Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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HEARING REPORT

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

Regarding
Adoption of a Permit-by-Rule for Combined Heat-and-Power Systems

Hearing Officer:
Merrily A. Gere

Date of Hearing: 13 December 2012

On 13 November 2012, the Commissioner of the Department of Energy and Environmental Protection (the Department) published a notice of intent to adopt section 22a-174-3d of the Regulations of Connecticut State Agencies (RCSA) and to revise RCSA section 22a-174-3a(a)(2). Pursuant to such notice, a public hearing was held on December 13, 2012, with the public comment period closing on the same day.

I. Hearing Report Content

As required by RCSA section 4-168(d) 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.

The proposal is included as Attachment 2 to this report. A final version of the proposal, with revisions recommended in this report, is provided in Attachment 3. A statement in satisfaction of CGS section 22a-6(h) is included as Attachment 1.

II. Summary of Proposal

The centerpiece of the proposal is the adoption of an air quality permit-by-rule for combined heat-and-power (CHP) systems as new RCSA section 22a-174-3d. A minor revision to RCSA section 22a-174-3a(a)(2) is also proposed to take into account the proposed adoption of RCSA section 22a-174-3d.

The proposed permit-by-rule is available to the owners of CHP projects of less than 10 MW capacity that meet the applicability requirements for an individual permit under the Department's new source review (NSR) permit program. An owner of such a CHP project may operate under the permit-by-rule as an alternative to obtaining a NSR permit. Operation under the permit-by-rule reduces the time for the owner of a new CHP system to obtain a permit from about seven months to zero days and provides the owner with certainty as to the requirements under which the CHP system will operate. The proposed rule includes all the restrictions necessary to limit emissions of air pollutants from a regulated CHP system to a level that protects air quality and public health.

III. Opposition to the Proposal

No person commented in opposition to the proposal. The specific concerns raised in submitted comments are addressed in Section IV.

IV. Summary of Comments

A single commenter made the six comments set out in this section. The commenter is:

Anne Arnold, Manager
Air Quality Planning Unit
U.S. Environmental Protection Agency (EPA), Region 1
5 Post Office Square, Suite 100
Boston MA 02109-3912

1. Comment: We encourage Connecticut to consider submitting 22a-174-3d to EPA as a state implementation plan (SIP) revision, as we believe it could be used to support criteria pollutant emissions reduction credit in future SIP submittals. EPA and state air regulatory authorities have been working over several years to better integrate programs and policies that support clean energy programs with SIP submittals required by the Clean Air Act. In July, EPA released the "Roadmap for Incorporating Energy Efficiency and Renewable Energy Policies and Programs into State and Tribal Implementation Plans," and this document and the associated tools provide states with improved capabilities of converting electricity savings into criteria pollutant emission reductions. CHP systems provide a prime example of fossil fuels being used efficiently, and according to the US Department of Energy's Oak Ridge National Laboratory, there are currently approximately 156 such installations in Connecticut providing over 700 MW of electrical capacity. We encourage Connecticut to continue to support CHP systems and believe that the adoption and submittal of 22a-174-3d to the SIP will further that effort.

> **Response:** The Department appreciates EPA's recent work developing guidance for use by states to take credit for energy efficiency programs. As the Department now includes energy planning as an equal priority with environmental planning, the Department appreciates the many benefits of CHP systems and is preparing this permit-by-rule in recognition that the number of CHP installations in Connecticut is likely to increase. The Department will consider taking the steps necessary to submit RCSA section 22a-174-3d as a SIP revision. Before the Department makes such a submission, we would like to have several CHP systems operating under the permit-by-rule so that we might identify any difficulties in implementation and make any revisions that might improve the permit-by-rule.

2. Comment: The definition for "actual electrical output" could be revised as set out below to acknowledge that not all electrical output from a CHP generator may be used by the facility. In some cases, electricity may be sold back to the grid.

> (a)(1) "Actual electrical output" means the gross electrical output ~~to the facility~~ from the generator measured at the terminals of the generator in units of MWh or kWh;

> **Response:** The Department should revise the definition of "actual electrical output" to eliminate the phrase "to the facility" as recommended by EPA. The Department intends the definition to take into account all electricity generated by a CHP system. In conjunction with the recommended deletion, the Department should delete the phrase "from the generator" since it is not necessary. The full deletion should result in the following final text for the definition:

> (1) "Actual electrical output" means the gross electrical output ~~to the facility~~ ~~from the generator~~ measured at the terminals of the generator in units of MWh or kWh;

3. Comment: In the applicability subsection, it appears that Connecticut's intention in the following provision is to allow sources with 15 tons or less of any individual pollutant to avoid the permitting requirements of section 22a-174-3a, not 15 tons or more as indicated in the draft:

> (b)(1) An owner or operator may construct and operate a CHP system without obtaining a permit pursuant to section 22a-174-3a of the Regulations of Connecticut State Agencies if:
>
> (A) The CHP system has potential emissions of fifteen (15) tons ~~or more~~ or less per year of any individual pollutant:

Response: The Department should not revise the applicability of the permit-by-rule as EPA recommends. Before a source owner may take advantage of the permit-by-rule option, the source must first meet the applicability thresholds for RCSA section 22a-174-3a, the Department's new source review permitting program regulation. RCSA section 22a-174-3a applies to a source that has potential emissions of 15 tons per year or greater of any air pollutant. A source with potential emissions greater than 15 tons will have actual emissions of less than 15 tons of each regulated air pollutant, if the source is operated in compliance with the requirements of RCSA section 22a-174-3d.

4. Comment: It is not clear whether a modification to an existing CHP unit subject to section 22a-174-3d that results in an increase in potential emissions greater than major source thresholds is still required to obtain a major source permit under section 22a-174-3a. Section 22a-174-3d(b)(1)(B) does not allow a modification subject to major new source review to limit its potential emissions by capping actual emissions to less than 15 tons per year pursuant to section 22a-174-3d(c)(11). The Department should require, in subsection (b)(2), that a modification to a minor source, if the modification by itself is considered to be a major source based on potential emissions, obtain a permit under section 22a-174-3a. [EPA]

Response: EPA is correct to note that the applicability of proposed RCSA section 22a-174-3d does not specifically address the situation of a major modification to a source with an existing CHP system operated under RCSA section 22a-174-3d. The Department chose not to address such a situation through the applicability because the requirements of RCSA section 22a-174-3d (e.g., the restriction on capacity to 10MW, the emissions standards) are such that a CHP system that is a major source could not operate in compliance with the section.

However, in considering this comment, we realized that a project that involved the addition of equipment, as well as a modification of the CHP system, could be a modification above major source thresholds at a minor source that would go without review. Such a situation is particularly likely to arise if the modification involves the addition of equipment, such as a boiler, that the owner intends to operate under RCSA section 22a-174-3b, which contains a series of permits-by-rule for certain types of equipment. To avoid such a situation, the Department should revise subsection (b)(2)(B) as follows:

> (2) An owner or operator may modify a CHP system without obtaining a permit pursuant to section 22a-174-3a of the Regulations of Connecticut State Agencies if:
>
> (A) Prior to the modification, the CHP system is not authorized to operate pursuant to an individual permit issued pursuant to section 22a-174-3a or former section 22a-174-3 of the Regulations of Connecticut State Agencies;
>
> (B) The modification is not a major modification ~~to an existing major stationary source~~; and

(C) The owner or operator complies with all applicable provisions of this section.

5. Comment: There are a number of sections in the proposal that address startup, shutdown or malfunction (SSM). As you may be aware, on June 30, 2011, EPA received a petition from the Sierra Club that requested that EPA revise its existing SSM policy. EPA is currently reviewing and preparing a response to the Sierra Club's petition. Therefore, if Connecticut does submit 22a-174-3d as a SIP revision, EPA's SSM policy, including the response to Sierra Club's petition, should be considered.

Response: The Department appreciates the reminder concerning the Sierra Club petition concerning SSM. We recognize that EPA released a proposed rule on February 12, 2013 concerning the SSM policy. If the Department chooses to submit RCSA section 22a-174-3d to the SIP, the Department will consider how any resulting EPA final rule may apply to the SSM provisions of this section.

6. Comment: Subparagraphs (A) and (B) of **s**ubsection (e)(3) allow for a source owner to use "an equivalent method approved by the commissioner." If Connecticut submits this rule as a SIP revision, the phrase "and EPA" should be added after "commissioner" in each subparagraph.

Response: The Department should add "and the Administrator" to subparagraphs (A) and (B) of subsection (e)(3) to support the possible submission of RCSA section 22a-174-3d into the SIP. Subsection (e)(3)(A) and (B) should be revised as follows:

(A) Ammonia testing shall be conducted in accordance with EPA Conditional Test Method (CTM) 027 or an equivalent method approved by the Commissioner **and the Administrator**;

(B) PM10/2.5 testing shall be conducted in accordance with 40 CFR 60, Appendix A, Reference Method 201A or an equivalent method approved by the Commissioner **and the Administrator**; and

V. Comments of the Hearing Officer

On her own initiative, the Hearing Officer recommends the following six minor revisions to the proposed text:

- Subsection (c)(5) concerning stack height should be revised by the addition of the word "projected" to subparagraph (A), as follows:

(A) The maximum nearby building **projected** width; or

The Department should also revise the definition of "nearby" in subsection (a)(12) as follows, to make the term closer in meaning to 40 CFR 51.100(jj):

(12) "Nearby" means, for a building, situated at a distance from the source less than or equal to five times the lesser of the building height or **maximum projected** building width;

With the recommended revisions, a reader is more likely to understand what is intended by the maximum building width.

- The word "system" should be added to subsection (b)(3) as follows:

(3) An owner or operator may only operate a CHP system pursuant to this section if construction of the CHP **system** commences on or after the effective date of this section.

- The comma at the end of subsection (c)(4)(A) should be changed to a semicolon, as follows:

(A) Natural gas shall be the primary fuel combusted by a combustion turbine and the only fuel combusted by an internal combustion engine~~,~~ **;** and

- The word "manufacture" in subsection (f)(3)(D)(ii) should be replaced with "manufacturer."

- Subsection (f)(3)(E) should be revised as follows in recognition that subsection (f)(1)(C) requires the range for parameters to be determined during the initial performance test:

(E) A specification of the ranges or designated conditions of the parameters, and a description of the process by which such ranges or designated conditions ~~will be~~ **have been** established **during the initial performance test**;

The Hearing Officer recommends the following nine revisions to the final recommended text of the proposal, based on suggestions from the Office of the Attorney General:

- In the definition of "ISO conditions," at subsection (a)(9), "psia" should be replaced with "pounds per square inch absolute."

- In subsection (b)(1) and (2), the clause "without obtaining a permit pursuant to section 22a-174-3a" should be made more precise, as follows:

. . . without obtaining ~~a~~ **an individual** permit pursuant to section 22a-174-3a . . .

- In subsection (b)(2)(B), the phrase "or a reconstruction" should be added, as follows:

(B) The modification is not a major modification ~~to an existing major stationary source~~ **or a reconstruction**; and

The text is shown with the deletion recommended in the response to Comment 4.

- In subsection (c), subdivisions (6), (7), (8), (9) and (10), the word "of" preceding a reference to a table should be replaced with the phrase "set forth in."

- In subsection (f)(3)(A), the words "set forth" should be added, as follows:

A description of how all pollutants and parameters will be monitored to demonstrate compliance with the emissions limits **set forth** in Tables 3d-1 and 3d-2, as applicable, of this section;

- Commas should set off the phrase "but not be limited to" in subclauses (ii) and (iii) of subsection (f)(3)(D).

- Where the word "commissioner" appears in subsections (h) and (i), the word should begin with an uppercase "C."

- The phrase "of a CHP system" should be added to subsection (i)(1) and (2), as follows:

(1) Nothing in this section shall preclude the Commissioner from requiring an owner or operator **of a CHP system** to obtain an individual permit pursuant to section 22a-174-3a of the Regulations of Connecticut State Agencies.

(2) Nothing in this section shall preclude an owner or operator **of a CHP system** from applying for an individual permit pursuant to section 22a-174-3a of the Regulations of Connecticut State Agencies, if applicable.

- So that the second sentence of subsection (e)(1) is easier to understand, subsection (e)(1) should be revised, as follows:

(1) The owner or operator of a CHP system shall conduct an initial performance test to determine compliance with the applicable emissions limits of this section. ~~The initial performance test shall be conducted no later than the earlier of 60 days after achieving the maximum production rate or 180 days after initial startup.~~ A performance test conducted in accordance with the applicable provisions of 40 CFR 60, 61 or 63 for the pollutants listed in Tables 3d-1 and 3d-2 shall satisfy the initial performance test requirements on a per pollutant basis, provided the testing is performed in accordance with subdivision (3) of this subsection. **The initial performance test shall be conducted no later than the earlier of the dates determined by subparagraph (A) or (B), as follows:**

(A) 60 days after achieving the maximum production rate; or

(B) 180 days after initial startup.

VI. Conclusion

Based upon the comments addressed in this report, I recommend the proposal be revised as recommended herein and that the recommended final proposal, included as Attachment 3 to this report, shall be submitted by the Commissioner for approval by the Attorney General and the Legislative Regulations Review Committee.

/s/Merrily A. Gere
Hearing Officer

22 March 2013
Date

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ATTACHMENT 1

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

Pursuant to section 22a-6(h) of the Connecticut General Statutes (CGS), the Commissioner of the Department of Energy and Environmental Protection (the Department) 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 federal standards or procedures. 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.

This document addresses the requirements of CGS section 22a-6(h) with regard to the proposed adoption of section 22a-174-3d of the Regulations of Connecticut State Agencies (RCSA). RCSA section 22a-174-3d is a permit-by-rule for owners of certain new combined heat-and-power (CHP) systems. Since 2002, the Department has used a permit-by-rule, in lieu of the requirement to obtain an individual permit, to authorize the operation of categories of sources for which the Department may develop standardized permit conditions that limit actual pollutant emissions to levels protective of public health and air quality. The use of permits-by-rule has reduced workload, reduced permitting timeframes and provided a fair and consistent basis for source operations.

The Department has performed a comparison of proposed RCSA section 22a-174-3d with federal laws and regulations, namely the Clean Air Act (CAA) and standards and procedures in 40 Code of Federal Regulations (CFR), and has determined that there are no analogous permitting requirements, although the federal government has promulgated emissions standards that apply to some of the equipment that may be operated under the permit-by-rule. In matters pertaining to the permitting of stationary sources of air pollution, the federal government establishes standards and procedures that are applicable to the state, which then establishes administrative regulations to implement the federal program. The state, not the federal government, has the primary responsibility to issue permits to the owners or operators of stationary sources of air pollution under federally approved programs. This is true of Connecticut's new source review permitting program, to which the proposed permit-by-rule is an alternative. Federal permitting requirements would only apply to sources in states that lack federally approved permit programs.

With regard to emissions standards and procedures, some of the CHP systems that may qualify to operate under the permit-by-rule will be subject to emissions standards and other requirements in new source performance standards (NSPS) or national emission standards for hazardous air pollutants (NESHAP) set out in 40 CFR 60 or 63, namely 40 CFR 60 subparts JJJJ and KKKK and 40 CFR 63 subpart ZZZZ. The applicability of such standards depends on the type of equipment used in the CHP system (*i.e.*, engine or turbine), the date of construction and the design capacity. The emissions standards of the permit-by-rule are, for a particular piece of equipment, more stringent than the standards in the applicable NSPS or NESHAP.

19 October 2012
Date

/s/Merrily A. Gere
Bureau of Air Management

ATTACHMENT 2

RCSA Section 22a-174-3d
As Proposed for Public Comment

Posted as a Separate File

ATTACHMENT 3

Final
RCSA Section 22a-174-3d

Posted as a Separate File