COMMENT-AND-RESPONSE REPORT

Prepared Pursuant to Section 4-168 of the Connecticut General Statutes and Section 22a-3a-3(d)(5) of the Department of Energy and Environmental Protection Rules of Practice

Regarding
Amendment of an Air Quality Regulation Concerning
Municipal Waste Combustors

Hearing Officer:
Paula Gomez

Date of Hearing: February 24, 2016

On January 20, 2016, the Commissioner of the Department of Energy and Environmental Protection (DEEP) published a notice of intent to amend section 22a-174-38 of the Regulations of Connecticut State Agencies (RCSA). Pursuant to such notice, a public hearing was held on February 24, 2016, with the public comment period closing on February 26, 2016.

I. Hearing Report Content

As required by section 4-168 of the Connecticut General Statutes (CGS), this report describes the proposal, identifies principal reasons in support of and in opposition to the proposal, and summarizes and responds to all comments on the proposal. A statement in satisfaction of CGS section 22a-6(h) is included as Attachment 1.

II. Summary of Proposal

The Commissioner is proposing to revise RCSA section 22a-174-38. The proposed amendment adds three new requirements:

- A more stringent nitrogen oxides (NOx) emission limit for mass burn waterwall municipal waste combustors (MWCs);
- A new ammonia emission limit on units controlled by selective non-catalytic reduction (SNCR) systems; and
- A requirement to demonstrate compliance with the new ammonia emission limit by either continuous emission monitoring or annual stack testing.

This amendment is one of the actions DEEP is taking to address the U. S. Environmental Protection Agency's (EPA's) reasonably available control technology (RACT) requirements for the 2008 ozone national ambient air quality standard (NAAQS). DEEP is also adopting this amendment to achieve NOx emissions reductions for use in plans to attain and maintain the 2008 and 2015 ozone NAAQS.

III. Opposition to the Proposal

No comments that expressed opposition to the proposal were received.

IV. Summary of Comments

Written and/or oral comments were received from the following persons:

1. Anne Arnold
   Air Quality Planning Unit Manager
   US EPA Region 1
   5 Post Office Square, Suite 100
   Boston, MA 02109

2. Timothy Porter
   Air Quality Management Director
   Wheelabrator Technologies
   100 Arboretum Drive, Suite 310,
   Portsmouth, NH 03842

3. Christopher Shepard
   Environmental Compliance Manager
   Materials Innovation and Recycling Authority
   200 Corporate Place, Suite 202
   Rocky Hill, CT 06067

All comments submitted are summarized below with DEEP's responses. Commenters are associated with the individual comments below by the number assigned above. When changes to the proposed text are indicated in response to a comment, new text is in bold font and deleted text is in strikethrough font.

Comment 1-1

EPA supports Connecticut's proposed revisions to the MWC regulation. This sector has become the largest stationary source sector of NOx emissions in the state, emitting over 3,100 tons in 2011. The lower NOx emission limit proposed for mass burn waterwall units is a reasonable limit that will reduce NOx emissions in the state, and help Connecticut demonstrate that major air emission sources are subject to RACT.

DEEP's Response

DEEP acknowledges EPA's support for the more stringent NOx emission limit. Given New Jersey's adoption of the 150 ppm NOx emission limit for mass burn waterwall units in 2009 and given that all mass burn waterwall MWC units affected by this amendment have installed SNCR systems to control NOx, DEEP has found that the proposed NOx emission limit is both technically and economically feasible. DEEP expects the adoption of the more stringent NOx emission limits for mass burn waterwall combustors will satisfy RACT for MWCs and help Connecticut attain and maintain the ozone NAAQS.

Comment 1-2

We note that the State Implementation Plan (SIP) requirements rule for the 2008 ozone NAAQS requires that controls adopted to meet RACT for that standard be effective by January 1, 2017. Connecticut should make every effort to accelerate the compliance deadline for the tightened NOx emission limits for mass burn waterwall units to meet this deadline. If this is not feasible, moving the compliance date up to the beginning of the 2017 ozone season should be considered.

DEEP's Response

We understand the regulatory basis for EPA's comment, and, hence, the request to implement the lower emission limits before the start of the 2017 ozone season. While DEEP would like to obtain emission reductions as early as reasonably possible, DEEP also understands that the MWC owners/operators require time to budget necessary funds, obtain contractors to optimize SNCR, and implement and test the operation of the optimized control systems. DEEP believes that twelve (12) months is adequate time to comply with the new requirements introduced by this amendment. We anticipate promulgation of the amendment might be possible prior to July 1, 2016. If this scenario holds true, MWC owners/operators will have approximately twelve (12) months to comply with the more stringent NOx emission limit. However, if this proposal is promulgated after July 1, 2016, the compliance date should allow MWC owner/operators approximately twelve (12) months for compliance with the lower NOx emission limit. For this reason, DEEP should not revise the proposal based on this comment. See Comment 2-1 and DEEP's response thereto for additional discussion on this topic.

Comment 1-3

The new provision added to clause (i) of RCSA section 22a-174-38(i)(4)(L) provides the Commissioner with the authority to approve an alternative test method. Clause (i) should be reworded to either provide criteria that the Commissioner will use to determine an alternative test method, or by adding the phrase "and EPA" after the term "the Commissioner" in this section.

DEEP's Response

DEEP should make the proposed change to add "and EPA" to clause (i) of RCSA section 22a-174-38(i)(4)(L) of the proposal based on this comment, as follows:

(L) Compliance with the ammonia emission limit shall be determined for each unit by either using a CEM system specified in subdivision (4) of subsection (j) of this section or based on annual stack testing conducted in accordance with the following procedures:

(i) 40 CFR 60, Appendix A, Reference Method 26A or another method approved by the Commissioner **and EPA** shall be used to determine compliance with the ammonia emission limit,

(ii) The compliance determination for ammonia shall be based on an arithmetic average determined using all data generated in three test runs, and

(iii) The minimum sample time shall be one hour per each Method 26A test run.

Comment 2-1

Extension of Amendment Compliance Deadline: The preliminary NOx RACT regulatory adoption schedule called for an approximate 2 year time frame from notice of public intent (June 2015) to final compliance date of May 1, 2017. (Later revised to July 1, 2017) This 2 year time frame obviously included time to finalize amendments based on public comments received from notice of intent, for State Attorney General review and to complete two Legislative Review Committee (LRRC) hearings. Most importantly, there was a 1 year time frame to comply after the effective date of the final amendments. If this post notice of intent time frame still applies, and assuming there are no changes to the amendments based on public comments and/or the state attorney and LRRC reviews, the final amendments may not become effective until November

2016. Further, the effective date of the amendments could be further delayed if the state attorney general and LRRC reviews impose changes. Such a late final rule effective date would leave just 7 months (or less) to conduct SNCR system evaluations and engineer, procure, install and commission any SNCR system changes needed to comply by the July 1, 2017 deadline. Plant owners will also need to budget this work and plan boiler outages to make SNCR system changes. Seven months is simply not enough time and the final compliance date of July 1, 2017 must be revised accordingly. While we have been aware of regulation amendment activity, we cannot effectively complete planning and budgeting until the amendments are actually finalized and new requirements ultimately known. We firmly believe a full year after the effective data is required to comply with the final NOx limit as was we had planned based on the original regulatory adoption schedule outlined in June of 2015. To this end, we believe the final compliance date should be revised until at least 1 year after the effective date of final regulation amendments or May 1, 2018, whichever is later. May 1, 2018 is the start of the ozone season and that could be readily achieved if the amendments become effective by April of 2017.

DEEP's Response

DEEP understands the basis for Wheelabrator's comment and agrees that planning, budgeting, procuring and installing SNCR system changes to comply with the new requirements introduced by this proposal require time. We also understand that although DEEP has communicated with MWC owner/operators about the developments in this regulatory process from the beginning of the process, budgeting, procuring and installation of SNCR system changes cannot be initiated until the amendment is finalized. Therefore, DEEP agrees that it is reasonable to allow MWC owners/operators approximately twelve (12) months after the effective date of this regulation to comply with the more stringent NOx emission limits set for mass burn waterwall combustors. However, the earlier the NOx emission reductions anticipated from this amendment are in place, the sooner that Connecticut citizens will enjoy cleaner air and that DEEP may use the reductions to comply with Clean Air Act requirements. For this reason, DEEP should revise the language of RCSA section 22a-174-38(c)(8) of the proposal to replace the defined July 1, 2017 compliance date, with "the day twelve (12) months after the effective date of this amendment," as follows:

(8) No owner or operator of a municipal waste combustor shall cause or allow the emission of nitrogen oxides (NOx) [in excess of the applicable emission limit identified in Table 38-2 of this subdivision.] as follows:

(A) Prior to ~~July 1, 2017,~~ **the day twelve (12) months after the effective date of this amendment,** in excess of the applicable emission limit listed in Table 38-2; and

(B) On and after ~~July 1, 2017,~~ **the day twelve (12) months after the effective date of this amendment,** in excess of the applicable emission limit listed in Table 38-2A.

Comment 2-2

NOx Trading Provisions: We certainly agree that the existing Section NOx trading provisions can be eliminated as they are not based on any federal requirement. However, we believe that the NOx trading provisions can or should be replaced with the NOx emission averaging provisions from the large MWC Emission Guidelines under 40 CFR 60 Subpart Cb. The Subpart Cb requirements are the basis for the RCSA section 22a-174-38 MWC regulations. Incorporating the Subpart Cb NOx emission averaging provisions would provide facilities an alternative methodology to comply with the revised 150 ppm NOx limit that is completely consistent with EPA state plan requirements and therefore can be approved in the Subpart Cb State Plan. Allowing MWC facilities to use the NOx emission averaging provisions could help facilities minimize ammonia slip generation potential (a PM 2.5 precursor), increase SNCR reagent usage efficiency and reduce the potential for exceedances of 150 ppm limit while still providing the same incremental NOx reduction under the State ozone attainment implementation plan.

DEEP's Response

The proposed 150 ppm NOx emission limit is a RACT level of control. This means that the limit is based on a technically and economically feasible control technology, and the limit is by definition reasonable. Furthermore, every waterwall MWC unit operating in Connecticut is now controlled by SNCR, and additional post-combustion control equipment does not have to be installed to comply with the lower NOx emission limit. Since plant-wide averaging is typically used to allow compliance in a situation where one unit at a plant may be over-controlled while another unit in the same plant is under-controlled, allowing the operator to forgo additional control technology installations, plant-wide averaging is not necessary in this situation. Furthermore, a RACT level of control should be required of each individual emission unit, which is not the result under averaging since at least one averaged unit would emit at a rate higher than RACT. Thus, DEEP declines to include plant-wide averaging as a compliance option in amended RCSA section 22a-174-38.

Comment 3

In Section 8 of the DRAFT (page 14 of the DRAFT), the parameter "dioxin/furan" is listed two times in subsection (l)(3)(A)(i). I believe that it only needs to be listed one time.

DEEP's Response

The repetition of the parameter "dioxin/furan" was caused by an oversight and the repeated parameter should be removed from RCSA section 22a-174-38(l)(3)(A)(i) of the proposal as follows:

(A) A summary of data collected for each pollutant regulated under this section and all applicable parameters, as follows:

(i) A list of the particulate matter, opacity, cadmium, lead, mercury, dioxin/furan, hydrogen chloride, ~~dioxin/furan,~~ [and] fugitive ash and ammonia emission levels, as applicable, achieved during all initial and annual performance tests, [. Dioxin/furan emissions shall be reported as required in subdivision (1)(B) of this subsection,]

V. Comments of Hearing Officer

There are no additional comments and no additional changes to the proposal are recommended at this time.

VI. Conclusion

Based upon the comments addressed in this Comment-and-Response Report, I recommend the proposal be revised as indicated herein and that the recommended final proposal, be submitted by the Commissioner for approval by the Attorney General and the Legislative Regulations Review Committee and upon adoption, be submitted to the EPA as a SIP revision and as a revision to the State Plan for Municipal Waste Combustors.

/s/ Paula Gomez
Paula Gomez, Hearing Officer

04/06/16
Date

Attachment 1
CGS section 22a-6(h) Statement

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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STATEMENT PURSUANT TO SECTION 22a-6(h) OF THE CONNECTICUT GENERAL STATUTES

Pursuant to the provisions of section 22a-6(h) of the Connecticut General Statutes (CGS), the Commissioner of the Department of Energy and Environmental Protection (DEEP) is authorized to adopt regulations pertaining to activities for which the federal government has adopted standards or procedures. At the time of public notice, the Commissioner must distinguish clearly all provisions of a regulatory proposal that differ from applicable federal standards or procedures (i.e., federal standards and procedures that apply to the same persons under the proposed state regulation). The Commissioner must distinguish any such provisions either on the face of such proposed regulation or through supplemental documentation accompanying the proposed regulation. In addition, the Commissioner must provide an explanation for all such provisions in the regulation-making record required under CGS Title 4, Chapter 54 and make such explanation publicly available at the time of the publication of the notice of intent required under CGS section 4-168.

In accordance with the requirements of CGS section 22a-6(h), the following statement is entered into the public administrative record in the matter of the proposed amendment of section 22a-174-38 of the Regulations of Connecticut State Agencies (RCSA):

The proposed amendment to RCSA section 22a-174-38 adds three new requirements:

- A more stringent nitrogen oxides (NOx) emission limit for mass burn waterwall municipal MWCs;
- A new ammonia emission limit of 20 ppmvd @ 7%O2 on units controlled by selective non-catalytic reduction (SNCR) systems; and
- A requirement to demonstrate compliance with the new ammonia emission limit by either continuous emission monitoring or annual stack testing.

The proposed amendment also eliminates a defunct NOx emissions credit trading program for MWCs. The program was a state-only program with no federal parallel.

The lower NOx limit is necessary to comply with an ozone nonattainment requirement of the U.S Environmental Protection Agency (EPA) under which DEEP must certify that major sources of NOx emissions in the state, such as the MWCs, are held to standards consistent with the use of reasonably available control technology (RACT). The emissions reductions associated with the more stringent NOx emission limit are also important for planning to attain the 2015 ozone

national ambient air quality standard. The new ammonia emission limit is necessary because of the potential increase in ammonia emissions that may result from the use of the SNCR system to meet the more stringent NOx emission limit.

EPA currently regulates NOx emissions from MWCs in their New Source Performance Standards (NSPS), emission guidelines and Federal Plans. Connecticut's proposed NOx emission limits are more stringent than the corresponding federal emission limitations for new sources in the NSPS (40 CFR 60, Subparts Ea, Cb and Eb) and for existing sources in the emissions guidelines and corresponding Federal Plan (40 CFR 62, Subpart FFF). While EPA does regulate NOx emissions from MWCs, there are no corresponding federal emissions limitations for ammonia emissions from MWCs. Some of the Connecticut MWC units currently have ammonia emissions limitations that developed so that the owner could obtain a New Source Review permit to construct and operate the MWC. The addition of the ammonia emission limit to the regulation will mean that all Connecticut MWC units that have SNCR to control NOx will be subject to the same ammonia limit.

01/05/16
Date

/s/ Paula Gomez
Bureau of Air Management