emission~~ Emissions of sulfur dioxide from any source of ~~combustion~~ combustion, including air pollution control devices, discharged from any vent, stack, ~~or chimney~~ chimney, or flare shall not exceed 2.3 pounds of sulfur dioxide per million ~~BTU~~ Btu input.

(b) When determining compliance with this standard:

(1) ~~Sulfur~~the sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be ~~included when determining compliance with this standard.~~ included;

(2) ~~Sulfur~~the sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall also be accounted ~~for when determining compliance with this standard.~~ for in the determination of emissions; and

(3) the determination of Btu input shall not include any fraction of heat input associated with the combustion of fuels whose purpose is to increase heat input beyond what is needed for normal or permitted operation and solely in order to demonstrate compliance with this standard.

~~(b)~~(c) The standard set forth in Paragraph (a) of this Rule shall not apply to sulfur dioxide emission sources already subject to an emission standard for sulfur dioxide in 15A NCAC 02D .0524, .0527, .1110, .1111, .1206, or .1210.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);*
Eff. February 1, 1976;
Amended Eff. July 1, 2007; April 1, 2003; July 1, 1996; February 1, 1995; October 1, 1989; January 1, 1985; April 1, 1977;
Readopted Eff. November 1, ~~2020.~~ 2020;
Amended Eff.

Burgos, Alexander N

From: Duke, Lawrence
Sent: Friday, March 31, 2023 10:14 AM
To: Everett, Jennifer; Quinlan, Katherine L
Cc: Burgos, Alexander N
Subject: 15A NCAC 02D .0516

Jennifer,

I am currently looking at 02D .0516. The amended language appears to be fine, although I am looking at the statutory authority and compliance with the APA now. One question I have: from the form submitted with the Rule, it is clear that a fiscal note was completed and approved by OSBM. The box that would indicate it was part of a combined analysis was not checked, and so there should be an independent analysis for just this Rule. I cannot find that on OSBM's website. Can you send me the fiscal note for this Rule? Or, can you point me to where the analysis can be found on OSBM's website?

Thank you,

Lawrence Duke

Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
Lawrence.Duke@oah.nc.gov
(984) 236-1938

Burgos, Alexander N

From: Duke, Lawrence
Sent: Thursday, March 30, 2023 1:22 PM
To: Everett, Jennifer; Kountis, Elizabeth
Cc: Burgos, Alexander N
Subject: EMC - 15A NCAC 02B .0315
Attachments: EMC - 04.2023 - 15A NCAC 02B .0315 - Change Requests.docx

Jennifer,

I've looked at EMC's recent submission and have attached change requests for that Rule. If you can get these changes made and submit by Thursday, April 6, it would be appreciated. Let me know if you have any questions.

Thank you,

Lawrence Duke

Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
Lawrence.Duke@oah.nc.gov
(984) 236-1938