



**AIR QUALITY CONTROL ADVISORY COUNCIL
AGENDA
June 17, 2019**

Maryland Department of the Environment
Aeris Conference Room (1st Floor MDE Lobby)
1800 Washington Boulevard
Baltimore MD 21230

<https://global.gotomeeting.com/join/867680141>

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Access Code: 867-680-141

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|-----------|-----------------------------|---|
| 8:15 a.m. | Welcome and Introductions | John Quinn, Advisory Council Chair
Tad Aburn, Air Director |
| 8:25 a.m. | Approval of Meeting Minutes | John Quinn |

Action Items for Discussion/Approval:

- | | | |
|-----------|---|--------------|
| 8:30 a.m. | Interprecursor Trading amendments
COMAR 26.11.17.04 | Karen Irons |
| 9:00 a.m. | Municipal Waste Combustor amendments
COMAR 26.11.08.01 and .10 | Randy Mosier |

Briefings:

- | | | |
|------------|---|---------------|
| 10:15 a.m. | Maryland Port Partnership - Success Stories | Shawn Kiernan |
| 10:45 a.m. | 2018 Good News Report | Tad Aburn |
| 11:00 a.m. | Adjourn | |

Next Meeting Dates:
September 16, 2019 December 16, 2019

March 15, 2019

Amendments to COMAR 26.11.17.04 – Interprecursor Trading

Purpose

The purpose of this action is to amend COMAR 26.11.17.04 to remove the Environmental Protection Agency (EPA) from the submittal and approval process for interprecursor trading (IPT).

Submission to EPA as Revision to Maryland’s State Implementation Plan (SIP)

The amendments will be submitted to the U.S. Environmental Protection Agency for approval as part of Maryland’s State Implementation Plan (SIP).

Sources Affected and Location

Although these regulations will be particularly beneficial to new major stationary sources and major modifications at existing major stationary sources locating in the Baltimore metropolitan 8-hour ozone nonattainment area, the proposed amendments will apply throughout the entire State of Maryland. All areas of the State of Maryland are either located in an ozone nonattainment area or in the Ozone Transport Region and are, therefore, subject to nonattainment New Source Review (NSR) requirements.

Background

On April 9, 2018, the Department adopted new amendments to specifically address the nonattainment NSR requirement to offset new emissions with creditable emission reductions. The amendments allowed interprecursor trading for the ozone precursors - NO_x and VOC. In accordance with COMAR 26.11.17, new or modified major air emission sources of ozone precursors must obtain emission reduction credits (ERCs) to offset emission increases. The ERC program ensures that emission increases from the operation of relocated sources or from the operation of new or modified sources does not impede the progress of attaining the National Ambient Air Quality Standards (NAAQS). The amendments to the ERC regulations of COMAR 26.11.17.04 were adopted at the time in accordance with EPA guidance contained in EPA’s proposed 2008 and 2015 Ozone Implementation Rules.

On December 6, 2018, EPA finalized their nonattainment area and ozone transport region (OTR) implementation requirements for the 2015 ozone NAAQS that were promulgated on October 1, 2015. In response to comments, EPA amended the final rule to include the following: “... air agencies will not be required to obtain EPA approval of IPT ratios when implementing a case-specific IPT program ...”. “The EPA acknowledges, based on comments received, that the requirement of EPA approval of IPT ratios could impose additional burdens and result in permit delays. Hence, in the final rule, the EPA is eliminating this approval requirement for the case-specific ratios... Finally, the EPA, will, of course, also have an opportunity to review and comment on the application of any IPT ratio (default or case-specific) to a particular source or location during the public comment period afforded as part of the NNSR [Nonattainment New Source Review] permitting process.”

Projected Emission Reductions

There are no emission reductions from these amendments.

Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public

There are no expected economic impacts from this action. There will be no impact on the Department or other state agencies or local government as a result of this action.

Economic Impact on Small Businesses

The proposed action has minimal or no economic impact on small businesses.

Is there an Equivalent Federal Standard to this Proposed Regulatory Action?

There is a corresponding federal standard to this proposed action, but the proposed action is not more restrictive or stringent.

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 17 Nonattainment Provisions for Major New Sources and Major Modifications

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland

.01 — .03 (text unchanged)

.04 Creating Emission Reduction Credits (ERCs).

A. — E. (text unchanged)

F. Interprecursor Trading.

(1) Provided that the other requirements for such offsets are satisfied, the offset requirements of COMAR 26.11.17.03B(3) for emissions of NO_x and VOC may be satisfied through interprecursor trading by offsetting reductions of emissions of either NO_x or VOC, by submitting to the Department [and EPA] for written approval the following information:

(a) — (c) (text unchanged)

(2) Approvals of precursor substitutions shall be made by the Department [and EPA] on a case-by-case basis and are permit specific.

.05 — .09 (text unchanged)

Amendments to COMAR 26.11.08 - Control of Incinerators

Purpose

The purpose of this action is to amend nitrogen oxide (NOx) reasonable available control technology (RACT) requirements under COMAR 26.11.08.10 for Large municipal waste combustors (MWCs). In order to satisfy the Environmental Protection Agency's (EPA) updated startup, shutdown and malfunction (SSM) policy (80 Fed. Reg. 33840), NOx emission limits shall be extended to cover periods when a Large MWC is solely combusting fossil fuel as a means to warm-up the furnace and other critical components prior to municipal solid waste being fed to the combustor. Additional amendments are being made to clarify how the 24-hour block average emission rates and 30-day rolling average emission rates are to be calculated.

Submission to EPA as Revision to Maryland's State Implementation Plan (SIP)

The amendments will be submitted to the U.S. Environmental Protection Agency for approval as part of Maryland's State Implementation Plan (SIP).

Background

On December 6, 2018, the Maryland Department of the Environment (MDE) adopted updates to NOx RACT for Large MWCs with a capacity greater than 250 tons per day. New regulation COMAR 26.11.08.10 requires that Maryland's two Large MWCs shall meet specific NOx 24-hour block average emission rates by May 1, 2019 and NOx 30-day rolling average emission rates by May 1, 2020, except during periods of startup and shutdown.

During periods of startup and shutdown, additional ambient air is introduced into the furnace making concentration-based emission limits not practical during these times. The excess ambient air makes it technically infeasible for MWCs to comply with the emission rates due to the "7 percent oxygen correction factor" that is required to be applied to the NOx 24-hour block rates. Therefore, an equivalent mass-based emission limit is required during startup and shutdown. In addition to the mass-based emission limit, the NOx 24-hour block average emission rate will apply for the 24-hour period after startup and before shutdown, as applicable.

EPA informed MDE that since the definition of "startup" excludes warm-up periods, the regulations present a period of time when no NOx emission limits are in place. As is the case with startup and shutdown, warm-up periods require excess ambient air to be introduced into the furnace making concentration-based emission limits not practical. Therefore, an equivalent mass-based emission limit will be required during warm-up periods.

Large MWCs operate solely on natural gas during warm-up periods. Input to natural gas burners and corresponding furnace temperatures are increased gradually to ensure safe operations and integrity of incinerator components. Warm-up periods may run from 3 hours to 16 hours depending upon a number of variables, such as ambient temperatures, duration of unit shutdown, furnace temperature, etc. The warm-up period ends when start-up begins, which entails municipal solid waste being fed to the combustor. By definition, under COMAR 26.11.08 periods of startup and shutdown are limited to 3 hours in duration.

Sources Affected and Location

There are two large MWCs in Maryland, Wheelabrator Baltimore, L.P. (Wheelabrator), and Montgomery County Resource Recovery Facility (MCRRF).

Requirements

Warm-up Period

This action establishes warm-up period NO_x RACT emission limitations and related requirements for large MWCs with a capacity greater than 250 tons per day. The amendments to COMAR 26.11.08.10 will require that as of January 1, 2020, Maryland's two Large MWCs shall meet mass-based emission limits during warm-up periods. During periods of warm-up the Montgomery County Resource Recovery Facility shall meet a facility wide NO_x emission limit of 202 lbs/hr timed average mass loading averaged over the hours operated in warm-up mode and the Wheelabrator Baltimore, Inc. facility shall meet a facility wide NO_x emission limit of 252 lbs/hr timed average mass loading averaged over the hours operated in warm-up mode.

The startup, shutdown and warm-up period mass emission limits are based upon the 24-hour block average NO_x RACT rates applicable to each Large MWC (incorporating the NO_x 24-hour block average emission rates of COMAR 26.11.08.10B into the calculation) and provide equivalent stringency to the concentration limits that apply at all other times. Mass based emission calculations are derived utilizing 40 CFR 60.1460 (Concentration correction to 7 percent oxygen) or 40 CFR 60.45 (Conversion procedures to convert CEM data into applicable standards). EPA Method 19 may also be utilized to determine NO_x emission rates based upon oxygen concentrations. Facility average flue gas flow rates are also utilized in the calculations. The calculation methodology for the mass emission limits is based upon the Prevention of Significant Deterioration (PSD) Approval for each affected facility.

The NO_x RACT amendments further specify that Large MWCs shall minimize NO_x emissions during warm-up periods by operating and optimizing the use of all installed pollution control technology and combustion controls consistent with the technological limitations, manufacturers' specifications, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions (as defined in 40 CFR §60.11(d)) for such equipment and the unit at all times the unit is in operation. These requirements are currently in place for normal operations and periods of startup and shutdown. Quarterly reporting requirements which demonstrate compliance with the NO_x RACT emission rates and NO_x mass loading emission limits are amended to include warm-up periods. The reports shall now include flagging of periods of warm-up and exceedance of warm-up period emission rates.

NO_x Emission Rate Calculations

The existing definition for "30-day rolling average emission rate" under COMAR 26.11.08.01 inadvertently required the summation of the total hourly ppmv NO_x in a 30-day period and then dividing by 30 days to determine the 30-day rolling average emission rate. The proposed amendment now clarifies that the 30-day rolling average emission rate is to be calculated by summing the total hourly ppmv of NO_x averages for the 30-day period and then dividing by the total number of hourly averages in the 30 day period. Total hourly ppmv NO_x averages are to exclude periods of warm-up, startup and shutdown.

The following scenarios demonstrate the applicable NO_x emission limits for Large MWCs:

- For any operating day that does not include a warm-up, startup or shut down event, each operating unit of a Large MWC must meet the applicable NO_x emission limits of COMAR 26.11.08.10B, corrected to 7% oxygen, for the 24-hour block average that occurs from midnight to midnight.
[COMAR 26.11.08.10B]
- For any operating day which includes a warm-up event, the following emission limit must be met:
 - i. A facility wide NO_x mass loading emission limitation of either COMAR 26.11.08.10D(5) or (6), respectively, shall be met during the hours of the warm-up period. For example, if Unit 1 begins to warm-up at 5 pm on a Friday, then from 5 pm that Friday until startup is commenced (i.e. the unit begins the continuous burning of municipal solid waste), the

facility will need to meet the facility-wide NOx mass loading emission limit averaged over the hours the unit was performing the warm-up. **[COMAR 26.11.08.10D (5) and (6)]**

- For any operating day which includes a startup event, the following emission limits must be met:
 - i. The facility wide NOx mass loading emission limit of COMAR 26.11.08.10D(1) or (2), respectively, over a 24-hr period beginning when startup commences. For example, if Unit 1 starts up at 5 pm on a Friday, then from 5 pm that Friday to 5 pm the following Saturday the facility will need to meet the 24-hour mass loading emission limit. **[COMAR 26.11.08.10D (1) or (2)]**
 - ii. The unit that commenced startup will also need to meet the respective 24-hr block average emission limit of COMAR 26.11.08.10B, corrected to 7% oxygen, beginning after the 3-hr startup period ends. For example, if Unit 1 starts up at 5 pm on a Friday, then from 8 pm on that Friday to 8 pm the following Saturday the unit will need to meet their respective NOx 24-hour block average emission rate, corrected to 7% oxygen. **[COMAR 26.11.08.10D(3)]**
 - iii. The NOx 24-hour block average emission rate of COMAR 26.11.08.10B shall begin to be calculated anew at midnight following initiation of a startup event. **[COMAR 26.11.08.10B]**

- For any operating day which includes a shutdown event, the following emission limits must be met:
 - i. The facility wide NOx mass loading emission limit of COMAR 26.11.08.10D(1) or (2), respectively, over a 24-hr period prior to the end of shutdown. For example, if Unit 1 commences shutdown at 2 pm on a Friday, then by definition shutdown is complete at 5 pm on that Friday. Accordingly, the facility must meet the 24-hour mass loading emission limit for the time period covering 5 pm that Friday to 5 pm the prior Thursday. **[COMAR 26.11.08.10 D (2)]**
 - ii. The unit that shutdown will also need to meet the respective 24-hr block average emission limit of COMAR 26.11.08.10B, corrected to 7% oxygen, prior to the commencement of shutdown. For example, if Unit 1 commences shutdown at 2 pm on a Friday, then the unit must meet the 24-hr block average emission limit, corrected to 7% oxygen limit, for the time period covering 2 pm on that Friday to 2 pm the prior Thursday. **[COMAR 26.11.08.10D(4)]**
 - iii. The NOx 24-hour block average emission rate of COMAR 26.11.08.10B shall be calculated up to and including the previous midnight prior to a shutdown event. **[COMAR 26.11.08.10B]**

- Excluding periods of warm-up, startup or shut down, each operating unit of a Large MWC must meet the applicable NOx emission limits of COMAR 26.11.08.10C, corrected to 7% oxygen, for the 30-day rolling average. **[COMAR 26.11.08.10C]**

This process ensures that during all hours of operation there is an applicable NOx emission standard in place, as is required by EPA's 2015 SSM policy.

Projected Emission Reductions

There are no expected NOx emission reductions for Large MWCs from these amendments.

Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public

There are no expected economic impacts for Large MWCs. There will be no impact on the Department or other state agencies or local government as a result of this action.

Economic Impact on Small Businesses

The proposed action has minimal or no economic impact on small businesses.

Is there an Equivalent Federal Standard to this Proposed Regulatory Action?

This regulatory action proposes NO_x RACT standards for Large MWCs during warm-up periods. There is no equivalent federal RACT standard for Large MWCs. Maryland's existing NO_x RACT for Large MWCs is based upon 40 CFR 60, Subpart Eb - New Source Performance Standards for Large Municipal Waste Combustors constructed after September 20, 1994 and 40 CFR 60, Subpart Cb - Emission Guidelines and Compliance Times for Large Municipal Waste Combustors constructed on or before September 20, 1994.

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 08 Control of Incinerators

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 2-406, 10-102, and 10-103, Annotated Code of Maryland

.01 Definitions.

A. (text unchanged)

B. Terms Defined.

(1) — (60) (text unchanged)

(61) “30-day rolling average emission rate” means a value of NO_x emissions in ppmv, corrected to 7 percent oxygen, calculated by:

(a) Summing the total hourly ppmv of NO_x *averages* emitted from the unit during the current operating day and *all hourly NO_x ppmv averages* for the previous 29 operating days, excluding periods of *warm-up*, startup and shutdown; and

(b) Dividing the total hourly ppmv of NO_x emitted from the unit during the 30 operating days summed in §B(61)(a) of this regulation by [30] *the total number of hourly averages in the 30 day period.*

(62) “24-hour block average emission rate” means a value of NO_x emissions in ppmv, corrected to 7 percent oxygen, calculated by:

(a) Summing the hourly average ppmv of NO_x emitted from the unit during 24 hours between midnight of one day and ending the following midnight, excluding periods of *warm-up*, startup and shutdown; and

(b) Dividing the total sum of hourly NO_x ppmv values emitted during 24 hours between midnight of one day and ending the following midnight by 24, *excluding periods of warm-up, startup and shutdown.*

(63) *Warm-up period.*

(a) “Warm-up period” for a Large MWC commences when the unit is combusting fossil fuel or other non-municipal solid waste fuel, and no municipal solid waste is being fed to the combustor.

(b) “Warm-up period” for a Large MWC ends for a unit when municipal solid waste is being fed to the combustor.

[(63)] (64) “Wet scrubber” means an add-on air pollution control device that utilizes an alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) or to absorb and neutralize acid gases, or both.

.02 — .09 (text unchanged)

.10 NO_x Requirements for Large Municipal Waste Combustors.

A. The owner and operator of a Large MWC shall minimize NO_x emissions by operating and optimizing the use of all installed pollution control technology and combustion controls consistent with the technological limitations, manufacturers’ specifications, good engineering and maintenance practices, and good air pollution control practices for minimizing emissions (as defined in 40 CFR §60.11(d)) for such equipment and the unit at all times the unit is in operation, including periods of startup, [and]shutdown, and *warm-up*.

B. As of May 1, 2019, the owner or operator of a Large MWC shall meet the following applicable NO_x emission rates, except for periods of startup, [and]shutdown, and *warm-up*:

(text unchanged)

C. As of May 1, 2020, the owner or operator of a Large MWC shall meet the requirements of §B of this regulation and the following applicable NO_x emission rates, except for periods of startup, [and]shutdown, and *warm-up*:

(text unchanged)

D. Startup, [and]Shutdown, and *Warm-Up* NO_x Emission Limitations.

(1) — (4) (text unchanged)

(5) *As of January 1, 2020, a facility-wide NO_x emission limit of 202 lbs/hr timed average mass loading over the warm-up period shall apply for the Montgomery County Resource Recovery Facility.*

(6) *As of January 1, 2020, a facility-wide NO_x emission limit of 252 lbs/hr timed average mass loading over the warm-up period shall apply for Wheelabrator Baltimore Inc.*

E. Additional NO_x Emission Control Requirements.

(1) — (2) (text unchanged)

(3) Not later than January 1, 2020, based upon the results of the feasibility analysis as required under §E(1) of this regulation, the owner or operator of Wheelabrator Baltimore Inc. shall propose and submit a NO_x 24-hour block average emission rate, NO_x 30-day rolling average emission rate, and NO_x mass loading emission limitation for periods of startup, shutdown, [and] malfunction, and *warm-up*.

F. (text unchanged)

G. Not later than 45 days after the effective date of this regulation, the owner or operator of a Large MWC shall submit a plan to the Department and EPA for approval that demonstrates how the Large MWC will operate installed pollution control technology and combustion controls to meet the requirements of §A of this regulation. The plan shall summarize the data that will be collected to demonstrate compliance with §A of this regulation. The plan shall cover all modes of operation, including but not limited to normal operations, startup, [and]shutdown, *and warm-up*.

H. Beginning July 1, 2019, the owner or operator of a Large MWC shall submit a quarterly report to the Department containing:

- (1) (text unchanged)
- (2) Data, information, and calculations, including NO_x continuous emission monitoring data and stack flow data, which demonstrate compliance with the startup, [and]shutdown, *and warm-up* mass NO_x emission limits as required in §D of this regulation;
- (3) Flagging of periods of startup, [and]shutdown, *and warm-up* and exceedances of emission rates;
- (4) (text unchanged)
- (5) Documented actions taken during periods of startup [and]shutdown, *and warm-up* in signed, contemporaneous operating logs.

I. — K. (text unchanged)

L. Compliance with the NO_x Mass Loading Emission Limitation for the Montgomery County Resource Recovery Facility.

- (1) — (2) (text unchanged)
- (3) *Compliance with the NO_x mass loading emission limitations for warm-up periods in §D(5) of this regulation shall be demonstrated by calculating the average of all hourly average NO_x emission concentrations during the warm-up period from continuous emission monitoring systems.*
- (4) *The calculations in §L(3) of this regulation shall utilize stack flow rates derived from flow monitors, for all the hours during the warm-up period.*

M. Compliance with the NO_x Mass Loading Emission Limitation for the Wheelabrator Baltimore Inc.

- (1) — (2) (text unchanged)
- (3) *Compliance with the NO_x mass loading emission limitations for warm-up periods in §D(6) of this regulation shall be demonstrated by calculating the average of all hourly average NO_x emission concentrations during the warm-up period from continuous emission monitoring systems.*
- (4) *The calculations in §M(3) of this regulation shall utilize the applicable Prevention of Significant Deterioration calculation methodology, for all the hours during the warm-up period.*