



TECHNICAL SUPPORT DOCUMENT

FOR

New COMAR 26.11.40 – NO_x Ozone Season Emission Caps for Non-trading Large NO_x Units

November 6, 2017

PREPARED BY:
MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard
Baltimore Maryland 21230

Table of Contents

I.	Purpose of regulatory action.....	4
II.	Facts of proposal.....	4
	A. Background.....	4
	B. Sources Affected.....	5
	C. Requirements.....	6
	D. Emission Reductions.....	7
	E. Estimate of Economic Impact.....	7
III.	Comparison to Federal Standards.....	7
VI.	Proposed Regulations.....	8

Appendix A – Correspondence for Facility cap

Letter from American Sugar
Letter from Cove Point LNG
Letter from Luke Paper Mill
Letter from National Institutes of Health
Letter from MDE to National Institutes of Health

I. PURPOSE OF REGULATORY ACTION

The purpose of this action is to propose **new Regulations .01 - .04** under **new Chapter COMAR 26.11.40 - NO_x Ozone Season Emission Caps for Non-trading Large NO_x Units** to meet federal NO_x (nitrogen oxides) SIP (State Implementation Plan) Call requirements under the Clean Air Act. The proposed action will also repeal one definition in **Regulation .01** under **COMAR 26.11.01 - General Administrative Provisions** and will amend **Regulation .07** under **COMAR 26.11.14 - Control of Emissions from Kraft Pulp Mills**.

This action will be submitted to the U.S. Environmental Protection Agency (EPA) for approval as part of Maryland's SIP.

The Secretary of the Environment proposes to amend Regulation .01 under COMAR 26.11.01 - General Administrative Provisions, and amend Regulation .07 under COMAR 26.11.14 - Control of Emissions from Kraft Pulp Mills, and propose new Regulations .01 - .04 under new Chapter COMAR 26.11.40 - NO_x Ozone Season Emission Caps for Non-trading Large NO_x Units.

II. FACTS FOR PROPOSAL

A. Background

In 1998, EPA promulgated the NO_x Budget Trading Program as a central component of the broader NO_x SIP Call. The NO_x SIP Call was designed to mitigate significant transport of NO_x in the eastern United States during the warm summer months (commonly referred to as the "ozone season") when ground-level ozone concentrations are highest.

In 2000, Maryland had two regulations that satisfied EPA's NO_x SIP Call requirements. At that time, COMAR 26.11.29 - NO_x Reduction and Trading Program - and COMAR 26.11.30 - Policies and Procedures Relating to Maryland's NO_x Reduction and Trading Program - were part of Maryland's SIP (MDE Revision #00-05). Under this SIP, all large sources of NO_x (i.e. boilers and combustion turbines with a capacity greater than 25 MW or greater than 250 MMBtu/hr) were to report their ozone season NO_x emissions in tons to EPA. EPA allocated each State a specific NO_x ozone season emission budget cap to satisfy 40 CFR §51.121. Under the NO_x SIP Call, EPA identified the large sources of NO_x as either electric generating units (EGU) or Non-EGU. However, these definitions under the NO_x SIP Call have since been revised or replaced.

Since 2000, Maryland and EPA have revised, replaced, and developed additional regulations that deal with NO_x reductions from the same sources regulated under the NO_x SIP Call. The NO_x Budget Trading Program evolved into other federal trading programs for large NO_x sources. The requirements for those programs are found under 40 CFR Part 96 "NO_x Budget Trading Program and Clean Air Interstate Rule (CAIR) NO_x and SO₂ Trading Programs for SIPs" and Part 97 "Federal NO_x Budget Trading Program, CAIR NO_x and SO₂ Trading Programs, and Cross-State Air Pollution Rule (CSAPR) NO_x and SO₂ Trading Programs". The EPA's CAIR and CSAPR programs were developed to limit emissions from fossil fuel-fired sources that are part of the

electricity grid and are greater than 25 MW (EGUs). Each affected State was tasked with preparing a plan to address the NOx emissions from boilers, combustion turbines and combined cycle units with a maximum design heat input greater than 250 MMBtu/hr that do not meet the applicability criteria under the CAIR or CSAPR trading programs (otherwise known as non-trading large NOx units").

The NOx budget that Maryland must meet for the non-trading large NOx units was established in Maryland's SIP revision to comply with the NOx SIP Call and matches the budget for those units listed under 40 CFR Appendix C to Subpart E of Part 97 "Final Section 126 Rule: Trading Budget" Table. The table's Non-EGU (column 2) provision identifies the NOx tonnage cap that the State must meet for all applicable non-trading large NOx units. This table shows a NOx budget of 1,013 tons for non-trading large NOx units in Maryland.

In 2010, under COMAR 26.11.14.07, the Maryland Department of the Environment (the Department) allocated all of the non-trading large NOx unit budget tonnage to the Luke Paper Mill, the only identified source subject to the federal requirements. Also in 2010, Maryland removed the NOx SIP Call regulations, COMAR 26.11.29 and COMAR 26.11.30, and re-codified COMAR Chapter 29 and Chapter 30, establishing regulations for Natural Gas Compression Stations and Cement Plants, respectively.

A recent review of existing and proposed sources in Maryland has shown that there are additional facilities that now have units that fall under the non-trading large NOx unit requirements of the NOx SIP Call. Therefore, Maryland is proposing a new COMAR chapter to identify those affected sources and their associated requirements. In addition to establishing an ozone season NOx budget tonnage cap, the federal regulations also require the use of continuous emission monitoring systems ("CEM") for non-trading large NOx units. In accordance with 40 CFR §51.121(i)(4), applicable sources are required to comply with the monitoring provisions of 40 CFR Part 75 Continuous Emissions Monitor (CEM), Subpart H (§§ 75.70 – 75.75). Subpart H is titled "NOx Mass Emissions Provisions" and details the CEM recording and record keeping requirements that non-trading large NOx units must employ.

To satisfy the CAA requirements, the Department proposes to re-allocate NOx ozone season tonnage caps and establish the required Part 75 monitoring requirements. COMAR 26.11.40 will allocate NOx ozone season tonnage caps to affected sources, which include the Luke Paper Mill and several new sources that have been identified since 2010 to meet the criteria.

B. Sources Affected

This regulation is applicable throughout the entire State.

The following “Affected Sources and Units” have been identified in Maryland.

- American Sugar Refining (Domino Sugar), located in Baltimore, Maryland: Unit No. C6;
- Cove Point LNG Terminal, Dominion Energy, located in Lusby, Maryland: Units No. Frame 5-1 (Turbine S009), Frame 5-2 (Turbine S010), Frame 7-A, Frame 7-B, Aux A and Aux B;
- Luke Paper Mill, VERSO Corporation, located in Luke, Maryland: Units No. 24, 25 and 26;
- National Institutes of Health, Located in Bethesda, Maryland: Unit 1156; and
- A new unit which may be constructed or modified such that it is subject to the Chapter's regulations.

C. Requirements

COMAR 26.11.40 establishes NO_x ozone season tonnage caps and NO_x monitoring requirements for non-trading large NO_x units in the state of Maryland, that are not covered under CSAPR. The compliance deadline to begin meeting the NO_x caps begins on May 1, 2018. COMAR 26.11.40.03 identifies the existing sources to which the regulation is applicable and gives each source a NO_x emission tonnage cap so that the cumulative emissions from all non-trading large NO_x units in the entire State do not exceed 1,013 tons as required under Maryland’s SIP revision addressing the NO_x SIP Call. Each affected source will be required to limit the ozone season NO_x emissions from their non-trading large NO_x units to meet or be under the NO_x ozone season tonnage cap in the table under proposed COMAR 26.11.40.03.B.

The NO_x ozone season tonnage cap for each facility was calculated using permit conditions, regulatory emission rates and capacity factors. The Department worked with the facilities to determine an appropriate unit tonnage. Each facility has been allocated a cap based on the calculations. The new unit set aside is the remaining tonnage available for any new source which may be constructed or modified such that it triggers the applicability requirements of COMAR 26.11.40.02. Ozone season NO_x emissions from new sources applicable to this chapter may not exceed the new unit set aside allocations as identified in the table under proposed COMAR 26.11.40.03.B.

<i>Affected Sources</i>	<i>NO_x Ozone Season Emission Caps beginning May 1, 2018</i>
<i>American Sugar</i>	<i>24 tons</i>
<i>Cove Point LNG</i>	<i>214 tons</i>
<i>Luke Paper Mill</i>	<i>656 tons</i>
<i>National Institutes of Health</i>	<i>23 tons</i>
<i>New Unit Set Aside</i>	<i>96 tons</i>
<i>Total</i>	<i>1013 tons</i>

COMAR 26.11.40.04 requires continuous emissions monitoring for non-trading large NO_x units to be operated in accordance with 40 CFR Part 75, Subpart H and 40 CFR §51.121(i)(4). Affected units must maintain records and submit reports in accordance with 40 CFR Part 75. CEM quarterly reports shall also be submitted to the Department pursuant to COMAR 26.11.01.11E (2).

D. Emission Reductions

The NO_x SIP Call requirements have been in place within Maryland for several decades and the NO_x emission benefits have already been realized. This proposed action satisfies the NO_x SIP Call requirements and maintains a NO_x cap for affected sources. No additional NO_x emission reductions are projected.

E. Estimate of Economic Impact

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

Some of affected sources may need to install modifications to their NO_x CEM devices to meet the Part 75 emission stack monitoring requirements. Software updates may also be likely to coordinate electronic reporting between the facility and the EPA.

Industry estimates for the economic impact:

Capital costs per unit: CEMS, hardware and software \$50,000 - \$150,000

Annual Operating costs per unit: operational maintenance and reporting \$10,000 - \$40,000 / yr.

This action will not have an economic impact on State agencies or local governments.

Economic Impact on Small Businesses

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

III. COMPARISON TO FEDERAL STANDARDS

There is a corresponding federal standard to this proposed action, but the proposed action is not more restrictive or stringent. The Corresponding federal standard is 40 CFR §51.121 “Findings and requirements for submission of State implementation plan revisions relating to emissions of oxides of nitrogen”. This CFR requirement has been termed by EPA and the States as “the NO_x SIP Call”. An important piece of this federal requirement is monitoring and reporting requirements under 40 CFR Part 75 Continuous Emissions Monitor (CEM), Subpart H “NO_x Mass Emissions Provisions”, (§§75.70 – 75.75). The state’s NO_x budget for these units was established under the state’s SIP revision addressing the NO_x SIP Call and matches the state’s budget for these sources shown at 40 CFR Part 97, Subpart E, Appendix C.

IV. PROPOSED REGULATIONS

Download Date 10/14/2016

Draft 11/06/2017

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 01 General Administrative Provisions

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

.01 Definitions.

A. (text unchanged)

B. Terms Defined.

(1) — (24) (text unchanged)

[(24-1) “NO_x Ozone Season Allowance” means a NO_x ozone season allowance established under 40 CFR 97.501—.535 NO_x ozone season emission trading program and does not constitute a security or other form of property.]

(25) — (53) (text unchanged)

.02 — .11 (text unchanged)

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 14 Control of Emissions from Kraft Pulp Mills

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

.01 — .06 (text unchanged)

.07 Control of NO_x Emissions from Fuel Burning Equipment.

A. Applicability and NO_x Emission Standards.

(1) (text unchanged)

(2) The total combined NO_x emissions of all fuel burning equipment at the Luke Kraft pulp mill to which this regulation applies may not exceed the following:

(a) [Except as provided in §B(1) of this regulation, an] *An emission [limit] rate* of 0.70 pounds of NO_x per million Btu [and 947 tons of NO_x] during the period May 1 through September 30 of each year; [and]

(b) An emission rate of 0.99 pounds of NO_x per million Btu during the period October 1 through April 30 of each year[.]; *and*

(c) *The NO_x ozone season emission cap in COMAR 26.11.40.03.*

[(3) Compliance with the emission limit in §A(2)(b) of this regulation shall be demonstrated as a 30 day rolling average.]

B. Demonstrating Compliance.

(1) [If during the period May 1 through September 30 of any year the NO_x emission limit in §A(2)(a) of this regulation is exceeded, the owner or operator of a Kraft pulp mill shall acquire one NO_x ozone season allowance (as that term is defined at COMAR 26.11.01.01B(24-1)) for each ton or partial ton of NO_x emissions in excess of the limit in §A(2)(a) of this regulation.] *Compliance with the NO_x emission rates in §A(2)(a) and (b) of this Regulation and the NO_x ozone season emission cap in COMAR 26.11.40.03 shall be demonstrated with a continuous emission monitoring system that is installed, operated, and certified in accordance with 40 CFR Part 75.*

(2) [The total number of NO_x ozone season allowances acquired pursuant to §B(1) of this regulation for any one period may not exceed 95 and shall be of the same vintage year in which the emission limit is exceeded.] *Compliance with the emission rates in §A(2)(a) and (b) of this Regulation shall be demonstrated as a 30 day rolling average.*

[(3) NO_x ozone season allowances acquired pursuant to §B(1) of this regulation shall be acquired on or before November 30 and shall be submitted to the Department for retirement by December 30 of the year in which the emission limit is exceeded.]

[C. Achieving Compliance Through the Use of NO_x Ozone Season Allowances. The owner or operator of a Kraft pulp mill subject to this regulation that achieves compliance through the use of allowances pursuant to §B of this regulation shall:

(1) Acquire the NO_x ozone season allowances from a source that has been allocated allowances, a NO_x ozone season allowance broker or other entity that has NO_x ozone season allowances and agrees to transfer them; and

(2) Transfer the NO_x ozone season allowances to the Department for retirement.]

[D.] (C.) Monitoring and Reporting Requirements.

(1) (text unchanged)

(2) The owner or operator of a Kraft pulp mill subject to this regulation shall include emissions data obtained from a CEM pursuant to §[D]C(1) of this regulation in the CEM quarterly reports submitted to the Department pursuant to COMAR 26.11.01.11E(2).

BEGIN ALL NEW MATTER

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 40 NO_x Ozone Season Emission Caps for Non-trading Large NO_x Units

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

.01 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) “Boiler” means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam or other medium.

(2) “Combined Cycle System” means a system comprised of one or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.

(3) “Combustion Turbine” means an enclosed fossil or other fuel-fired device:

(a) That is comprised of a compressor, a combustor, and a turbine; and

(b) In which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.

(4) “Fossil Fuel” means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

(5) “Fossil Fuel-fired” means:

(a) The combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during any year; or

(b) For a new unit, the combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel is projected to comprise more than 50 percent of the annual heat input on a Btu basis during the year that the new unit begins combusting fossil fuel.

(6) “New Unit” means:

(a) A non-trading large NO_x unit that is installed after May 1, 2018; or

(b) An existing unit that is modified to meet the definition of §B(8) of this Regulation.

(7) “New Unit Set Aside” means remaining NO_x ozone season emission tons available for new units.

(8) “Non-trading Large NO_x Unit” means a fossil-fuel fired stationary boiler, combustion turbine, or combined cycle system unit with;

(a) A maximum design heat input greater than 250 mmBtu per hour; or

(b) A name plate capacity greater than 25.0 MW.

(9) “Ozone Season” means May 1 through September 30 of any calendar year.

.02 Applicability.

A. The owner or operator of a non-trading large NO_x unit, that is not a unit subject to the federal Cross State Air Pollution Rule NO_x Ozone Season Group 2 Trading Program established under 40 CFR Part 97, Subpart EEEEE, shall comply with the ozone season NO_x emission limitation, monitoring, recordkeeping and reporting requirements for ozone season emissions of NO_x set forth in this Chapter.

B. The requirements of this Chapter apply to a person who owns or operates a non-trading large NO_x unit located at the affected sources in §C of this Regulation.

C. Affected Sources and Units.

(1) American Sugar Unit No. C6;

(2) Cove Point LNG Units No. Frame 5-1 (Turbine S009), Frame 5-2 (Turbine S010), Frame 7-A, Frame 7-B, Aux A and Aux B;

(3) Luke Paper Mill Units No. 24, 25 and 26;

(4) National Institutes of Health Unit 5-1156; and

(5) A person who owns or operates a new unit subject to this Chapter.

.03 NO_x Ozone Season Emission Caps.

A. The total combined NO_x ozone season emissions for all non-trading large NO_x units subject to this Chapter shall not exceed 1013 tons in accordance with the 40 CFR Part 97, Subpart E, Appendix C.

B. NO_x Ozone Season Emission Caps.

(1) The total combined ozone season NO_x emissions from all the affected units at an affected source as identified in §.02.C of this Chapter shall not exceed the NO_x ozone season emission caps in §B(2) of this Regulation.

(2) Table - NO_x Ozone Season Emission Caps

Affected Sources	NO _x Ozone Season Emission Caps beginning May 1, 2018
American Sugar	24 tons
Cove Point LNG	214 tons
Luke Paper Mill	656 tons
National Institutes of Health	23 tons
New Unit Set Aside	96 tons
Total	1013 tons

C. NO_x ozone season emission caps for new units shall be determined by the Department from available tonnage allocated to New Unit Set Aside under §B(2) of this Regulation.

.04 Monitoring and Reporting Requirements.

A. For non-trading large NO_x units subject to this Chapter, the owner or operator shall:

(1) Continuously monitor NO_x emissions with a CEM system in accordance with 40 CFR Part 75, Subpart H and 40 CFR §51.121(i)(4); and

(2) Maintain records and submit reports regarding NO_x emissions in accordance with 40 CFR Part 75.

B. The owner or operator of a non-trading large NO_x unit subject to this Regulation shall include emissions data obtained from a CEM system pursuant to §A of this Regulation in the CEM quarterly reports submitted to the Department pursuant to COMAR 26.11.01.11E(2).

END ALL NEW MATTER

Appendix

Correspondence for Facility cap

Letter from American Sugar
Letter from Cove Point LNG
Letter from Luke Paper Mill
Letter from National Institutes of Health
Letter from MDE to National Institutes of Health



SENT CERTIFIED MAIL AND EMAIL

#7008-3230-0002-6576-3093

July 12, 2017

Mr. Randy E. Mosier
Division Chief, Air Quality Regulations Division
Air & Radiation Management Administration
Maryland Department of the Environment
1800 Washington Blvd., Ste 730
Baltimore, MD 21230-1720

Re: Recommendation of new SIP NOx Ozone Season Limit
American Sugar Refining, Inc.
1100 Key Highway E
Baltimore, MD 21230
Permit No. 24-510-0314
Emission Unit No. C6

Dear Mr. Mosier:

As requested during our conversation on May 9, 2017, this letter serves to provide a recommendation of an ozone season NOx emission limit for the No. 6 boiler (Emission Unit No. C6 listed under Part 70 Operating Permit No. 24-510-0314) at the American Sugar Refining, Inc. (ASR) facility located at the above-referenced address. Based on our conversation, ASR understands that the EPA has currently allocated 1,013 ozone season NOx tons to Maryland for non-utility sources. MDE plans to propose a new SIP in the fall of 2017 that will include an allocation strategy for ozone season NOx that will provide new allowances for both affected non-utility sources and future industrial sources that may fall under the regulation. Further, it is our understanding that MDE is considering allocating approximately 656 tons of the ozone season NOx budget to Luke Paper Mill, 80-100 tons to Dominion Cove Point, and an as yet undetermined amount as a "new unit set-aside" for future industrial sources. In the interest of developing a workable regulation and capturing stakeholder feedback, MDE has requested that ASR and other affected facilities provide feedback with respect to the new allocation strategy in the new SIP that MDE will soon be proposing.

ASR is submitting a recommendation of 24 ozone season NOx tons for Emission Unit No. C6. This recommended value is based on the existing NOx limits given in our Part 70 Operating Permit, in addition to the recent NOx emission rates, the maximum firing capacity, and the expected future steam and electrical generation requirements for Emission Unit No. C6. The following analysis supports the recommendation of 24 ozone season NOx tons for Emission Unit C6.



NOx Emission Limits

A review of Part 70 Operating Permit No. 24-510-0314 indicates that the relevant NOx emission limits associated with Emission Unit No. C6 are as follows:

- 0.20 lb/MMbtu;
- 624 lbs/day;
- 6.0 tons per month (total combined emissions for Emission Units C1 – C4 and C6); and,
- 60 tons per rolling 12-month period (total combined emissions for Emission Units C1-C4 and C6).

Boiler Emissions and Operations

Ozone Season NOx Emissions based on Permit Limits

The most restrictive emission limit of those listed above for Emission Unit No. C6 is the 6.0 NOx tons per month limit (aggregate limit for all boilers). Assuming that the 6.0 NOx tons in a 30-day month were solely generated by Emission Unit No. C6 firing at its maximum rate of 300 MMBtu/hr, this equates to emission rates of 0.054 lb/MMbtu and 392.26 lb/day (see **Attachment A – Table 1**). Both of these emission rates (0.054 lb/MMbtu and 392.26 lbs/day) are within permitted limits. If these rates were sustained over the entire ozone season, Emission Unit No. C6 would have the potential to emit 30 NOx tons (see **Attachment A – Table 1**).

Ozone Season NOx Emissions based on Recent Operations

A major breakdown of Emission Unit No. C6 occurred in May 2016. The boiler was subsequently repaired and fully returned to service in December 2016. Emission data (see *1Q17 Quarterly Summary Report* dated April 27, 2017) published since the boiler's return to service shows an average NOx emission rate of 0.035 lbs/MMbtu across a range of firing rates. Using this emission rate, and assuming that the boiler is operated at its maximum firing rate 24x7 through the entire ozone season yields a total ozone season NOx emission of 19.3 tons (see **Attachment A – Table 2**).

Future Operational Expectations for Emission Unit No. C6

ASR continually seeks to improve its refining operations including the efficiency of the Power House. As Emission Unit No. C6 is the most efficient of our boilers, ASR is evaluating operating it alone, when feasible, for future electrical and steam generation. This change in operation would transfer steam and electrical load from one or more of the CE boilers and place it on Emission Unit No. C6, which, thereby, will also increase total NOx emissions from Emission Unit No. C6. Currently, the CE boilers produce approximately 30% of the steam load supplied to the refinery. This load would potentially be transferred to Emission Unit No. C6 in the future.

Ozone Season NOx Limit Recommendation

As demonstrated above, Emission Unit No. C6 could reasonably be expected to emit 19.3 tons of NOx during the ozone season if it were to be continually operated at its maximum rated heat



input. Because the NOx emission rate of 0.035 lbs/MMbtu used to generate this estimate of 19.3 tons is an average emission rate, it is also reasonable to apply a factor of safety to the final ozone season NOx recommendation. Applying a 25% factor of safety yields an ozone season NOx emission rate of 24 tons per ozone season.

ASR believes that the ozone season NOx allocation recommendation of 24 tons for Emission Unit No. C6 reflects sound analysis and balances ASR's potential-to-emit with its expected actual emissions. This 24 ton recommendation represents an approximate 20% reduction from the 30 ton limit (6.0 tons per month) specified in our Part 70 Operating Permit. An allocation of less than 24 tons could reasonably be expected to present operational roadblocks in the future and limit the refinery's production. Accordingly, ASR requests that MDE allocate 24 ozone season NOx tons to Emission Unit No. C6.

Please call me at (410) 783-8687 if you have any questions about this submittal or should you want to discuss its contents.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gary Lasako', written in a cursive style.

Gary Lasako
Environmental Manager

Encl: Attachment A – NOx Budget Calculation Sheet



ATTACHMENT A

NOx Budget Calculation Sheet

American Sugar Refining, Inc.
Baltimore Refinery

Source Description: Babcock & Wilcox Boiler (#6 Boiler)
MDE Registration #: 5-1476
Emission Unit No. C6

Page 1 of 2

Basis

The Babcock & Wilcox Boiler (Emission Unit C6) is fired on natural gas only.
Maximum Heat Input is from Part 70 Operating Permit No. 24-510-0314.
Ozone season is from May 1st through September 30th.

OPERATIONAL DATA

Hours of Operation = 24 hrs/day
Ozone Season Days = 153 days
Ozone Season Months = 5 months
Ozone Season Hours = 3,672 hrs

Max. Heat Input = 300 MMBtu/hr

Fuel Type = Natural Gas
Heating Value = 1,000 Btu/scf

Max. Firing Rate = 0.300 MMscf/hr

OZONE SEASON NOX EMISSION CALCULATION

Hourly Emission Rate = Emission Factor x Firing Rate
Daily Emission Rate = Emission Factor x Firing Rate x 24 hrs/day
Ozone Season Emissions = Emission Factor x Firing Rate x 3,672 hrs

Table 1: Maximum Ozone Season NOx PTE for Emission Unit C6 in Compliance with Current Part 70 Operating Permit Limits

Pollutant	Emission Factor ^a (lb/MMBtu)	Max Firing Rate MMbtu/hr	Emissions		
			Max (lb/hr)	Avg ^b (lb/day)	Ozone Season ^c (tons)
Nitrogen Oxides (NOx)	0.054	300.000	16.34	392.26	30.0

a NOx emissions from emission unit C6 are limited to 0.20 lb/MMbtu heat input, per Table IV-2 (10) of Part 70 Operating Permit.

b

Total NOx emissions from emission units C1, C2, C3, C4, and C6 are limited to 624 lbs/day, based on a 30-day rolling average, for days in which emission unit C6 is operational, per Table IV-2 (7) of Part 70 Operating Permit.

c

Total NOx emissions from emission units C1, C2, C3, C4, and C6 are limited to 6.0 tons/month, per Table IV-2 (9) of the Part 70 Operating Permit. This equates to a 30 ton limit for the 5-month ozone season (May 1st - Sep 30th).

ATTACHMENT A

NOx Budget Calculation Sheet

American Sugar Refining, Inc.
Baltimore Refinery



Source Description: Babcock & Wilcox Boiler (#6 Boiler)

MDE Registration #: 5-1476

Emission Unit No. C6

Page

2

of

2

Table 2: Estimated Ozone Season NOx Emissions for Emission Unit C6 using representative emission rate data and maximum firing rate.

Pollutant	Emission Factor ^a (lb/MMBtu)	Max Firing Rate MMbtu/hr	Emissions		
			Max (lb/hr)	Avg (lb/day)	Ozone Season (tons)
Nitrogen Oxides (NOx)	0.035	300.000	10.50	252.00	19.28

^a Average emission rate from emission unit C6 for the first quarter of 2017 (January 1, 2017 through March 31, 2017).

Pamela F. Faggert
Chief Environmental Officer and Senior Vice President-Sustainability

Dominion Energy Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060

Pamela.Faggert@dominionenergy.com



July 20, 2017

BY U.S. MAIL, RETURN RECEIPT REQUESTED

7016 2070 0001 1100 8608

Mr. Steven Lang
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

RE: Dominion Energy Cove Point LNG, LP
NOx SIP Call – Additional Information

Dear Mr. Lang:

In response to the request from Carolyn Jones, Maryland Department of the Environment (MDE), on June 20, 2017, Dominion Energy Services, Inc. (Dominion) is providing additional information on Dominion's NOx emission budget allocation request dated May 26, 2017. The upcoming changes to the NOx SIP regulations will include allocations for six (6) units from the Dominion Energy Cove Point LNG, LP (DCP) facility located in Lusby, MD. More specifically, the upcoming regulations will include two Frame 7 Turbines, two Frame 5 Turbines, and two Auxiliary Boilers located at the DCP facility. Dominion is requesting a total of 211.6 tons of ozone season non-utility NOx allocations per year. The breakdown of the requested unit specific allocation is as follows:

- Frame 7 Turbine A: 23.5 tons per ozone season;
- Frame 7 Turbine B: 23.5 tons per ozone season;
- Auxiliary Boiler A: 11.7 tons per ozone season;
- Auxiliary Boiler B: 11.7 tons per ozone season;
- Frame 5 Turbine S009: 70.6 tons per ozone season; and
- Frame 5 Turbine S010: 70.6 tons per ozone season.

The above allocations are tons of NOx emissions per Ozone Season (May 1 through September 30, i.e. 153 days/year); and are based on permitted potential to emit calculations as shown in Table 1 below.

Table 1: Calculations for support of the recommended Cove Point NOx Emission Budget Allocations

<u>Unit - Operation Mode</u>	Annual		Ozone Season ^{1,7}		Allocations Requested (Ozone Season) (tons) ^{1,7}
	NOx PTE - CPCN Application (tons)		NOx PTE - Max Permit Limit ⁴ (tons)		
Frame 7 Turbine A ^{3,5}	51.0	23.5			211.6
Frame 7 Turbine B ^{3,5}	51.0	23.5			
Auxiliary Boiler A ^{2,6}	25.4	11.7			
Auxiliary Boiler B ^{2,6}	25.4	11.7			
Frame 5 Turbine S009 ⁴			153.1	70.6	
Frame 5 Turbine S010 ⁴			153.1	70.6	

¹ May 1 through September 30, i.e. 153 days/year.

² Auxiliary boiler – Includes emissions from 5 startup/shutdown events per boiler and normal operation as proposed in the CPCN Application dated March 2013. Startup/Shutdown emissions based on operational limit in current CPCN Order # 86372 (i.e. 2,946.2 lb NOx/startup and 38.9 lb NOx/shutdown for each boiler)

³ Gas turbine – Includes emissions from 10 startup/shutdown events per turbine and normal operation as proposed in the CPCN Application dated March 2013. Startup/Shutdown emissions based on operational limit in current CPCN Order # 86372 (i.e. 1,304.5 lb NOx/startup and 48.5 lb NOx/shutdown total for both turbines)

⁴ Frame 5 Emissions based on 25 ppm operational limit in current Title V Permit # 24-009-0021 coupled with an estimated stack outlet flow rate at 72% load of 193,342 dscfm.

⁵ Frame 7 Emissions based on 2.5 ppm operational limit in current CPCN Order # 86372 coupled with a design stack outlet flow rate of 498,946 dscfm and a design exhaust oxygen content of 13.5%.

⁶ Auxiliary Boilers Emissions based on 0.0099 lb/MMBtu operational limit in current CPCN Order # 86372 and a nominal heat input of 435 MMBtu/hr.

⁷ 10% contingency factor has been added to all ozone season values.

If you require any additional information, please contact Joseph Pietro at (804) 273-4175 or via email at Joseph.J.Pietro@dominionenergy.com.

Sincerely,



Pamela F. Faggert

cc: Steven Lang, MDE (steven.lang@maryland.gov)
 Randy Mosier, MDE (randy.mosier@maryland.gov)
 Carolyn Jones, MDE (carolyna.jones@maryland.gov)

jip

Document Certification

Facility Name: Dominion Energy Cove Point LNG, LP
(formerly known as Dominion Cove Point LNG, LP)

Facility Location: 2100 Cove Point Road, Lusby, Maryland 20657

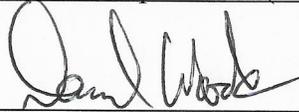
County: Calvert

Type of Submittal: NOx SIP Call – Additional Information

Certification: As required under COMAR 26.11.03, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Responsible Official: Daniel L. Woods

Title: Director, LNG Operations (Authorized Representative)

Signature:  _____

Date: 7/18/17



OMB No. 2060-0336, Approval Expires 6/30/2015

Federal Operating Permit Program (40 CFR Part 71)

CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS (CTAC)

This form must be completed, signed by the "Responsible Official" designated for the facility or emission unit, and sent with each submission of documents (i.e., application forms, updates to applications, reports, or any information required by a part 71 permit).

A. Responsible OfficialName: (Last) Woods (First) Daniel (MI) L.Title Director, LNG Operations, Dominion Energy Cove Point LNG, LPStreet or P.O. Box 2100 Cove Point RoadCity LusbyState MD ZIP 20657Telephone (410) 286 - 5131Facsimile (410) 286 - 5140**B. Certification of Truth, Accuracy and Completeness** (to be signed by the responsible official)

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) Name (typed) Daniel L. Woods Date: 2/18/17



Verso Corporation
Luke Mill
300 Pratt Street
Luke, MD 21540

T 301 359 3311
W versoco.com

ES-17-26

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 28, 2017

Mr. Steve Lang
Enforcement Program
Air & Radiation Management Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230



Re: New SIP NOx Ozone Season Limits

Dear Mr. Lang:

Introduction

Per your request, the Luke Mill is providing the MDE with a new, suggested NOx limit for ozone season tons. This value would replace the 947 limit we currently have under the Maryland SIP. The reason given for the request is that new industrial units, starting up in Maryland, will have to share the 947 ozone season tons allocated for non-utility sources by EPA. Maryland wants to allocate about 100 tons of the 947 to several new industrial installations, and set aside an additional amount for MDE to use for future industrial sources. To accomplish this, MDE will soon be proposing a new SIP incorporating a new allocation strategy, including the new allowance for the Luke mill. In the interest of developing a workable regulation, MDE has asked for our input.

The 947 ozone tons was set under the OTC rules, and was approved in a MDE NOx Budget SIP for that regulation. At that time we were the only non-utility source in Maryland so we received the entire allocation amount. MDE is also proposing to eliminate an existing condition in the current SIP; the ability of the Luke mill to purchase up to 95 additional ozone season NOx tons, in any year we exceed the 947 ton limit.

We are submitting a recommendation of 656 NOx ozone tons for the Luke mill. This value is based on existing NOx emission limits, the combined rated heat input capacity for two boilers, consideration of the recent fuel conversion of one boiler from coal to natural gas), and a review of our future energy requirements. The following discussion supports our recommendation.

Boiler NOx Emission Limits

Our boilers are subject to various limits and conditions regulating the emissions of NOx. We used the most restrictive of these conditions as a starting basis for projecting a new tonnage value. Limits and conditions were taken from COMAR regulations, BART proposed limits, and/or construction permit applications. (See Table 1)

Table 1: Boiler Limits and Conditions (lb/MMBtu)

Unit	Non-Ozone Season	Ozone Season	Reference for Limit or Permit Condition
No. 24	0.4	0.4	BART Proposed Limit
	0.14	0.14	Natural Gas Conversion PTC (8/9/2013) Permit No. 001-0011-3-0018**
No. 25	0.35	0.35	Low NOx Burner/Over-Fired Air (3/14/01) Permit No. 01-3-0019**
No. 26			No applicable limits found
Tall Stack*	0.99	0.7	COMAR 26.11.09.08 & 26.11.14.07
		947 tons	COMAR 26.11.14.07

* Limits are for all three units combined

** The conditions in the permit applications are emission factors applicable to full loading conditions

Boiler Emissions

The total rated heated input for Nos.24 & 25 Luke power boilers is 1375 MMBtu's/hr. In Table 2, we have calculated a new ozone season tons by using the boiler ratings and the most restrictive emission factors, assuming the boilers operated at capacity. The last column in the table shows that in 2015 we totaled 394 tons of ozone season NOx. The 2015 season (and 2016 when the numbers are available) reflects a large offset of coal by natural gas as a fuel on boiler No.25, thus lowering the expected NOx emissions.

**Table 2: Boiler Emissions Based on Limits for Ozone Season (tons)
 Using boiler max heat input ratings**

<u>Unit</u>	<u>Rated Heat Input MMBtu/hr</u>	<u>Ozone Season lbs/MMBtu</u>	<u>Ozone Season tons</u>	<u>Recommended Ozone tons</u>	<u>2015 Ozone tons</u>
No. 24	590	0.4 0.14	433 152	152	35
No. 25	785	0.35	504	504	344
No. 26*	338	0.19	118		15
Tall Stack**	1375	0.7	947***	656	394

* No.26 NOx lb/MMBtu value is not limit but emission factor

** Only Nos.24 & 25 used for Tall Stack values

*** Current ton limit

Conclusions

While not required, all of our recent NOx emissions data for the ozone seasons reflect major mill shutdowns taken during the ozone seasons. The last several years also represent increased natural gas firing on No.25 boiler due to favorable economic conditions with natural gas pricing. Should the price of gas return to higher levels and we have a year where shorter or no shutdowns are taken during the ozone season, our emissions could approach the 656 recommended limit. The top 5% NOx emission data from the 2016 ozone season averaged a rate of 519 tons per ozone season, which still incorporates the increased natural gas usage in No. 25.

The 656 ton suggested allocation represents a 30% reduction in ozone season emissions from the current limit; a 37% reduction if you include the ability to purchase 95 tons per year on top of the existing limit. Given that MDE has stated that 70% of the ambient NOx levels in Maryland are due to out of state sources, we certainly believe that reducing our limit by 30-40% and dropping coal as a fuel in one boiler represents a good faith effort on the mills part in supporting a program of continuing improvement with our NOx reduction efforts.

Mr. Steve Lang
Enforcement Program
Air & Radiation Management Administration
Maryland Department of the Environment
February 28, 2017
Page 4

We also would like to recommend that you review keeping a program that allows a source to purchase some NOx credits in any given year. While we are very attentive to our limits, as has happened in the past, Part 75 data quality assurance procedures can adjust a sites compliance data several quarters in the past, possibly putting a source over its allotment. We would support a percentage type clause, such as a purchasing allowance of 10% of a sources allocation. With the EPA data quality rules, this would provide some protection against non-compliance without damaging the overall NOx levels in Maryland.

We believe the suggested 656 ton allocation reflects sound judgment. It is based on justified energy needs to keep the mill operating at an economical, competitive level. The current emission values reflect state-of-art emission controls for each boiler, including a fuel switch from coal to natural gas on one boiler. A new allocation less than the 656 tons could become a challenge to meet and impact the mills future.

Thank you for the opportunity to comment on this issue. If you have any questions or comments, please contact me at (301) 359-3311, Extension 3262.

Sincerely,

A handwritten signature in black ink, appearing to read 'REP', with a large, stylized flourish at the end.

Ronald E. Paugh
Environmental Manager

REP:plt



National Institutes of Health
Office of Research Facilities
Bethesda, Maryland 20892-5746
Division of Environmental Protection
Bldg. 13/2S11, MSC 5746
Phone: 301-496-7775
Fax: (301) 480-8056

October 5, 2017

Randy E. Mosier
Division Chief, Air Quality Regulations Division
Air and Radiation Management Administration
Maryland Department of the Environment
1800 Washington Blvd., Suite 730
Baltimore, Maryland 21230-1720

Re: Recommendation of New SIP NO_x Ozone Season Limit
National Institutes of Health (NIH), Bethesda Campus
9000 Rockville Pike
Bethesda, Maryland 20892-5746
Permit No. 24-031-0324
Emission Unit No 5-1156

Dear Mr. Mosier:

Per your request, the National Institutes of Health (NIH) is providing MDE a recommendation for an ozone season NO_x emission limit for the Cogeneration System (Emission Unit No. 5-1156 as listed under Part 70 Operating Permit No. 24-031-0324).

In 2000, NIH installed the Cogeneration System to produce electricity and steam. The combustion turbine produces electricity while the Heat Recover Steam Generator recovers waste heat from the hot combustion turbine flue gas. The Heat Recover Steam Generator includes duct burning to increase steam production when needed. The use of duct burning to increase steam production is more efficient than steam production in a boiler because the combustion air is at a high temperature instead of the ambient temperature. Electricity from the Cogeneration System is used by NIH to reduce the overall purchase of electricity. Steam is used by NIH for space heating and to drive chiller systems. "The typical method of separate centralized electricity and on-site steam generation has a combined efficiency of about 45 percent whereas cogeneration systems can reach efficiency levels of 80 percent."¹ The reduced fuel use associated with NIH's Cogeneration System tends to provide lower air pollutant emissions when compared to the separate production of electricity and steam.

¹ Cogeneration/Combined Heat and Power (CHP), Center for Climate and Energy Solutions. [Cogeneration / Combined Heat and Power \(CHP\) | Center for Climate and Energy Solutions](#)

The Cogeneration System is a relatively new source that was installed in 2000 in accordance with a construction permit issued by MDE. Best Available Control Technology for NOx emissions was applied to the Cogeneration System. In addition, MDE NOx emission requirements for a new source in a nonattainment area were met by utilizing internal NOx emission reductions at an offset ration of 1.3 to 1.0 which provided a net reduction in NOx emissions of 16.7 tons/year at NIH. Therefore, installation of the Cogeneration System has reduced NOx emissions at NIH and reduced regional NOx emissions. Any limitation of Cogeneration System operation during the ozone season is going to result in increased overall regional NOx emissions.

NIH is submitting a recommendation of 40 ozone season NOx tons for Emission Unit No. 5-1156. This recommended ozone season (May 1 – September 30) NOx ton requirement is based on the NOx limits given in the NIH Part 70 Operating Permit, and the expected steam and electrical generation requirements for Emission Unit No. 5-1156.

NIH continuously monitors NOx emission in accordance with 40 CFR Part 75. The CEMs is certified in using the criteria outlined in Part 75 and 40 CFR Part 60, Appendix B. NIH complies with MDE record keeping and reporting requirement in accordance with Table IV-2, Sections 2.4 and 2.5 in the Part 70 Operating Permit. NIH requests 10 months (July 2018) to revise record keeping and reporting procedures to meet 40 CFR Part 75.

If you have any questions concerning the recommended ozone season NOx tons for Emission Unit No. 5-1156, please contact me at (301) 496-3537 or Mark F. Miller and Joseph Musa at (301) 496-7775.

Sincerely,



 William K. Floyd, Director
Division of Environmental Protection



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

October 20, 2017

William K. Floyd
Director, Division of Environmental Protection
National Institutes of Health (NIH), Bethesda Campus
9000 Rockville Pike
Bldg 13/2511, MSC 5746
Bethesda, Maryland 20892-5746

Re: Recommendation of New SIP NO_x Ozone Season Limit
National Institutes of Health (NIH), Bethesda Campus
9000 Rockville Pike
Bethesda, Maryland 20892-5746
Permit No. 24-031-0324
Emission Unit No 5-1156

Dear Mr. Floyd:

Thank you for your letter dated 10/5/2017 recommending an ozone season NO_x emission limit of 40 tons for the Cogeneration System Emission Unit #5-1156 under Part 70 Operating Permit No. 24-031-0324. The supporting documentation that the Maryland Department of the Environment (MDE or the Department) requested from NIH was not included with your letter. Therefore, the Department did the required calculations based on the information in NIH's Permit to Construct 15-5-1156N and is proposing a 23 ton NO_x emission limit for the said Cogeneration System Emission Unit #5-1156. The supporting calculations and draft regulation are included below.

Please review the Department's proposed emission limit. If you have additional information that you would like the Department to consider when setting this emission limit, please respond by Friday October 27th to Mr. Randy Mosier (randy.mosier@maryland.gov) or Ms. Carolyn Jones (carolyna.jones@maryland.gov). The Department plans to finalize the ozone season NO_x emission cap for NIH and record keeping and reporting requirements as required under proposed COMAR 26.11.40 – NO_x Ozone Season Emission Caps for Non-Trading Large NO_x Units. The Department intends to move forward with the regulatory adoption process this fall. The adoption process typically takes seven months and MDE will notify you of the procedural steps as the regulation is proposed.

Sincerely,

Brian Hug
Program Manager, Air Quality Planning Program

Cc: Mark Miller
Joseph Musa

Maximum Permit Potential Emissions Calculations

Under MDE Permit to Construct (PTC) 15-5-1156N issued on 10/14/1998, Section B- the New Source Review, the Cogeneration system may avoid LAER emission limitations if an emission offset is provided at 1.3 to 1 ratio. As the calculations from the Permit show, a total annual NO_x limit was set at 55.6 tons. This annual tonnage limit met the offset requirements. Therefore, MDE has used the same operating days and emission rate for the current calculations.

Part 70 Operating Permit No. 24-031-0324 includes the conditions from the PTC15-5-1156N. Ozone season is May 1 – Sept 30 and equals 153 days.

The Cogeneration System Emission Unit #5-1156 meets the proposed regulation definition under COMAR 26.11.40.01 of a “combined cycle system” unit with a maximum design heat input greater than 250 MMBtu.

	<u>23MW Combustion Turbine (241.39 MMBtu/hr)</u>	<u>Heat Recovery Generator (63.13 MMBtu/hr)</u>
Annual Operating days:	Nat Gas - 349 days/yr <u>#2 Oil - 16 days/yr</u> 365 days/yr	Nat Gas - 14 days/yr <u>#2 Oil - 16 days/yr</u> 30 days/yr
NO _x Emissions per day:	Nat Gas – 261.2 lbs/day	Nat Gas - 170.9 lbs/day
NO _x Emissions per day:	#2 Oil - 933.1 lbs/day	#2 Oil - 170.9 lbs/day

Combustion Turbine

Assume that only Nat Gas is used during the 153 day Ozone Season (OS):

Nat Gas CT – 261.2 lbs/day x 153 days = 39,963 lbs/OS or 20.0 tons/OS

#2 Oil CT – 933.1 lbs/day x 0 days = 0 lbs/OS or 0 tons/OS

Heat Recovery Steam Generator

Assume that all 30 days happen during the 153 day Ozone Season (OS) using Nat Gas only:

Nat Gas HRSG – 170.9 lbs/day x 30 days = 5,127 lbs/OS or 2.6 tons/OS

#2 Oil HRSG – 170.9 lbs/day x 0 days = 0 lbs/OS or 0 tons/OS

Maximum Potential Ozone Season NO_x Limit (per PTC Application) = 22.6tons/OS

Or

Permit Limit Monthly Average Emissions

PTC annual NO_x limit for Cogen Unit is 55.6 tons/yr

55.6 tons/yr /12 month/yr = 4.63 tons/month

4.63 tons/month x 5 month OS = 23.2 tons/OS

Ozone Season NO_x Limit (using monthly average) = 23.2 tons/OS

Historical NO_x Average

MDE has reviewed the historic ozone season average reported tons from the annual Emissions Certification Report (ECR) for this Cogeneration System Emission Unit #5-1156. The **historical NO_x average** from 2012 – 2016 is approximately **10 tons/OS**.

Draft Proposed Regulation

MDE plans to revise regulation .03 - NO_x Ozone Season Emission Caps to reflect the calculated 23 tons/OS for NO_x at NIH's Cogeneration System Emission Unit #5-1156. The draft proposed regulations will read as follows:

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 40 NO_x Ozone Season Emission Caps for Non-trading Large NO_x Units

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

.01 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

- (1) "Boiler" means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam or other medium.*
- (2) "Combined Cycle System" means a system comprised of one or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.*
- (3) "Combustion Turbine" means an enclosed fossil or other fuel-fired device:
 - (a) That is comprised of a compressor, a combustor, and a turbine; and*
 - (b) In which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.**
- (4) "Fossil Fuel" means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.*
- (5) "Fossil Fuel-fired" means:
 - (a) The combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during any year; or*
 - (b) The combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel is projected to comprise more than 50 percent of the annual heat input on a Btu basis during any year.**
- (6) "New Unit" means:
 - (a) A non-trading large NO_x unit that is installed after January 1, 2018; or*
 - (b) An existing unit that is modified to meet the definition of §B(8) of this Regulation.**
- (7) "New Unit Set Aside" means remaining NO_x ozone season emission tons available for new units.*
- (8) "Non-trading Large NO_x Unit" means a fossil-fuel fired stationary boiler, combustion turbine, or combined cycle system unit with:
 - (a) A maximum design heat input greater than 250 mmBtu per hour; or*
 - (b) A name plate capacity greater than 25.0 MW.**
- (9) "Ozone Season" means May 1 through September 30 of any calendar year.*

.02 Applicability.

A. The owner or operator of a non-trading large NO_x unit, that is not a unit subject to the federal Cross State Air Pollution Rule NO_x Ozone Season Group 2 Trading Program established under 40 CFR Part 97, Subpart EEEEE, shall comply with the ozone season

NO_x emission limitation, monitoring, recordkeeping and reporting requirements for ozone season emissions of NO_x, set forth in this Chapter.

B. The requirements of this Chapter apply to a person who owns or operates a non-trading large NO_x unit located at the affected sources in §C of this Regulation.

C. Affected Sources and Units.

- (1) American Sugar Unit No. C6;*
- (2) Cove Point LNG Units No. Frame 5-1 (Turbine S009), Frame 5-2 (Turbine S010), Frame 7-A, Frame 7-B, Aux A and Aux B;*
- (3) Luke Paper Mill Units No. 24, 25 and 26;*
- (4) National Institutes of Health Unit 5-1156; and*
- (5) A person who owns or operates a new unit subject to this Chapter.*

.03 NO_x Ozone Season Emission Caps.

A. The total combined NO_x ozone season emissions for all non-trading large NO_x units subject to this Chapter shall not exceed 1013 tons in accordance with the 40 CFR Part 97, Subpart E, Appendix C.

B. NO_x Ozone Season Emission Caps.

(1) The total combined ozone season NO_x emissions from all the affected units at an affected source as identified in §.02.C of this Chapter shall not exceed the NO_x ozone season emission caps in §B(2) of this Regulation.

(2) Table - NO_x Ozone Season Emission Caps

<i>Affected Sources</i>	<i>NO_x Ozone Season Emission Caps beginning May 1, 2018</i>
<i>American Sugar</i>	<i>24 tons</i>
<i>Cove Point LNG</i>	<i>214 tons</i>
<i>Luke Paper Mill</i>	<i>656 tons</i>
<i>National Institutes of Health</i>	<i>23 tons</i>
<i>New Unit Set Aside</i>	<i>96 tons</i>
<i>Total</i>	<i>1013 tons</i>

C. NO_x ozone season emission caps for new units shall be determined by the Department from available tonnage allocated to New Unit Set Aside under §B(2) of this Regulation.

.04 Monitoring and Reporting Requirements.

A. For non-trading large NO_x units subject to this Chapter, the owner or operator shall:

(1) Continuously monitor NO_x emissions with a CEM system in accordance with 40 CFR Part 75, Subpart H and 40 CFR §51.121(i)(4); and

(2) Maintain records and submit reports regarding NO_x emissions in accordance with 40 CFR Part 75.

B. The owner or operator of a non-trading large NO_x unit subject to this Regulation shall include emissions data obtained from a CEM system pursuant to §A of this Regulation in the CEM quarterly reports submitted to the Department pursuant to COMAR 26.11.01.11E(2).

END ALL NEW MATTER